

PERCEPTION OF CLASSROOM DYNAMICS BY ADULTS IN ONLINE CLASSES AT
TWO-YEAR TECHNICAL COLLEGES

by

NOSHIRWAN TAIMURAS SETHNA

(Under the Direction of Thomas Valentine)

ABSTRACT

This study examined three student characteristics and two online classroom characteristics and their effect on students' perception of classroom dynamics for a large population of adult students. The purpose of this study was to determine the influence of age, gender, race, number of students in the online class, and course type on perception of classroom dynamics by adult students enrolled in online classes offered by technical colleges in Georgia.

This exploratory study used a 27-question survey instrument that was adapted from an existing survey instrument (Classroom Dynamics Questionnaire). The participants were 1,589 adult students enrolled in online classes offered by two-year technical colleges in Georgia. Data were analyzed using quantitative methods in SPSS to determine whether age, gender, ethnicity, course type, and number of students enrolled in the online classes were significant predictors of student perceptions of interpersonal classroom dynamics. The participants aged in range from 17 to 69. A significant majority of the participants were White and female. The 27 two-year technical colleges that provided the student data offered face-to-face as well as online classes.

Bivariate analyses were conducted on the data collected in order to determine the extent of observed variance in four dimensions of classroom dynamics, namely, teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice in the online classroom.

Analyses revealed results that concurred with results from similar studies that were conducted in the recent past. It was found that demographics variables of age, gender, race, number of students enrolled in the online class, and course type (or subject), had no predictive power in online students' classroom perceptions. These variables were modest predictors of student perception of classroom dynamics.

INDEX WORDS : ACES, Adult Education, CCES, Classroom Dynamics, Classroom Dynamics Questionnaire, Classroom Environment, Distance Education, Online Classes, Online Education, Personal Characteristics, Social Climate, Student Perception, Technical Colleges, Two-year Colleges, Web-based Education.

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A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial
Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

ATHENS, GEORGIA

2010

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DEDICATION

This dissertation is dedicated to

Our Heavenly Father, The One And Only True God, With Whom All Things Are Possible

and to

my late father Taimuras Jehanbux Sethna,

my mother Jaloo Taimuras Sethna,

my late grandfather Jehanbux Sethna,

my late grandmother Ratanbai Sethna,

and to my two children that I adore:

my daughter Dionne Sethna and my son Cyrus Sethna.

Your love, prayers, blessing, support, and encouragement

made this journey of discovery possible.

ACKNOWLEDGEMENTS

The demands of a doctoral program would seem overwhelming if not for the support of family, friends, and colleagues. As I approach the end of this great challenge, I want to acknowledge those who assisted me along the way. First of all, a very special thank you goes to my family who were my most vocal supporters. Rather than question my decision to pursue a doctorate at this stage of my life, they (especially my father and my mother) remained firm in their belief that I would see it through to completion. My family, Dianne, Dionne, and Cyrus inspired me through their expressions of pride and interest in my work.

I owe this accomplishment to the support of many other individuals. I want to thank the members of my committee, each of whom contributed to the shaping and completion of this work. A special thanks to Dr. Thomas Valentine, my advisor, and committee chair, for his constant encouragement, guidance, and patience throughout this arduous journey. To my committee, Dr. Bradley Courtenay, Dr. Juanita Johnson-Bailey and Dr. Wanda Stitt-Gohdes, I would like to express a deep appreciation for their support, guidance, and knowledge. Most importantly, I wish to thank the students who responded to the survey. To them, I owe a special debt of gratitude.

I would like to offer a very special “Thank You!” to Maria Cruthers, Savela Pappas, Dave Skaggs, and many other special friends who put up with me during some very trying times with kindness, support, understanding, prayers and patience. They spurred me on when I felt that I just could not go on.

Most importantly, I wish to thank Dr. Freida Hill, former Deputy Commissioner of the Technical College System of Georgia (TCSG) who was instrumental in making all this possible. Without her blessings and approval to continue with the study and help from Sandra Kinney, Research Manager, TCSG, I could not have been able to proceed forward with this research. Both Dr. Freida Hill and Sandra Kinney played a significant role in this study by helping me get access to the data I needed for this study.

Finally, I would like to thank Daisuke Ito for all his help. He is an excellent teacher who shared his knowledge, keen insight, and understanding of statistics with me and made writing the last two chapters of this dissertation not only fun but a path to discovery!

A Special Note to My Grandparents and Parents

Without the values you instilled in me, I doubt if I would have ever pursued or finished this degree. From an early age you taught me the value of hard work, dedication to completing the task, and taking pride in my work; all of which have been instrumental over the last few years to complete this endeavor. What you've taught me over the years far outweighs the education I've gained in graduate school or any other formal education. Thank you for being my role models and my family. Your love, your prayers, and your unconditional support over the years have made my life journey possible and worthwhile.

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CHAPTER 1

THE PROBLEM

Background of the Study

Distance education dates back to the commercial correspondence courses of the 1830s, designed to bring educational opportunities to learners unable to attend traditional classes (Hanson & Maushak, 1997; Moore & Thompson, 1990). Distance education is broadly defined as the separation of student and instructor by space and, often time, with the utilization of technological assistance for course delivery. Distance education in the United States has spread rapidly since World War II (Schrum & Luetkehans, 1997) with the introduction of learning mediated through the use of radio and television. In the last two decades, distance education has spread more rapidly with the advent of the Internet, which has become the new medium of choice in the 21st century (Boehler, 1999).

Recent exponential growth in higher education online learning opportunities can be attributed largely to technological advances. In its second national survey of online education, the National Center for Educational Statistics (NCES, 1997) reported that in 1997-1998, enrollment in online classes had more than doubled since 1995. Enrollments increased from 754,000 to almost 1.7 million students in two years. According to the survey results, 91% of public two-year and four-year institutions offered online classes or planned to within the next three years. The technologies most used were Internet courses using asynchronous computer-based instruction (60%) and two-way interactive video (56%) (Lewis, Snow, & Farris, 1999).

The third national survey of distance education by NCES (NCES, 2003) examined institutions providing courses utilizing audio, video, or computer technology. An estimated 2,320 institutions offered online classes in 2000-2001 (56% of 2-year and 4-year institutions and almost 90% of public 2-year and 4-year institutions) and enrollment was estimated at 3.1 million students (Waits & Lewis, 2003).

Advanced technology allows for the delivery of education to students when and where they need it (*Peterson's Guide*, 1998). Over 60% of participating institutions in the 2002 *Campus Computing Project* (Green, 2002) reported offering at least one complete online class via the Web, which was almost 20% higher than in 1999. Technology driven online classes include opportunities for the student to interact with the instructor and other students, thereby attempting to create a learning experience comparable to the campus model but in a way that is more accessible and convenient to students (Schwitzer, Ancis, & Brown, 2001).

The creation of the *American Journal of Distance Education* in 1987 marked the beginning of online learning as a discipline in American education (Keegan, 1996). Most of the articles in this research journal focus on academic and classroom aspects such as instructional design, faculty role and support, course retention and satisfaction, and course performance. Furthermore, in a review of original research on distance learning published in the 1990s, The Institute for Higher Education Policy reported that “despite the large volume of written material concentrating on distance learning, there is a relative paucity of true, original research dedicated to explaining or predicting phenomena related to distance learning” (Phipps & Merisotis, 1999). Thus, there is a lack of research-based literature on the non-academic or out-of-class experience of students taking online classes.

The environment within an adult online classroom reflects a variety of interactions that occur (a) between the instructor and the students and (b) between the students. However, many designers of online classes and software demonstrate a limited understanding of the dynamics that occur in the online classroom. Due to the complex nature of human interactions, it is particularly difficult to identify classroom dynamics in adult online classrooms.

To ensure that online classes for adult learners are adequately designed, adult educators of online programs and classes must consider the interpersonal dynamics occurring in the online classroom environment. However, there is a scarcity of studies addressing dynamics in online classrooms, while there have been many studies conducted in other areas of adult education, originating with the research of Lewin (1951), Knowles (1980), and Moos (1979).

Lewin, who is arguably the founder of the movement to study groups scientifically, chose the word *dynamics* to describe the process that takes place in groups (Schmuck & Schmuck, 1997). Schmuck and Schmuck stated that Lewin used the term “group dynamics” to stress the impact of these complex social processes on members in a group. Group behavior in a classroom reflects the dynamics of that classroom.

Knowles (1980) stated that certain characteristics of the physical and psychological environment are qualities of a classroom climate that facilitate learning. He stated that the physical environment, if comfortable, will facilitate interaction. He also stated that the psychological environment should exude an atmosphere of mutual respect and a climate of trust and responsibility. He asserted “The behavior of the instructors is without doubt the single most potent force in establishing a social climate” (p. 47).

Knowles and Associates (1984) suggest it is important to understand the concept of andragogy in order to understand the social climate or environment of an adult classroom. An adult learner's readiness to learn, learning orientation, self-concept, prior experience, and motivation to learn, are all factors that affect learning (Pratt, 1993). Understanding these inherent assumptions about adult learners is imperative in understanding the interpersonal dynamics of adult education classrooms.

Moos (1979), a professor of psychiatry and behavioral sciences, through his empirical studies provides a theoretical foundation that pertains to social environment of a classroom. Moos defines the concept of social climate or classroom climate as the personality of a classroom or any other social group (Darkenwald, 1989; Moos, 1979). Much of his research focused on the importance of environmental influences that relate to the stability and change in attitudes and behaviors of students. Moos suggests that social environment significantly impacts personal growth, learning, and satisfaction. Moos advocates using a social-ecological framework to evaluate educational settings and emphasizes the importance of considering the inclusion of social climate/social-environmental and physical-environmental variables.

Social psychologists such as Lewin (1948-1997) and Moos (1976, 1979, & 1981) provide a systematic way of understanding social dynamics. Their approaches to studying classroom environments emphasize that certain qualities, attributes, and characteristics of the student, as well as the teacher, can affect the learning environment and may or may not translate into effective classroom performance. These personal characteristics and social variables can perhaps affect perceived classroom perceptions among students. This study examined these different perceptions, which are explored briefly in this section, and in more detail in the discussion of classroom dynamics in Chapter 2 of this study.

Classroom Dynamics

The study of perceptions of classroom learning environments has been firmly established as an active field of research since the late 1960s, thus evolving as a topic of considerable importance and interest (Fisher & Fraser, 1983). Fraser (1986) argues that classroom dynamics is such a powerful determinant of student outcomes that it should not be ignored by those wishing to improve the effectiveness of schools. Both the environment and its interaction with personal characteristics of the individual are recognized as potent determinants of human behavior (Fraser, 1986). Furthermore, as emphasized by MacAulay (1990), the achievement of a match between students' preferences and instructional settings is a necessary condition for maximizing cognitive, social, and affective outcomes.

The empirical research by Moos has been instrumental in providing the foundation for many of the empirical studies in classroom social environment in adult education. Many of these studies used the Adult Classroom Environment Scale (ACES), an instrument developed by Darkenwald and Valentine (1990). This comprehensive scale uses seven dimensions to measure all three domains described by Moos (1979). ACES has provided much insight into classroom environment within the field of adult education.

Moos (1979) conceptualized three broad domains for social environment through studies with colleagues in a variety of settings such as secondary schools, community care homes, correctional institutions, psychiatric wards, and university student living arrangements. These three domains that characterize the social environments of varied settings are:

1. Relationship domain - which refers to “the extent to which people are involved in the setting, the extent to which they support and help one another, and the extent to which they express themselves freely and openly” (p. 14).
2. Personal development domain - which refers to “the basic goals of the setting, that is, the areas in which personal development and self-enhancement tend to occur” (p. 16).
3. System maintenance and change domain - which indicates “the extent to which the environment is orderly and clear in its expectations, maintains control, and responds to change” (p.16).

It is extremely difficult to measure all aspects of classroom social environment, described by Moos in his three domains because there are many interactions that occur in a classroom and affect the environment therein. Perhaps the most important of these is the relationship domain. An examination of relationships that occur between (a) the teacher and the students and (b) students and students, can increase adult educators’ understanding and knowledge of the dynamics that occur in the online classroom.

Valentine, Oliva, and Thomas (2002) developed the Classroom Dynamics Questionnaire (CDQ) to measure the interpersonal dynamics of postsecondary adult students. This instrument assesses two aspects of interpersonal relationships: teacher-student relationships and student-student relationships. The CDQ was subsequently used in research studies conducted by Oliva (2003), Thomas (2004), and Davis (2006). To assess these relationships, four dimensions of interpersonal dynamics are measured (Table 1).

The subscales of the instrument contain items used to measure students’ and/or the teacher’s perceptions of the interpersonal dynamics occurring in the classroom and their

preferences for particular aspects or interpersonal dynamics of the social classroom environment (Valentine, Oliva, & Thomas, 2002).

There are many different ways of understanding classroom dynamics and many variables to consider. Although there is no definitive answer to the issue, based on a review of the literature, two classes of determinants were proposed: (a) student or personal characteristics (b) online classroom characteristics.

Table 1

Relationships and Dimensions of Classroom Dynamics Questionnaire

Relationships	Dimensions
Teacher-Student Relationships	<i>Teacher Respect for Students:</i> The teacher respects the students as learners and as individuals <i>Confidence in Teacher's Ability:</i> The learners believe that the teacher is a competent and committed educator
Student-Student Relationships	<i>Learner Cohesion:</i> Learners feel a sense of sharing, support, and affiliation with the other learners <i>Learner Voice:</i> Learners feel that they can express their ideas and true feelings with the other learners

Statement of the Problem

Although distance education can be traced back to the early 1830s, recent advances in and proliferation of technology and telecommunications have created possibilities that stretch the boundaries of postsecondary distance education (Harnar, Brown, & Mayall, 2000). Developments in distance education have changed how we communicate and learn (Leh, 1999) and will continue to do so as a growing number of students become distance learners and a growing number of instructors become distance educators.

Although a variety of models exist for distance education using many available media (Leach & Walker, 2000), rapid changes in technology do not create effective online education programs and classes. Spector, Watson, and Davidson (1999) studied commercial, large-scale, technology-driven, virtual learning environments designed with a systemic view of learning grounded in learning theory. They found that commercial online learning environments focus primarily on course administration rather on learner relationships, personal development, expectations, or control. Little, if any, instructional input is integrated into online course design (Cook, 2000). Put succinctly, teaching and learning do not improve because of improved web-based technology or the use of new online education technology (Cookson, 2002; Jamieson, 1999). Learning is likely to improve only when instruction is grounded in practical learning theory.

Currently online education research is narrow and is not keeping pace with the growth of online education implementation (Boling & Robinson, 1999). While there is plenty of literature on the online learning phenomenon, original empirical research on online education is still limited (Merisotis and Olsen, 2000; Olsen and Wisher, 2002).

Distance education studies are primarily concentrated on (a) student outcomes such as achievement, grades, and test scores (b) attitudes of students and instructors (c) satisfaction of students and instructors (Diaz & Cartnal, 1999; Harnar, Brown & Mayall, 2000; Institute for Higher Education Policy [IHEP], 1999).

Murphy and Cifuentes (2001), citing multiple reviews of literature, report criticisms of the rigor of distance education research, noting that in some cases, less than three-quarters of distance education literature focuses on learning; most focuses on technology and the role of the instructor. They also report that as little as one-third of the online education literature

is research-based, while the remaining two-thirds is either theoretical or anecdotal. And, while they see a shift away from telecommunication theory and toward teaching and learning, there is still limited research investigating “psychological and communications space” in distance education.

Oren, Mioduser, and Nachmias (2002), remarked on the importance of considering social climate in online learning. In an attempt to contribute to the understanding of social processes occurring in online classrooms, they conducted five studies at Tel-Aviv University’s School of Education that explored social climate issues in synchronous and asynchronous online academic courses. Based on their findings in these five studies, they concluded that teachers should explicitly support creation of a social climate with online learning groups. With respect to their role, teachers should moderate the group’s work in a way that enables students to interact. Teachers should act mainly as facilitators of processes, and they should minimize their interventions so as to allow students to gain knowledge from each other and manage discussions independently. They should refrain from dominating the discussion and from interacting mainly with individual students, encouraging instead dense student-to-student interactions (p.14). The researchers also found that it is crucial to enhance the social atmosphere by using supportive feedback, discussing with the group ways to facilitate the creation of social interactions, emphasizing the importance of peer feedback, and encouraging students to relate to each other during the learning activities and beyond. The researchers posited that an online class should include a social forum as a place for social interaction of the learning group and not just use it for learning purposes. The researchers also concluded that in order to achieve the degree of intimacy required for

significant exchanges within online interactions, the number of participants on an online class should be limited to 20 (p. 15).

Diaz (2000) called for analysis of the quality of instructor-student and student-student interaction so that certain aspects of these types of relationships can be altered in order for improvements to be made that can influence adult, web-based instructional practices. This call followed Slay's (1998) proposed theoretical framework for distance education teaching that outlines a need for considerations of student-student and student-instructor interactions, as well as control and structure within the distance education learning environment, thus taking into account two of Moos' three social organization domains: relationship domain and system maintenance and change domain.

Despite the fact that online learning is experiencing phenomenal growth in recent years, the research in this area continues to be weak. Particularly lacking is an understanding of how human relationships between teacher and students and students with other students play out in an artificial, computer-mediated environment.

Purpose and Research Questions

The purpose of this study was to understand how adult students enrolled in online classes at two-year technical colleges perceive classroom dynamics. Specifically, the study addressed the following research questions:

1. How do adult students in two-year technical colleges perceive the four dimensions of classroom dynamics (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) in online classes?
2. To what extent do the students' personal characteristics such as age, race, and gender explain perceptions of classroom dynamics?

3. To what extent do online classroom characteristics such as number of students in the online class and course topic or subject explain perception of classroom dynamics?

To achieve this purpose, the four dimensions of classroom interpersonal dynamics relating to Teacher Respect for Students, Confidence in Teacher's Ability, Learner Cohesion, and Learner Voice were examined in the study.

Significance of the Study

This study will provide practical contributions to the field of adult online education. An understanding of the classroom dynamics in adult online classes can significantly improve the quality of instruction, learning, and learner experiences. Also, it can afford adult educators the opportunity to increase the strengths and decrease the weaknesses inherent in adult online classes. Specifically, this researcher hopes that the study will bring to light discrepancies between actual practices and the preferred practices in adult online classes. Discrepancies once identified, will enable changes in the delivery of adult online classes. Classroom environments that promote student satisfaction and student preferences will probably result in better design of adult online classes, thereby improving the quality of training in online training environments at the college and university levels.

In addition to the practical contribution to the advancement of the field of adult online education, this study provided some theoretical contribution to the adult education online training literature especially in the area of classroom dynamics. This study may contribute to the literature that addresses classroom dynamics in adult online classes and to the interpersonal relationships that take place in adult online classes.

Understanding the dynamics of adult online classrooms will render an important contribution to the existing but limited knowledge of adult online classroom dynamics for not

only instructors teaching these classes but also for designers of adult online classes and adult web-based software. Knowledge from this study can also be used in the training and professional development of educators involved in the field of adult online classes. Findings from this study can help adult educators to develop more informed strategies in mediating online classroom interactions. A better understanding of how classroom dynamics affects online instruction will enable adult educators to better satisfy adult online learners from various backgrounds.

Many institutions have yet to include distance learning in their planning initiatives (Green, 2000; Rivera & Kostopoulos, 2001). In fact, the 2000 *Campus Computing Project* survey (Green, 2000) revealed that fewer than 30% of participating institutions had a distance learning strategic plan. Therefore, as more and more institutions begin to incorporate online classes into their strategic plans, adult educators need to be prepared to be at the table to ensure that appropriate support services for students are included. Institutions wishing to initiate or enhance experiences for adult online learners can utilize the success factors identified in this research endeavor.

CHAPTER 2

REVIEW OF LITERATURE

Education is essentially a social enterprise. It involves people dealing with other people in their quest for learning. Adult education which is the practice of teaching and educating adults, sometimes referred to as *andragogy*, differs from educating children in many ways. One of the differences is that adults have accumulated knowledge and experience which can either add value to a learning experience or hinder it. Another important difference is that adults frequently apply their knowledge in some practical fashion in order to learn effectively; they have goals and expectations that the new knowledge will help them further those goals. The social aspects of education have been studied over the years by many scholars. One goal of this chapter is to discuss how different researchers have presented varying perspectives and the available literature on the topic of classroom dynamics or social climate in the classroom. A second goal is to facilitate an understanding of classroom dynamics and its effect on the online classroom. This chapter consists of four major sections.

Section one focuses on the reviews of historical literature on classroom dynamics by examining key theories and measures that have been used in postsecondary schools such as *Classroom Environmental Scale (CES)*, the *Adult Classroom Environment Scale (ACES)*, and the *College Classroom Environment Scale (CCES)*.

Section two takes a close look at the dimensions of classroom dynamics and is organized according to the four broad dimensions represented in the *Classroom Dynamics*

Questionnaire (CDQ): (a) teacher respect for students, (b) confidence in teacher's ability, (c) learner cohesion and (d) learner voice with a description of the development of the instrument by Valentine, Oliva and Thomas (2002).

Section three of the literature review deals with the importance of classroom environment or social climate in online education. The fourth and final section of this chapter is a review of important research studies conducted in online education.

Classroom Dynamics

An understanding of classroom dynamics is key to successful education. Positive interactions among the classmates have been found to maximize learning in the classroom (Johnson & Johnson, 1998). One theorist who has contributed to the understanding of group learning is Kurt Lewin. A German-born psychologist, he is one of the pioneers of social psychology. Often called "the father of social psychology," he is one of the first researchers that studied group dynamics and organizational development and advocated Gestalt psychology. A gestalt is a coherent whole. It has its own laws, and is a construct of the individual mind rather than "reality."

Lewin applied psychology to the problems of society. He reached beyond the mere description of group life and investigated the conditions and forces which bring about change or resist it. Lewin believed in the "field approach." He believes that for change to take place, the total situation has to be taken into account and that if isolated facts are used, a misrepresented picture could develop. Lewin believes that behavior is determined by the totality of an individual's situation. Individuals behave differently according to the way in which tensions between perceptions of the self and of the environment are worked through. He posits that the whole psychological field, or "life space" within which people act, should

be viewed in order to understand behavior. He suggests that individuals and groups can be seen in topological terms using map-like representations. Individuals participate in a series of life spaces such as family, work, school, and church.

Lewin also looked to the power of underlying forces (needs) to determine behavior thereby expressing a preference for psychological rather than physical or physiological descriptions of the field. Lewin defined his idea with the formula of $B = f(P, E)$, where B represents behavior, f represents the function, P is the person, and E is the person's environment (Lewin, 1936). Lewin adapted and applied Gestalt perspective to personality theory and social dynamics and called it "Field Theory." Lewin's Field Theory has been utilized in areas such as educational facilities, industrial settings, and communities.

The concept of psychosocial environment, which supports the position that human behaviors cannot be fully understood without knowing both the human being and the psychological environment, has roots dating back to the personality theory of Henry Murray (Moos, 1976). In 1938, Murray published his book "*Exploration in Personality*." In this book he made several references to the work of Lewin and argued against Lewin's theory. He argued "if we were concerned with the individual merely as a unit in a field of social forces, then perhaps he might be treated as a physician treats a body."

Murray postulated that it is very important to analyze an environment in terms of the attributes of what "press" is applied. He developed a theory that included not only the notion of one's internal need, but also the concept of environmental "press" which represents external determinants of behavior (Moos, 1976). Press is the directional influence that the environment has on one's behavior. Press has positive and negative quantifiable aspects in terms of its ability to benefit or harm. Murray identified press as being either "alpha" press

(the environment as seen by outsiders or observers) or “beta” press (a person’s interpretation of the environment based upon his perception). Beta press is what determines behavior (Murray, 1938). Murray termed the difference between alpha and beta press as “delusion.” Contemporary learning environment studies have been concerned more with the beta press rather than the differences between the two (Murray, 1938).

Murray contended that environmental forces play a significant role in the exhibition of the psychogenic needs (needs at the unconscious level). He identified these psychogenic needs by research and narrowed them to a list of 27 needs, some of which are: achievement, affiliation, autonomy, construction, deference, dominance, harm avoidance, order, play, rejection, understanding, etc. He stated that these forces or “press” make us behave the way we do.

Rotter was born in 1916 in Brooklyn, NY. His father ran a successful business until the Great Depression. The Great Depression influenced Rotter to be aware of social injustice and the effects of the situational environment on people. Rotter's interest in psychology began in high school when he read books by Freud and Adler. Rotter attended Brooklyn College, where he began attending seminars given by Adler and the meetings of the Society of Individual Psychology in Adler's home. After graduation, Rotter attended the University of Iowa, where he took classes with Kurt Lewin. When Rotter developed his “*Social Learning Theory*,” the dominant perspective in clinical psychology at the time was Freud's psychoanalysis, which focused on people's deep-seated instinctive motives as determinants of behavior. Individuals were seen as being naive to their unconscious impulses, and treatment required long-term analysis of childhood experience. Learning approaches at that time were dominated by drive theory, which held that people are motivated by physiologically-based

impulses that press the individual to satisfy them. In developing *Social Learning Theory*, Rotter (1989) departed from instinct-based psychoanalysis and drive-based behaviorism. He believed that a psychological theory should have a psychological motivational principle. Rotter chose the *empirical law of effect* as his motivating factor. The law of effect states that people are motivated (i) to seek out positive stimulation (i.e. reinforcement), and (ii) to avoid unpleasant stimulation. Rotter combined behaviorism and the study of personality, without relying on physiological instincts or drives as a motivating force.

The main idea in Rotter's *Social Learning Theory* is that the personality of an individual is a representation of that individual's interaction with his or her environment. One cannot speak of a personality, internal to the individual, independent of the environment. Neither can one focus on behavior as being an automatic response to an objective set of environmental stimuli. Rather, to understand behavior, the individual (i.e., his or her life history of learning and experiences) and the environment (i.e., those stimuli that the person is aware of and responding to) have to be taken into account. Rotter describes personality as a relatively stable set of potentials for responding to situations in a particular way.

Rotter sees personality, and therefore behavior, as always changeable. Change the way a person thinks, or change the environment a person is responding to, and behavior will change. He does not believe that there is a critical period after which personality is set. He believes that the more life experiences an individual has to build with a certain set of beliefs, the more effort and intervention is required for change to occur. Rotter conceives of people in an optimistic way. He sees them as being drawn forward by their goals, seeking to maximize their reinforcement, rather than just avoiding punishment.

Although social learning theory provides many insights into understanding group learning and classroom dynamics, the concept of classroom social environment provides a more useful framework for studying adult classroom environments. Moos adapted Lewin's and Murray's theories to study the social environment of classrooms.

Moos contributed greatly to the understanding of social climate. As professor of psychiatry, he spent several years of his life in an attempt to understand the effects and functions of environments. In the beginning he was interested in psychiatric treatment settings with a focus on social climate. In his words, he was trying to understand the "personality of the environment." He posits that a thorough understanding of the physical setting, the people present in that environment, and the organizational structure within which they exist, is necessary in order to understand the social climate of an environment. In the latter part of his life, Moos applied his research findings to the area of education and determined that student behavior and attitudes affected the environment.

Moos asserts that both, the members of a group, and their immediate environment influence human behaviors. This is evident in the following statements made by Moos (1979) that stress the importance of classroom social environment:

1. "The environment in which behavior takes place must be considered in order to predict individual functioning more accurately." (p. 2)
2. "The environment can exert a potent influence on the extent and kind of change that occurs in human characteristic." (p. 3)
3. The social-ecological settings 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)

Two of the most notable works of Moos are the *Conceptualizations of Human Environments* (1973) and *Evaluating Educational Environments* (1979). In *Conceptualizations of Human Environments*, Moos outlines dimensions which characterize human environment: (a) ecological dimensions, (b) behavior settings, (c) organizational structure, (d) collective personal and/or behavioral characteristics of milieu inhabitants, (e) psychosocial characteristics and organizational climates, and (f) variables relevant to the functional or reinforcement analyses of environments. Moos asserts that “the common relevance of these six types of dimensions is that each has been conceptualized and shown to have an importance and sometimes decisive impact on individual and group behavior” (Moos, 1974, p. 653).

Moos (1979) suggests that educational environments should be assessed from a social-ecological perspective, which consist of both physical and social variables: physical setting, organizational factors, human aggregate, and social climate. However, he considers classroom social climate as the “major mediator” in educational settings.

Moos’ major focus was on the “extent to which the social climate is determined by and mediates the influence of three domains” (Moos, 1979). He conceptualized three broad areas for social environment through studies with colleagues in a variety of settings: secondary schools, community care homes, correctional institutions, psychiatric wards, and university student living arrangements. The three domains that characterize the social environments of varied settings are:

1. Relationship domain
2. Personal development domain
3. System maintenance and change domain

The *relationship domain* refers to “the extent to which people are involved in the setting, the extent to which they support and help one another, and the extent to which they express themselves freely and openly” (p. 14). Some aspects included in this dimension are: support, involvement, affiliation, expression, and cohesion.

The *personal development domain* refers to “the basic goals of the setting, that is, the areas in which personal development and self-enhancement tend to occur” (p. 16). It is characterized by aspects such as task-orientation, anger, aggression, independence, achievement, independence, personal status, and self-discovery.

The *system maintenance and change domain* indicates “the extent to which the environment is orderly and clear in its expectations, maintains control, and responds to change” (p.16). It is characterized by aspects such as order, physical comfort, influence, organization, and innovation (Moos, 1974).

Through subsequent work Moos demonstrated the enduring quality of these domains in terms of health, family, school, work, community, military, and prisons. Moos subsequently used these three domains as a source for a general model of person-environment interactions, as well as, a conceptual and theoretical framework to conceive the elements of social environments in educational settings. This led to his development of the Classroom Environment Scale (CES) (Moos, 1979). Moos (1979) defined classroom social environment as a “dynamic social system that includes not only teacher behavior and teacher-student interaction, but also student-student interaction” (p. 138).

The concept of classroom social environment in the field of adult education is very similar in meaning to the literature that spawned its origin. Darkenwald and Gavin (1987), who assessed the social environment in adult classes, elucidated that classroom social

environment as a concept is “socially constructed by the teacher, students and their interactions, thus, leading to distinct attitudinal and behavioral norms” (Darkenwald & Gavin, 1987, p. 156). In the book *Improving Higher Education Environments for Adults* (1989), the following is asserted regarding adult learning environments.

“We need to approach educational environments from an ecological perspective...The essence of the ecological perspective is that the onus cannot be placed on either the individual or the environment; rather human behavior is a continuous interaction between the two” (Schlossberg, Lynch, & Chickering, 1989, p.23).

Darkenwald and Gavin (1987) investigated classroom social environment in order to understand why adults drop out of educational activities. Seventy-seven adults enrolled in GED preparation classes were assessed concerning their expectations and actual classroom experiences using Moos’ Classroom Environment Scale (CES). Adult dropouts were found to score low on the affiliation dimension of the scale. They stated “Dropouts anticipated finding themselves in a classroom in which they did not expect or presumably desire a climate high on friendly social relations and mutual support among students” (p. 160). This study also implied that there was a need for an adult version of the classroom environment scale because it was designed with regard to high school classroom environments.

Darkenwald and Valentine (1986) along with nine adult education doctoral students developed the Adult Classroom Environment Scale (ACES) at Rutgers University from 1984-1985. The instrument was comprised of 49 items. The researchers used interviews and existing environment instruments to guide the development of their adult focused instrument. Adult learners, as well as adult educators were included in the interview process. Although

existing instruments did not focus on adult populations, they offered a framework in which development could begin (Darkenwald & Valentine, 1986).

Courtenay and Arnold (1988, 1989) examined relationships between classroom social environment, achievement, and course satisfaction using the ACES. In 1988, the authors concluded that classroom social environment possibly influences course satisfaction for adults. One of the populations of students had higher interaction and commitment to the task, and higher involvement and task orientation dimensions on the ACES scale. By using an additional instrument, the Urdang Satisfaction Scale, the authors concluded that a definite statistical correlation existed between classroom social environment and course satisfaction.

Another study that addresses the concept of classroom social environment in the field of adult education involved gender differences in perceptions of classroom social environment. Female learners were found to rate higher in both the areas of affiliation and involvement than male learners (Beer & Darkenwald, 1989).

Sullivan (1989) deduced that student feedback did affect classroom social environment through an experimental study, which involved revealing student perceptions of classroom social environment to teachers.

Courtenay, Arnold, and Kim (1990) investigated the effects of program planning on classroom social environment and the effects of adult classroom environment on achievement and satisfaction. In this case, no significant relationships were found between classroom social environment, achievement, and satisfaction.

Courtenay, Valentine, and Kim (1992) conducted a study to determine if including adult learners in planning their learning experiences affect learner achievement, learner satisfaction, and classroom environment. Additionally, they sought to determine to what

extent classroom environment correlates with learner achievement and learner satisfaction. Adult participants in this study were enrolled in a Basic English Review course. The study concluded “participation in planning does not appear to affect learning gain or satisfaction, even when the amount of participant input in planning is increased; participation in planning does not influence classroom environment; the relationship between classroom environment and achievement or satisfaction is inconsequential; and classroom environment, as defined by the ACES, may simply be a function of the satisfaction of the learner” (p. 297).

Carlson (1997) wrote a narrative describing her use of the theory of multiple intelligences in her graduate education classes to transform the classroom learning environment.

Miglietti and Strange (1998) conducted a study of adults enrolled in remedial mathematics and English. The goal was to examine the relationship between students’ age and expectations of the classroom environment and learning styles as they relate to student academic achievement and satisfaction. The study yielded that there were no significant effects of age on classroom environment or learning style preferences. Additionally, no significant age by gender interactions effects were observed.

A more recent investigation by Klecker (2000) involved adult populations and the concept of classroom social environment. Four classroom assessment techniques were used in a graduate-level course. These techniques were used in tests and measurements to explore the relationships between classroom climate and classroom assessment. Assessments that encouraged collaboration produced a more cooperative interaction filled classroom climate among graduate students.

The repertoire of studies involving classroom social climate in adult education, that was extremely visible in the late 1980s and early 1990s, barely exists as we enter a new millennium. Research into psychosocial environments should be ongoing due to the ever-changing nature of environments. “We have not reached the goal Murray (1938) espoused more than 60 years ago” (Moos, 2002). This review of literature tries to provide support to this statement by means of a study involving the “online learning environment.”

Corno (1989) pointed out that the majority of research pertaining to classroom interaction has been conducted on elementary classrooms. Fox, Luszki, and Schmuck (1966) state that classroom interaction is not limited to a “matter of teaching, telling, and pupils listening, or the teacher asking and the pupils answering. Learning does not occur merely because of the teacher’s presentations; it occurs through the interplay of the teacher’s behavior with many other forces.” Fox, et al. also suggested that a pupil’s motivation to learn is affected by many factors in the classroom environment and that “the teacher can help pupils learn their academic subjects better when he or she takes some of these factors into account.” Furthermore, they suggested that the patterns of social relations in a classroom affect a pupil’s utilization of his or her academic potential.

Stockard and Mayberry (1992) proffer that since students spend a majority of their time within classrooms at school, more research should be conducted in studying the classroom environment. They conclude that classroom environments are significantly important in (a) influencing the attitudes of the students toward the school and (b) influencing the students’ achievements.

Verner and Davison (1982) posit that only a motivated learner will learn. The learner has to be provided an environment that is free of distractions and should be ready to learn.

Learning will not take place if the environment is not conducive to learning. The physical and the emotional atmosphere have to be conducive to learning. They also state that the emotional atmosphere must be supportive of the adult students' attempts to learn i.e. the teacher's attitude and behaviors are crucial. The adult student must feel that he or she is being treated as an equal.

Valentine and Kim (1994) suggest that the social environment of an adult education classroom is an important criterion in making learning effective. Adult educators must understand that because different learners thrive in different types of social environments, it is impossible to satisfy the environmental preferences of every learner.

Courtenay, Valentine, and Kim (1992) propose that a classroom social environment consists of the complex interaction among a group of people assembled together in a formal learning setting. They warn researchers and theorists to use a common sense approach in understanding the fact that a classroom social environment is multidimensional.

Classroom environment or social climate in a classroom has the potential of affecting student-teacher interactions. Crain, Mahard, and Narot (1982) examined culture or environment in many schools and deduced that schools that are rigid and bureaucratic depersonalize students.

In early 1960s, Bloom pointed to the measurements of educational environments as decisive components in predicting successful learning manipulation (Anderson & Walberg, 1974). Numerous studies have demonstrated that students' perceptions of their educational environments can be measured with survey instruments, with their assessments being valid predictors of learning (Anderson & Walberg, 1974; Fraser, 1997, 1998a, 1998b, 2002; Moos,

1979) thereby changing focus from individual student achievement to the effectiveness of the environment (Walberg, 1974).

Variables within the learning environments can be manipulated to achieve different affective and cognitive learning outcomes (Anderson & Wahlberg, 1974). Many studies have shown that learning environments have dimensions that have consistently been identified as determinants of learning (Fraser, 1986; Khine, 2002). Learning environments which students perceive as affirmative, favorable, and fulfilling tend to lead toward increased student achievement (Chang & Fisher, 2001a).

According to Barker, Ross, and Thorne (2004) it is the students' perceptions which determine the climate of a classroom and whether it is threatening. These perceptions can include assessments of the personalities of students and instructors, as well as mannerisms and communication styles of the students and instructors. In a safe classroom climate students' feelings of self-worth are developed and retained. These feelings lead to confidence and assurance in a student and thereby influence learning behavior (Dart, Burnett, Purdie, Boulton- Lewis, Campbell, and Smith, 2000).

Rogers and Freiberg (1994) posited that the learning environment can be improved by three specific teaching qualities and attitudes: (a) trust, (b) realness, and (c) empathic understanding. These qualities and attitudes facilitate learning, enhance students' self-knowledge, and promote authentic teacher-student relationships.

Classroom Environment Scale (CES)

The Classroom Environment Scale (CES), developed by Moos (1979) identified teacher characteristics as the heart of the model. The model takes into account the environmental factors that influence an individual's perception in a particular social setting.

The CES model was developed to assess students' perceptions of the learning environment in a high school setting.

There are three versions of the CES. The Real Form (Form R) assesses teachers' and students' perceptions of the current classroom social environment. The Ideal Form (Form I) asks individuals how they envision an ideal classroom environment. The Expectations Form (Form E) asks prospective class members what they think the social environment they are about to enter is like (Moos, 1979). All scales of the CES displayed reasonable reliability estimates.

Adult Classroom Environment Scale (ACES)

The Adult Classroom Environment Scale (ACES), developed by Darkenwald and Valentine in 1986, was the only scale developed to measure the social environment of adult education classrooms in general (Darkenwald & Valentine, 1986). Though the model was important, other available instruments were not valid for research with adults. Construction of the ACES began with brainstorming ideas, interviews of adult students and educators, and reviews of other environment scales. An original list of 159 items was generated. This list was later reduced to 89 items, and classified into seven dimensions. The 89 items in the ACES were administered to 220 subjects. An item analysis was then conducted. The item pool was reduced to 49 items with seven items associated with each of the seven dimensions.

Much of the classroom environment theory behind the ACES stems from the work of the social psychologist Moos. The dimensions can be classified into three domains:

1. Relationship – the type and degree of personal relationships formed in class;
2. Personal Growth/Goal Attainment – the opportunity for personal goal achievement and self-improvement; and

3. System Maintenance and Change – the clarity of expectations, maintenance of control, and responsiveness to change in the classroom (Langenbach & Aagaard, 1990).

ACES gained importance because other instruments available were not valid for research with adults (Langenbach & Aagaard, 1990; Darkenwald, 1987). During the construction of the ACES, two forms of the ACES instrument were developed, the Ideal (I) and the Real (I). The Ideal form elicits opinions about students' ideal classroom, while the Real forms are student or teacher evaluations of real classes (Miglietti & Strange, 1998).

College Classroom Environment Scales (CCES)

Learning involves more than simply being exposed to a body of information. To encourage learning, it is important to understand the variables that influence learning. The College Classroom Environment Scales (CCES) assesses student perceptions of the environment regarding different instructional strategies and their effects on the learning climate. If instructors can better understand student perceptions of their classes, the information gleaned could be used to improve their instructional approach and to evaluate different techniques for presenting material in diverse disciplines (Winston, Vahala, Nichols, Gillis, Wintrow, and Rome., 1994).

Winston et al. (1994) began development of the CCES by identifying and writing items describing their experiences in collegiate classes as teachers and students. The experiences produced 143 items that were administered to a total of 47 classes at two southeastern universities, one small private university, and a large public university. Undergraduate students enrolled in introductory through advanced courses participated in the study. Four different studies were undertaken to estimate the CCES' reliability and validity.

Data were collected at small and large, public and private universities. Undergraduate students at all levels, introductory and advanced, female and male, Caucasian and African-American students from 81 class sections, and a wide range of academic disciplines were represented. Ranges of class participation and demographic information questionnaires from instructors and other classroom environment inventories were completed by students as well.

To test for reliability of the instrument, the coefficient alpha procedure was used to estimate the internal consistency of the scales. Test-retest procedures were performed to estimate the scales' temporal stability. The internal consistency measures of the scales suggested that the CCES is stable enough for its intended usage (Winston et al., 1994).

Classroom Dynamics Questionnaire (CDQ)

If education is a process of interaction, then it follows that classroom dynamics constitutes the mechanism through which interaction takes place. The Classroom Dynamics Questionnaire was developed by Valentine, Oliva, and Thomas (2002) to measure four dimensions of classroom dynamics: (a) Teacher respect for students; (b) Confidence in teacher's ability; (c) Learner cohesion; (d) Learner voice.

Respect and Confidence measure relationships between teachers and students. Cohesion and Voice measure relationships among the students. Table 1 shows how these four dimensions were used to understand the manner in which groups of learners perceived classroom dynamics in a face-to-face classroom.

Development. CDQ is represented by items 1-27 in the instrument (Appendix A). The contents of this instrument were selected based on a comprehensive review of the literature pertaining to group dynamics and classroom relationships (Oliva, 2003). The instrument was developed in order to predict the way in which classrooms differed and how those differences

affected learning. CDQ was designed to collect data information regarding the interpersonal dynamics occurring in the classroom and the interpersonal dynamics preferred by students in the classroom (Oliva, 2003). It covered relationship areas between teachers and students and students and students, and attempted to measure these four distinct dimensions. To rank the importance of each item in each subscale, respondents were asked to respond to a six-point Likert scale in which one (1) represented “strongly disagree” and six (6) represented “strongly agree.”

Many tasks were involved in the development of the CDQ and its subscales. The authors conducted interviews, examined other classroom environment scales, conducted pilot studies, and refined the item pools. After the final selection of the items and subscales, the response scale and background variables were added to the instrument (Oliva, 2003).

These dimensions and relationships assessed the students’ perceptions of classroom dynamics in the classroom. Section I of CDQ contained 13 items. Section II contained 14 items, for a total of 27 items. The 27 items corresponded to the four dimensions of classroom interpersonal dynamics. Each version of the questionnaire provided instruction for completing the forms.

Validity and reliability. CDQ was tested for reliability and validity by its authors (Valentine, Oliva, Thomas, 2002) and by Davis (2006). A pilot study using the CDQ was conducted (1) to ascertain the capability of the instrument to be used in very diverse settings; (2) to ascertain the reliability of the instrument and independence of items; and (3) to ascertain the sufficiency of administration procedures. The authors established validity in terms of (a) preliminary research on information and key concepts that were consistent with the literature relating to classroom environment and interpersonal relationships; (b)

instrument conceptualizations in which major concepts and a conceptual framework were either considered or included; and (c) construct validity via a validity sort which supported a lack of relationship between measures that theoretically should not be similar. Reliability was ascertained by calculating Cronbach's coefficient alpha (α) to test internal consistency of the four subscales of the instrument (Oliva, 2003). Reliability scores for the four subscales are shown in Table 2.

Table 2

Reliability Scores for CDQ from Studies on Classroom Dynamics

	Respect	Confidence	Cohesion	Voice
Oliva (2003)	.95	.95	.95	.90
Thomas (2004)	.92	.93	.93	.86
Davis (2006)	.93	.94	.83	.92

These calculations represented significantly high reliability. Subscale items measuring teacher respect for students, students' confidence in the teacher's ability, learner cohesion, and learner voice are presented in Tables 3 - 6.

The present study used an adapted version of the CDQ. Two particular adaptations proved necessary to address the research purposes of the study: (1) Correcting the measurement sensitivity issue pointed out in the study conducted by Davis (2006) and (2) Adapting the CDQ to make it suitable for use in an online classroom environment.

Table 3

Items Measuring Teacher Respect in the CDQ

Item	
1	The teacher treats all students fairly
4	The teacher respects the diverse backgrounds
8	The teacher treats students with respect
10	The teacher never talks down to students
12	The teacher really listens when students are speaking
13	The teacher respects students' ideas

Table 4

Items Measuring Confidence in Teacher's Ability in the CDQ

Item	
2	The teacher provides excellent feedback on students' learning
3	The teacher adequately covers the course content
5	The teacher has excellent teaching ability
6	The teacher is knowledgeable about the course content
7	The teacher makes learning interesting
9	The teacher comes to class prepared
11	The teacher works hard to help students learn

Table 5

Items Measuring Learner Cohesion in the CDQ

Item	
19	Students support each other's learning
20	Students learn from one another
21	Students in the class enjoy learning
22	Students share learning resources with each other
23	Students work well together
26	Students care about each other's learning progress
27	Students have developed friendships in the class

Table 6

Items Measuring Learner Voice in the CDQ

Item	
14.	Students feel free to speak out in class
15.	Every student gets a chance to speak in the class
16.	Students feel comfortable expressing their opinions
17.	Individual students rarely dominate discussions
18.	Students feel comfortable disagreeing with one another
24.	Students are respectful of one another when speaking in class
25.	Students rarely disrupt one another's comments

Measurement sensitivity. Although the Classroom Dynamics Questionnaire used by Oliva (2003), Thomas (2004), and Davis (2006) proved highly valid and reliable, a consistent problem emerged, i.e., the problem of measurement sensitivity. Measurement sensitivity may be defined as the ability to discriminate among people for a measure. The real issue that emerged in the study by Davis (2006) was that although CDQ was reliable and valid, a third condition of the measure was not being met, which was “sensitivity.”

In the study conducted by Davis (2006), all the scores on the scales were negatively skewed. This restrictive variance had great implications for any attempt to correlate or use it as an outcome variable or as a predictor variable. The lack of variance in a variable precludes it from “covarying.” In her study, Davis (2006) calculated the means of the individual items for the four classroom dynamics key measures. Then the mean-item-means for each dimension were calculated. Computation of the item means and the mean-item-mean values facilitated the evaluation of the response levels for each of the four variables. Calculations were used to determine the outcome of the analyses related to the perceived classroom dynamics. The analyses found uniformly high ratings for all four dimensions of the CDQ. A review of the distribution of the scores for the four CDQ variables showed a “ceiling effect” in which the majority of the participants rated all four dimensions of classroom dynamics (teacher’s respect for students, confidence in teacher’s ability, learner cohesion, and learner voice) very highly. The greatest percentage of the scores was found to be concentrated beyond the mean (to the right).

Mean values ranged from 35 to 38 and standard deviations ranged from 6 to 7. The similarities in the means indicated the difficulty in distinguishing the independent variables among the participants. Only moderate correlations were observed, possibly due to the

“ceiling effect.” Because of the limited variance in the dependent variables, it was probably impossible for the correlations among variables to be high. The author of the present study worked closely with Valentine to solve the problem of measurement sensitivity. In an attempt to resolve the sensitivity issue, the author with help from Valentine, proposed changing the scale used in the CDQ from the somewhat symmetrical and ambiguous “Strongly agree – Strongly Disagree” to an asymmetrical scale that ranged from “Poor” to “Excellent.” Whether or not this strategy would in fact solve the sensitivity issue was established through the use of a pilot study prior to the beginning of the actual research. It was the author’s and Valentine’s belief that if this solution proved not to work, then other avenues would have to be explored.

Studies Using Classroom Dynamics Questionnaire

In the recent past, three different studies have used the Classroom Dynamics Questionnaire: Oliva (2003), Thomas (2004), and Davis (2006). All three studies used the same four dimensions of classroom dynamics. However, they used different populations and different predictors. Each of these three studies is discussed in this section.

Study by Oliva (2003)

The purpose of the study was to understand how students in law enforcement education felt about their classroom environmental preferences, which may limit learner satisfaction and achievement and therefore result in inadequate training. The study sought to identify these preferences by examining the actual and preferred interpersonal dynamics of law enforcement classrooms.

The study sample consisted of 362 certified law enforcement officers attending classroom instruction at the centralized public safety training facility in a southeastern state

of the United States. Data were collected in nine classrooms at the training site using a self-completion, forced-choice survey instrument, the Classroom Dynamics Questionnaire (Valentine, Oliva, & Thomas, 2002). The instrument was designed to measure interpersonal classroom relationships between the teacher and students and among the students themselves. The instrument measured four dimensions of these classroom interpersonal dynamics, Teacher Respect for Learners, Confidence in Teacher's Ability, Learner Cohesion, and Learner Voice. Two versions of the instrument were produced: Version R (Real) and Version I (Ideal). Version R was used to measure students' actual classroom dynamics in relation to the four dimensions, and Version I was used to measure students' preferred classroom dynamics in relation to these four dimensions.

Simple correlation analyses were used to calculate bivariate relationships between selected predictor variables (personal characteristics and classroom size) and outcome variables (subscale measures), and stepwise multiple regression analyses were used to calculate multivariate relationships between these predictor and outcome variables. Analyses revealed that with respect to their actual classroom perceptions and their classroom preferences, students rated all subscale items highly. Students' ratings for the four dimensions on both the Real and Ideal measures revealed marked similarities; in both measures, students rated items pertaining to teacher-student relationships (Respect and Confidence) more highly than they rated items pertaining to student-student relationships (Cohesiveness and Voice).

However, the predictor variables used in the study illustrated limited power to explain both the actual and preferred dimensions thereby providing a foundation for further research examining interpersonal relationships in law enforcement and other adult classrooms.

Study by Thomas (2004)

This study sought to determine the extent to which race impacts perceived classroom dynamics of African American and Caucasian American adult learners in graduate classrooms. The study sample consisted of 302 adult learners enrolled in graduate classes at one predominately White institution and 3 Historically Black Colleges & Universities (HBCU) in a southeastern state of the United States. Data were collected in 27 graduate classrooms using a self-completion, forced-choice survey instrument, the Classroom Dynamics Questionnaire (Valentine, Oliva, & Thomas, 2002) which was designed to measure students' interpersonal relationships with respect to four dimensions of classroom dynamics: Teacher Respect for Students, Confidence in Teacher's Ability, Learner Cohesion, and Learner Voice.

Statistical analyses were used to determine the explanatory power of three variables, students' race, racial ratio (percent black) of class, and the race of the teacher relative to the race of the student on perceived classroom dynamics. Analyses revealed that students of both races rated items in each of the four dimensions of classroom dynamics highly. The various analyses conducted in this study also revealed that no statistically significant difference on the basis of race existed on any of the subscale measures.

These findings provide practical contributions to the field of adult education in the consideration of the complex nature of race and appropriate methodological considerations, as well as the measurement of interpersonal dynamics. Also, these findings provide a base for further research that examines the impact of race on classroom dynamics in adult education classrooms.

Study by Davis (2006)

The purpose of the study was to understand how developmental studies students perceive classroom dynamics and why different students view classroom environments differently. The instrument used to measure students' perceptions was a composite instrument in which was embedded the Classroom Dynamics Questionnaire (Valentine, Oliva, and Thomas, 2002), the Educational Experience Scale (Kim, 1993), and the Identification with Academics Scale (Osborne, 1997). The study sample consisted of 645 students enrolled in 34 developmental studies English, reading, and mathematics classes at a technical college in the southeastern United States.

Bivariate and multiple regression analyses were conducted to discover the best explanation for observed variance in four dimensions of classroom dynamics, namely, teacher respect for students, confidence in teacher's ability, learner cohesion in the classroom, and learner voice in the classroom. Analyses revealed that demographics variables of race, age, gender, and income, had no predictive power in classroom perceptions. However, the variables past educational experiences, educational attainment, and identification with academics were significant predictors for the four dimensions of classroom dynamics.

Dimensions of Classroom Dynamics

The discussions and literature in this section are organized on the basis of the four dimensions of the *Classroom Dynamics Questionnaire* to make this section relevant to the present study. In order to identify and acknowledge perceptual differences, and to understand the degree to which these differences influence the classroom environment, Valentine, Oliva, and Thomas (2002), developed the *Classroom Dynamics Questionnaire* (CDQ). CDQ

assesses students' perceptions of classroom environment and identifies those factors that affect learning. CDQ is a recent formulation that has contributed greatly to the understanding of classroom dynamics.

CDQ measures interpersonal relationships in the adult classrooms. The four dimensions identified in the questionnaire are:

- Teacher-Student relationship
 1. Respect – teacher shows respect for students
 2. Confidence – students have confidence in the teacher's ability
- Student-Student relationship
 1. Cohesion – students as a group are well integrated
 2. Voice – students believe that they can speak their minds

Teacher Respect for Students

The personality and characteristics of classroom instructors have long been a topic of interest for educational researchers, with the acknowledgement that personality has a direct bearing upon classroom dynamics and the teaching-learning environment. A safe and secure educational environment facilitates and produces positive interactions among students and between students and instructors. True learning results when students experience this sense of safety and association with their instructors.

In a study by Anderson and Carta-Falsa (2002) students identified their desires for relationships with their instructors. Through qualitative analyses, of narratives Anderson & Carta-Falsa identified the need for nurturing, open, non-threatening, and respectful attitudes in student-faculty relationships. A representative sample of 24 instructors and 400 undergraduate and graduate students from the four learning sites of the southern region of

National University was selected for the study. The two-question questionnaire was designed to elicit responses from students and faculty about their perceptions of relationships in higher education classrooms. The first question assessed the kinds of relationships the students would most like to have with fellow students in the class. The second question assessed the kinds of relations the students would most like to have with the instructor in the class.

Anderson's and Carta-Falsa (2002) found that instructors who see the value of collaboration to establish effective personalized teaching environments are able to establish a climate where interactions are possible. In this analysis both instructors and students were interested in establishing a classroom environment where their ideas could be acknowledged with respect and trust. In effect, it was found that students and instructors can learn to perceive each other as contributing, mentoring, and resourceful individuals who empower each other. Students become empowered to achieve at a higher level and become confident learners. Teaching then has a more personal focus. Anderson and Carta-Falsa suggest a lesson for educators, i.e., students must feel good about their learning environment.

When the instructor is a real person, he or she can enter into a relationship with the learner without presenting a front or a facade, thus more likely to be an effective instructor. This means that the feelings that the instructor is experiencing allows a direct personal encounter with the learner. It also allows the instructor the opportunity to meet the student on a person-to-person basis, thus building trusting relationships with them (Rogers & Freiberg, 1994).

An instructor can be faultless in knowledge of subject, yet fail to be a good teacher if respect is not shown to students. Respect for students extends beyond gender, sexual and ethnic diversity. In particular, respect for students generally prohibits public humiliation.

Hardly anything is more antithetical to education than putting down a student in public. Putting down a student labels a student's question as stupid and brushes off a student's request for further clarification. It also indicates to the student that the request is a huge burden to deal with and a mundane matter (Pockington & Tupper, 2002).

Confidence in Teacher's Ability

Rogers and Frieberg (1994) define confidence as the basic belief that a person has worth in his or her own right. They suggest that the instructor who has a considerable degree of this attitude is fully accepting of the fear and hesitation of the student as he or she approaches a new problem as well as accepting of the student's satisfaction in his or her achievement. When the instructor has the ability to understand the student's reactions from the inside and has a sensitive awareness of the way the process of education and learning seems to the student, then the likelihood of significant learning is increased.

Sander, Stevenson, King, and Coates (2000) analyzed data from a study conducted to determine the students' expectations of their teacher. The researchers asserted that current trends in higher education suggest that students view themselves primarily as customers and are aware of their rights as customers. Students expect service and expect that service to meet their expectations as customers. Addressing those expectations can produce measurable improvements in student outcomes.

Effective teaching focuses on the ability of the teacher to concentrate on the process of instruction. Helping students appreciate complex material, as it is organized and made clear, describes an effective teacher (Lowman, 1994). Effective teaching also involves the ability to stimulate and captivate students. Likewise, the ability to communicate and create a

positive, democratic, and predictable environment describe an effective teacher (Lowman, 1994).

Learner Cohesion

According to Michaelsen, Fink, and Knight (1997), group activities have become increasingly popular. They suggest that to gauge the learning value of group assignments, teachers should examine the impact of the assignments on group cohesion. Certain types of learning tasks contribute positively to group cohesion. If left unchecked, social loafing could result and prevent the development of the social fabric that is necessary for effectively functioning learning groups.

Hansen and Stephens (2000) contend that social loafing lowers teachers' academic expectations of student performance. Also, social loafing leads students to reduce their efforts to match the level they think other group members are expending. The forces that promote social loafing in learning groups can be offset by assignments and activities that foster the development of cohesive learning groups. This happens because trust and understanding builds among group members, thus, establishing more cohesion. Secondly, members of a cohesive group see themselves as being integrally tied to the success of the group. As a result, group members become highly motivated and invest personal energy in doing and contributing to group work (Michaelsen, Fink & Knight, 1997). Michaelsen et al. (1997) suggest effective strategies that classroom instructors can employ to ensure cohesion in the classroom. The strategies (p. 4) are:

1. Require a high level of individual accountability for group members and/or workshop participants;
2. Motivate a great deal of discussion among group members;

3. Ensure that members receive immediate, clear and meaningful feedback (preferably involving direct comparisons with the performance outputs from other groups);
4. Provide explicit rewards for high levels of group performance.

These strategies can cause group members to interact in ways to promote the development of the cohesive groups and encourage quieter group members to participate and feel that their ideas are valued and welcomed.

Learner Voice

Student voices play a great role in the creation of a successful teaching-learning environment in the classroom. When the teacher monopolizes classroom talk and the students' voices are barely heard, knowledge is treated as residing entirely with the teacher (Kordalewski, 1999). Freire (1970) termed this as “banking” education in which the teacher “deposits” knowledge into students head without dialogue.

Kordalewski (1999) explored different ways in which student voices can be heard in a classroom. First, he suggests negotiating the curriculum. This means that students share in the authority in the classroom, and have input as to how they will proceed in particular activities. This may entail choosing topics, sources, and media for individual and group projects. Having a voice in the classroom process gives students the opportunity to share in decision-making as well as a source of knowledge.

The views of Tinzmann, Jones, Fennimore, Baker, Fine, and Pierce (1990) are in accord with those of Kordalewski. They assert that students should have opportunities to have a voice in the decision-making process of their classroom process. Having a voice grants opportunities for students to ask and investigate questions of personal interest and is essential for both motivation and self-regulated learning.

Schneider (1996) stresses the need to nurture students who will grow into lifelong learners, into becoming self-directed seekers, and evolving into the kind of adults who are morally responsible. These students should also be given the opportunity to practice making choices and reflecting on the outcomes. Responsibility means owning one's failures and successes (p. 26).

Shor (1992) emphasizes that students are too accustomed to being inundated with "teacher talk" and views this as a teacher's method of classroom control. He asserts that control can guide or stifle students' thoughts. Shor contends that listening to students, though sometimes longer than desired, gives them free rein in classroom discussions, and helps make them owners of the classroom and the conversations.

Importance of Social Climate in Online Classroom

The social climate in the classroom is one of the most important criteria in the learning process. In today's global economy, in order to create, distribute, and exploit knowledge for competitive advantages internationally, there is a strong need to accommodate students (Organization for Economic Cooperation & Development, 2000; Hinde, 2000). Universities both small and large are marketing globally and providing borderless education. Australia plans to become a leader in "education exporting" (Hanley, 2002; Hinde, 2000). A huge shift in governmental policy allows full-cost tuition to be charged to international students, coupled with reductions in public funding for universities. This policy shift has forced Australian universities into aggressive pursuit of overseas students for market-driven pursuit of foreign income. Consequently Australia's online education programs since the 1980s have become one of the fastest growing segments in Australian education (Marginson, 2002). The same need for revenue and self-sufficiency has prompted many Caribbean

institutions in the Dominican Republic, Cuba, and Puerto Rico to become involved in the global online education market.

Marginalized countries have entered this fray too. India's Indira Gandhi National Open University, Great Britain's Open University, among others, have traditionally supported education in developing regions with print-based media and radio. However, these media lack social interaction. Advances in technology and the ability of some countries to leap frog in technology and telecommunications have created openings for newer, digital-based online education programs to step in (Eastmond, 2000). Despite opportunities for expansion of borderless education in a global market, the quality of higher education must remain high.

Marginson (2002) suggests that Australian student-teacher ratios resulting from "commercialization of foreign education" have already led to "downward pressures in quality." Eastmond (2000) reminds us that online education is "not a panacea that will solve the world's educational problems; in fact, if not done right, online education will exacerbate poor quality instruction and contribute to education problems in developing countries." Social climate research or classroom learning environment research can provide some of the answers by addressing factors that create effective learning environments.

Moos in 1976 stated that "the growth of new institutional environments has increased the need for accurate descriptions of these environments." In reference to the events in the late 1970s, he went on to postulate that "currently available descriptions of social environments are inadequate. The environment is usually described as it is seen by a small and underrepresented sample of the people in it.... In addition, no 'feel' of how the environment actually functions is provided" (p. 351). Moos' statements regarding new

environments and currently available descriptions are as relevant today as they were in the late 1970s. This researcher hopes that research on online education and psychosocial online education learning environments will perhaps increase the knowledge and improve the quality of online education classes in higher education.

Research in Online Classroom

Recent advances in technology and telecommunication and their proliferation have created possibilities that stretch beyond the boundaries of postsecondary online education. Developments in online education have changed how we communicate and learn (Leh, 1999). This trend will continue as growing numbers of students become online learners and a growing number of teachers become online educators.

Online education in its broad sense relies on a wide range of technologies spanning from print correspondence to high bandwidth synchronous videoconferencing. A variety of models exist for online education using various tele-media (Leach & Walker, 2000). However, very few large-scale, technology-driven, virtual learning environments are designed with a view of learning that is grounded in learning theories (Spector, Wasson, & Davidson, 1999). These learning environments focus primarily on course administration rather than on learner relationships, personal development, or expectations. Little, if any, instructional input is built into online education courses (Cook, 2000). Teaching and learning in online education or web-based courses cannot be expected to improve just because of the implementation of technology. Effective learning is a consequence of instruction that is grounded in practical learning theories.

There is plenty of literature on the phenomenon of online education. However, there is a paucity of original and empirical research on online education (Merisotis & Olsen, 2000;

Olsen & Wisher, 2002). Evaluation in online education research tends to focus on student outcomes, attitudes of students and teachers, and satisfaction of teachers and students (Diaz & Cartnal, 1999; Institute for Higher Education Policy (IHEP), 1999). After conducting multiple reviews of literature, Murphy and Cifuentes (2001) reported that less than three-quarters of online education research focuses on learning. Most of the research is focused on technology and the role of the teacher. They also stated that as little as one-third of the online education literature is research-based, while the remaining two-thirds is either anecdotal or theoretical.

Student outcome assessment, student attitudes, technical issues, system implementation components, positive-learning anecdotal descriptions are all important areas of research. However, what is of primary importance is an understanding of students' learning environment needs in order to create the best learning experiences in online education (Howland & Moore, 2002). Mioduser, Nachmias, Lahav and Oren (2000) identified and described a taxonomy of online learning environments as a "practical tool for describing the complexity of the educational kaleidoscope that has been generated on the web." Their taxonomy consists of 100 variables categorized into four dimensions that can be considered for research: (a) the descriptive dimension (b) the pedagogical dimension (c) the knowledge dimension and (d) the communication dimension. Admittedly it is important to categorize and develop online education schema based on content analysis. However, what is conspicuously missing are research studies of components relating to psychosocial learning environments (Kreijns, Kirschner, Jochems, 2002).

Taylor (2001) posits that despite criticisms of online education research, Moos' social organization domains (Relationship; Personal Growth/Goal Attainment; System Maintenance

and Change) are being studied in online education. However, when addressed in terms of Moos' three domains, most online education literature focuses on those components found in the Relationship Dimension such as Collaboration, Interaction, and Instructor Support. Oren, Mioduser, and Nachmias (2002) addressed the importance of considering social climate in online education and follow up by summarizing five studies of social climate in online environments where the focus of the research is on group and interpersonal interaction. These studies did not take into account other social-psychological factors. Furthermore, these five studies are mainly comprised of counting and categorizing messages from online classes and do not shed light on personal relevance, system maintenance, or change.

Diaz (2000) professes that more studies are needed on the analysis of the quality of student-student and student-instructor interaction so that improvements can be made that will alter online education practices. This concurs with Slay's (1998) theoretical framework for online education that calls for consideration of student-student and student-instructor interactions, as well as control and structure within the online learning environment. Slay's framework takes into account two of the three social organization domains posited by Moos.

In their pilot study of online education classes, Youngblood, Trede, and DeCorpo (2001) found that over 80% of the study population indicated that the instructor's role in establishing an organized environment with clear expectations contributed to the success of online classes. These and many other studies have contributed to the online education environment system maintenance and change.

Other studies have shown that there is a strong influence of interaction (a factor in the Relationship domain) in online education classes. O'Reilly and Newton (2001) reported that 82% of the students responded favorably to peer-to-peer interaction. They indicated that

mutual support, social cohesion, motivation, and confidence are all learning by-product of interaction.

Swan (2001) identified three types of interaction in online classes: (1) interaction with content (2) interaction with instructors (3) interaction with other classmates. She reported that peer interaction leads to successful discussion and that instructors place a high value on student-student interaction. She also remarked that the psychological distance between the instructor and the students is reduced by “immediacy of instructors” i.e. instructor’s use of humor, self-disclosure, and praise.

Online community in terms of online education refers to a group’s bond formed by means of communication and social interaction and involves all members feeling that they belong and that their contributions are appreciated and respected (Lefoe, Gunn, & Hedberg, 2001). Collaboration in students comes about as a result of consensus among the students (Walker & Resta, 2002). Some studies are considering online learning communities in terms of how participants see themselves (Tu & Corry, 2001). Graham and Scarborough (2001) found that collaborative learning skills and increases in student-student communication led to students’ personal growth and development – a component of the Personal Relevance domain.

CHAPTER 3

METHODOLOGY

The purpose of this study was to determine how adult learners in online classes perceived classroom dynamics. Specifically, the study addressed the following research questions:

1. How do adult students in two-year technical colleges perceive the four dimensions of classroom dynamics (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) in online classes?
2. To what extent do the students' personal characteristics such as age, race, and gender explain perceptions of classroom dynamics?
3. To what extent do online classroom characteristics such as number of students in the online class and course topic (or subject) explain perception of classroom dynamics?

To achieve this purpose, the four dimensions of classroom dynamics relating to teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice were examined in the study.

This chapter presents the methodology used to address the research questions of the study. It is divided into seven major sections, describing the logical framework, instrumentation, study sample, data collection, data preparation, data analysis, and limitations.

Logical Framework

This study was guided by the logical model as presented in Table 7 in which a framework for understanding perceptions of classroom dynamics is depicted. The framework called for a conception of the four dimensions of classroom dynamics namely: teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice.

Table 7

Relationships and Dimensions of Classroom Dynamics Questionnaire

Relationships	Dimensions
Teacher-Student Relationships	<i>Teacher Respect for Students:</i> The teacher respects the students as learners and as individuals <i>Confidence in Teacher's Ability:</i> The learners believe that the teacher is a competent and committed educator
Student-Student Relationships	<i>Learner Cohesion:</i> Learners feel a sense of sharing, support, and affiliation with the other learners. <i>Learner Voice:</i> Learners feel that they can express their ideas and true feelings with the other learners.

An operational version of that model is presented in Figure 1, to guide the study more precisely. The framework's model proposes certain variables that are believed to be predictors of variations of perceived classroom dynamics, which could affect perceptions and participation in adult online classroom learning activities. Those variables are:

- Age, Race, and Gender.
- Number of Students in Class (or Class Size) and Course Topic (or Subject).

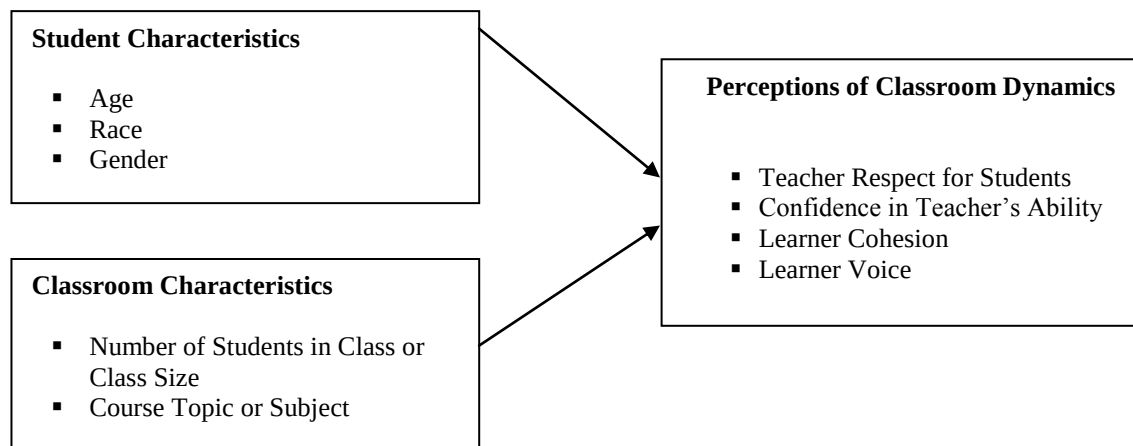


Figure 1 - *Operational Model for Testing Predictors of Classroom Dynamics*

Predictor Variables

This study sought to understand the predictive power of five variables: (a) age, (b) race, (c) gender, (d) number of students in online class, and (e) course topic or subject. The reason why these five variables were chosen is described in the section below.

Age. This study was an attempt to determine learners' perception of classroom dynamics occurring in online classes. It was the goal of the researcher to determine if activities that take place in online classes promote positive educational outcomes. Thompson (1998) stated that the participants in online classes typically consist of a larger percentage of adult, more mature students. These older and non-traditional students are also the majority in two-year technical college online classes. In addition to being a "college student," these adult, non-traditional students have additional roles that they assume such as parent, spouse, employee, caregiver, etc. It is, therefore, important to understand if there are differences in perceptions, if any, among the different age groups that make up these online classes.

The availability and convenience of online classes appeals to a large number of adult

learners, thereby creating an entirely new audience for two-year technical colleges. Most of the research historically has examined traditional students in face-to-face classes in college or university settings. Few empirical studies have been conducted which examine online students, and practically none have looked at adult students in online classes at two-year technical colleges.

The 2001 report by the National Committee of Enquiry into Higher Education indicated that currently, a majority of the online students are adult students. This figure is expected to increase as online learning and virtual universities allow educational experiences to be tailored to the needs of individuals or groups. The 2002 NCES report also projects an increase of about 13% from 2000 to 2010 in the numbers of the traditional college age. Because of a paucity of research data on this group of students, age was chosen as one of the predictor variables to be examined in this study.

Race. In the United States, the salience of race, developed through the historically central White/Black dichotomy, is manifest in all aspects of social and political life. The changing context of the United States requires that we move beyond the historical understanding of race as one dominated by seeing the world solely in “black and white” terms. Latinos, Asians, American Indians, and other populations are now part of the construction of race in America and thus are increasingly an important topic of study in the social sciences.

Race is a socially constructed category that is drawn from the social, political, and cultural values of a particular context that is not static (McClain, Haynie, James, & King 2005). Race was constructed in the United States from its roots in slavery, transformed through a separate system of laws, and perpetuated most clearly through continued

inequality. How, then, can race not be the subject of valid scientific investigation at the social level? Social and economic life is organized, in part, around race as a social construct. When a concept is central to societal organizations, examining how, when, and why people in that society use the concept is vital to understanding the organization and consequences of social relationships such as those occurring in online classroom settings.

Individuals and social institutions evaluate, rank, and ascribe behaviors to individuals on the basis of their presumed race. The concept of race in the United States and the inevitable corresponding taxonomic system to categorize people by race has changed, as economic, political, and historical contexts have changed (Lee, 1993). Although race is a social construct (a social invention that changes as political, economic, and historical contexts change), it has real consequences across a wide range of social, political, economic and educational institutions. Those who favor ignoring race as an explicit administrative matter, in the hope that it will cease to exist as a social concept, ignore the weight of a vast body of sociological research that shows that racial hierarchies are embedded in the routine practices of social groups and institutions.

Race serves as a basis for the distribution of social privileges and resources. Among the many arenas in which this occurs is education (Nickel, 1974). Education can be a mechanism for reducing differences across members of racial categories. Data on race often serves as an investigative key to discovering the fundamental causes of racially different outcomes and the vicious cycle of factors affecting these outcomes. Moreover, because race routinely interacts with other primary categories of social life, such as gender and social class, continued examination of these bases of fundamental social interaction and social

cleavage is required. Based on these arguments, race was included in this study as a predictor variable.

Gender. A socio-cultural understanding of gender is necessary to move toward a more transformative gender approach. At its best, gender should help to form the design and implementation of research and lead to transformation in the way in which research is carried out while at the same time maintaining or enhancing research quality. It can be argued that western sciences have a masculine character. Gender stereotypes dominate the scientific discourse. Epistemological assumptions of science are gender-biased, and the shaping of the scientific agenda is male dominated. Furthermore, technology is perceived as a male preserve while femininity is constructed in terms of technological incompetence leading to a situation in which technological products are outcomes of production processes which are dominated by men and thus reflect their interests. This means that men are generally perceived as “makers” and women as “users” of modern technology. The scientific work of Schiebinger (1997, 1998) looked at the interdependency of scientific discourses and different forms of “how to do science.” He posited that the world cannot be explained exclusively with models that exclude all social dimensions. A re-constructive perspective is needed in basic research, which can be applied to research questions in all scientific fields from the gender perspective. Schiebinger names this goal *sustainable science*.

Gender is a socio-economic and cultural construct for differentiating between roles, responsibilities, constraints, opportunities, and needs of women and men in a given context. Gender differences are the result of learned roles, which change over time and vary widely within and across cultures (Krieger & Zierler, 1995). Therefore, gender is not fixed within time or space; and it not only evolves in response to other social, cultural, economic, and

political changes, but it also is a dynamic factor influencing these changes. Gender is about deep-rooted values and concepts that underlie our thinking, behavior, and actions in all areas of socio-economic life – a factor in understanding many of the processes of social and economic change and thus, an important criterion to ensure the quality of research.

Women are affected by gender stereotypical approaches in formal education, in particular in science and technology (Scienter, 2007). Gender bias lies in the education system and its teaching practices rather than in any inherent physical or intellectual barrier on the part of women. Educational gender inequality is a way through which inequality is transmitted from one generation to another. There are many areas in which research on gender issues are either non-existent, scarce or fragmented due to a lack of statistics. For example: women and innovation (scarce), gender in the development of science and technology policy (scarce), women and energy priorities in industrialized countries (non-existent). Hence the reason for choosing gender as one of the predictor variables in this study.

Number of students in class (class size). The amount of interaction with faculty which students seek and expect, may limit the size of online classes. For instance, in some online programs of study that use a cohort model, the amount of interaction with the students definitely limits the size of the class i.e. enrollment (Brook & Oliver, 2004). The class size for an online class sometimes is lower than that which is on-campus and held face-to-face. It has been the experience of this researcher that some online classes had as many as 100 students while other online classes have had fewer than 20. Proponents of increasing the number of students in online classes to decrease costs of operation argue that large freshmen classes are ideal candidates for asynchronous online education. Others, equally enthusiastic

about the great potential of online education for adult learners, argue that freshman classes are not at all suited for replacement by online classes (Tallent-Runnels, & Thomas, 2006). They argue that first-year students are in transition from a high school teaching model that tells them what to do, to an online college class model that requires the students to be more responsible for their own education. This scenario not only creates a situation where quality in education has to be redefined but also increases the demand for faculty rather than decreasing it.

The U.S. Bureau of the Census (2002) projects an increase of slightly more than 10% in the adult working age group of 25 to 64 between 2000 and 2010. While the numbers of potential workers is increasing, their job prospects are less certain. Pressures of the global, knowledge-based economy on this group and consequent job insecurities are likely to increase the number of adults seeking to further their education as a way to change careers. While many manufacturing jobs have already been shipped out to countries with lower wages, more and more service jobs are becoming vulnerable to outsourcing overseas, intensifying the needs of workers for training to develop new skills. These adults will need further training, making them prime candidates for online education and classes at two-year technical colleges. Because of all these reasons, the researcher chose number of students in an online class (class size) as one of the five predictor variables.

Course topic or subject. Multiple rationales exist for colleges and universities to add online classes to their course offerings: (a) as another way to offer more class options, (b) increase enrollment, (c) and/or raise revenue (Olsen, 1999). There is little empirical research on potential strategic success factors that may make one online class or subject more successful than another. A search of the literature reveals many prescriptive articles and case

studies (Merisotis & Phipps, 1999), but few empirical studies provide guidance on online class success factors or their effect on strategic outcomes. Many of the studies examined had conclusions that were positive or neutral toward online education, as it related to the quality of education. Phipps and Merisotis (1999), in their review, question the quality of the research and warn against drawing firm conclusions from the existing body of research. They point out that the current literature emphasizes individual student outcomes rather than academic programs or strategic issues.

Two-year technical college course offerings in Georgia can be grouped into six general academic areas: General Education, Liberal Arts, English and Humanities, Math and Science, Business, and Engineering. But it should be noted that not all subjects lend themselves well to online settings. Hands-on skills are a good illustration of this point. One would not expect to teach welding or brake repairs via an online class. Therefore, the researcher included course topic (or subject) as a variable in this research study.

Instrumentation

After a careful review of many instruments, the author of the study decided to use an adapted version of the Classroom Dynamics Questionnaire (CDQ) developed by Valentine, Oliva, and Thomas (2002). This new instrument called *Classroom Dynamics Questionnaire for Online Classes* is presented in Appendix A. The CDQ has been successfully used in three different studies on classroom dynamics by Oliva (2003), Thomas (2004), and Davis (2006).

Adapting the CDQ for Online Classrooms Research

The CDQ is an instrument that was designed by Valentine, Oliva, and Thomas (2002) and successfully used by Oliva (2003), Thomas (2004) and Davis (2006) to measure the social, interpersonal, classroom dynamics of postsecondary adult students' classroom

environments. The researcher found that the CDQ existed in two forms: (a) Ideal and (b) Real. The Ideal version was designed to solicit responses for learners' preferred relationships in the classroom, while the real form was designed to solicit responses for the status of existing relationships in the classroom. For the 2006 study by Davis, only the Real form was used. Since the CDQ was designed for face-to-face classroom environments and not online classrooms, it was revised with the help of the researcher's methodologist, graduate students taking methods classes, and online classroom instructors from two-year community colleges. This was done to ensure that the language used and the items on the questionnaire were valid and reliable. The process that was used in the development of the online version of the CDQ involved six steps. These steps are depicted in Table 8 and are addressed in the following sections.

Table 8

Steps in Revising the CDQ for Online Use

Step	Task
1.	Verification of scale dimensions
2.	Item pool refinement
3.	Response scale revision
4.	Title revision
5.	Addition of background items
6.	Pilot study
7.	Construct validity sort
8.	Construction of the final instrument

Verification of scale dimensions. On March 23, 2007, a group of professional educators consisting of a methodologist, the researcher, graduate students enrolled in research methods classes, and several doctoral candidates, were invited to participate in a one-day session to decide what revisions would have to be made to the existing CDQ. After a careful deliberation and review of the traditional instrument that had been successfully used in three previous studies involving classroom dynamics (Oliva, 2003; Thomas, 2004; Davis, 2006), the group decided that it was not necessary to revise the scale dimensions as they adequately described online classroom interpersonal relationships. The group noted that online classrooms, not unlike face-to-face classrooms, involved two aspects of interpersonal relationships: (a) those involving the teacher and the students and (b) those involving the students with other students.

Item pool refinement. The goal of the group was to develop a prototype of an instrument from CDQ that would adequately measure classroom dynamics in an online classroom. After debating on the number of items contained in the CDQ, the group recommended keeping the existing 27 items. There was also a consensus of opinion regarding the language or wording of many of the items as not properly reflecting the classroom environment in an online setting. Each item was examined for clarity, meaning, ambiguity, and overlap. Items were revised for one of more reasons: (a) they did not fit the online environment; (b) the sentence describing the item did not describe a characteristic of the classroom; (c) the item did not fit the new response scale. Items were changed from their verb form to a noun form, i.e., they were nominalized. In order to fully describe the nature of these changes, the 27 items, are listed below as Table 9–12.

Table 9

Items Measuring Teacher Respect for Students

Old Item	Revised Item	Reasons for Change
The teacher respects the diverse backgrounds of the students	The teacher's respect for students	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher respects students' ideas	The teacher's respect for students' ideas	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher never talks down to the students	The teacher never talks down to students	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher treats all students fairly	The teacher's fairness with students	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher really listens when students are speaking	The attention the teacher pays to student comments	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher treats students with respect	The teacher's respect for students	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic

Table 10

Items Measuring Confidence in Teacher's Ability

Old Item	Revised Item	Reasons for Change
The teacher makes learning interesting	The teacher's ability to make learning interesting	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher adequately covers the course content	The teacher's coverage of course content	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher is knowledgeable about the course content	The teacher's knowledge of the course content	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher has excellent teaching ability	The teacher's overall teaching ability	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher comes to class prepared	The teacher's preparedness for the course	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher works hard to help students learn	Commitment to helping students learn	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
The teacher provides excellent feedback on students learning	The teacher's feedback on student learning	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic

Table 11

Items Measuring Learner Cohesion

Old Item	Revised Item	Reasons for Change
Students in the class enjoy learning together	Students enjoying learning together	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students care about each other's learning progress	Students commitment to other students' learning	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students learn from one another	Students ability to learn from one another	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students have developed friendships in class	Students friendship with other students	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students support each other's learning	Students support of each others' learning	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students work well together	Students ability to work together	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students share learning resources with each other	Students share learning resources	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic

Table 12

Items Measuring Learner Voice

Old Item	Revised Item	Reasons for Change
Students feel comfortable expressing their opinions	Students' comfort in expressing their opinions	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Individual students rarely dominate discussions	Students allow each other to participate in discussions	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students feel free to speak out in class	Students comfort with participation in discussion	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students rarely disrupt one another's comments	Students acknowledge each other's ideas	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students feel comfortable disagreeing with one another	The students' comfort in disagreeing with one another in class	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Every student gets a chance to speak in class	The opportunity for all students to participate	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic
Students are respectful of one another when speaking in class	The students respect for other students' opinions	Adapted for online, made to fit response scale, and changed to reflect classroom characteristic

The group discussions for the entire session were taped on two different recorders and transcribed by the author. From the transcribed version on paper, the instrument was then created on paper to be critiqued and reviewed by the group. All 27 items in the instrument were carefully critiqued by the members of the group for validity. Items that were considered key descriptors for a particular construct but were confusing in nature due to language used were revised to convey a more defined meaning.

The core of the new instrument consisted of two sections. The first section was designed to measure teacher-student relationships, and the second section was designed to measure student-student relationships. At the beginning of the revised instrument instructions for completing the survey were provided. This instrument, considered as the pilot instrument, was administered to a sample consisting of 5,988 students enrolled in online classes offered by two-year technical colleges in Georgia.

Response scale revision. Although the Classroom Dynamics Questionnaire used by Oliva (2003), Thomas (2004), and Davis (2006) proved highly reliable and extremely usable, a consistent problem emerged, i.e., the problem of measurement sensitivity. In the study conducted by Davis (2006), all the scales crowded the top of the scores. This restrictive variance had great implications for any attempt to correlate or use it as an outcome variable or as a predictor variable. The lack of variance in a variable precludes it from “covarying.” The analyses of data provided uniformly high ratings for all four dimensions of the CDQ. A review of the distribution of the scores for the four CDQ variables showed a “ceiling effect” in which the majority of the participants rated all four dimensions of classroom dynamics very highly. The greatest percentage of the scores was found to be concentrated beyond the mean to the right (negatively skewed). Only moderate correlations were observed due to the

“ceiling effect.” Because of the limited variance in the dependent variables, it was probably impossible for the correlations among variables to be high. To solve the problem of measurement sensitivity, the author of this study, working closely with his major professor and help from the group, proposed changing the scale used in the CDQ online pilot from the somewhat symmetrical and ambiguous “Strongly Agree – Strongly Disagree” to an asymmetrical scale that ranged from “Poor” to “Excellent.” Whether or not this strategy in fact solved the sensitivity issue was established through the use of a “pilot study” prior to the beginning of the actual research. The author of the study and his methodologist agreed that if this solution proved not to work, then other avenues would be explored.

Title revision. After the completion of the steps necessary to verify the scale dimensions, refine the item pool, and revise the response scale, the group decided to choose a new name for the instrument to represent its new function. Since the revised instrument was a revision of the traditional CDQ used in face-to-face classroom environments, Valentine and the researcher decided to name it “Classroom Dynamics Questionnaire for Online Classes.”

Addition of background items. The final task in completing the survey format for the pilot instrument involved the selection of background variables for inclusion in the instrument. Four items designed to solicit demographic information from each survey respondent were selected. They were selected to describe the sample and as predictor variables in the study. Specifically, age, gender, and race were used both to describe the sample and to explain the respondents’ perception of the classroom dynamics occurring in the adult online classroom.

Pilot study. A final review of the pilot instrument was conducted. The author consulted with the methodologist and the committee members to solicit reviews and critiques

of the pilot study. After receiving the “go-ahead” from the reviewers, the pilot instrument was installed on SurveyMonkey server.

The pilot survey (Appendix B) consisted of six sections. Section 1 welcomed the respondents to take the survey and provided a brief explanation for the purpose of the survey. Section 2 of the survey consisted of the online Participant Consent Form required by the IRB office of the researcher’s university. Section 3 consisted of 13 items pertaining to teacher-student interactions. Section 4 consisted of 14 items pertaining to student-student interactions while Section 5 asked for information on the 4 demographic items. The last section, Section 6, thanked the survey respondent for taking the survey.

The 27 core items from Section 3 and Section 4 corresponded to the four dimensions of classroom interpersonal dynamics. Online help from the SurveyMonkey website and instructions on each page of the survey were explicitly provided to the survey respondents encouraging them to answer each item of the survey. When a completed questionnaire was submitted by a respondent, his contact information (e-mail address) was automatically removed from the database by SurveyMonkey.

The pilot study using the instrument “*Classroom Dynamics Questionnaire for Online Classes (Pilot)*” was conducted using a small sample of 5,988 adult students enrolled in online classes offered by two-year technical colleges in Georgia. These adult students were enrolled in online classes spanning the entire spectrum of the subject areas offered by the two-year colleges. Prior to the administration of the pilot survey online, each respondent was e-mailed a request through SurveyMonkey regarding the details of the survey (Appendix B). This e-mail addressed the voluntary nature of the survey, anonymity, and provided the

participants with the University contact information. The pilot study was conducted for four purposes:

1. To determine the reliability of the instrument with the population of the intended study.
2. To measure the psychometric quality of the instrument, particularly its sensitivity.
3. To determine the adequacy of the administration procedures i.e., how well did the data collection procedures work?
4. To refine the instrument prior to the final study.

During the administration of the pilot survey the author did not encounter any problems. Survey respondents did not have to spend more than 15 minutes to complete the survey. SurveyMonkey collected all the responses and saved them for download as a Microsoft Excel file. This file was then retrieved into Statistical Package for the Social Sciences (SPSS) Version 18 for data analysis.

An analysis of the data obtained from the pilot surveys revealed a lack of the “ceiling effect” that was found in a previous research study (Davis, 2006). Davis (2006) conducted her research using the face-to-face version of the Classroom Dynamics Questionnaire which produced the “ceiling effect” or measurement sensitivity issue. The results of the pilot study are shown in the form of histograms produced by SPSS (Appendix B).

Subscale reliability. An analysis of the data was conducted to ensure the reliability of the subscales. Coefficient alpha was calculated for each of the four subscales to determine the reliability of each subscale. These calculations are depicted in Table 13. The reliabilities calculated for the pilot survey of the scale ranged from .95 to .96. Although occasionally research instruments will reflect reliability scores ranging from the high .60s to low .70s, the

reliability coefficients for the pilot version of the Online Classroom Dynamics Questionnaire exceeded the standards for accepted reliability and lend credence to the instrument's reliability.

Table 13

Reliability Analysis of Classroom Dynamics Questionnaire - Comparison

	Respect	Confidence	Cohesion	Voice
Oliva (2003)	.95	.95	.95	.90
Thomas (2004)	.92	.93	.93	.86
Davis (2006)	.93	.94	.83	.92
Pilot Study	.95	.96	.96	.96

Construct validity sort. Prior to the construction of the final instrument, a validity sort was conducted with the help of the researcher's methodologist, graduate students taking methods classes, and online classroom instructors from two-year community colleges in order to measure the construct validity of the instrument. The 27 items from the pilot instrument were re-examined for redundancy and clarity. None of the 27 items were found to be redundant, so deletion of items was found to be not necessary. Also, none of the items were found to be lacking in clarity, so they were not re-written.

Construction of the final instrument. After the completion of the pilot study and the validity sort, the pilot instrument was prepared for use in the final study. The final instrument contained the same 27 core items corresponding to the four dimensions of classroom interpersonal dynamics. Since the response scale used in the pilot instrument removed the "ceiling effect" found by a previous researcher (Davis, 2006) in the face-to-face version of

the Classroom Dynamics Questionnaire, the author of the present study and his methodologist decided to use the same response scale in the final instrument. In addition, the final instrument used the same format as the pilot version with six sections in the survey (Appendix A).

The final instrument or survey consisted of six sections. Section 1 welcomed the respondents to take the survey and provided a brief explanation for the purpose of the survey. Section 2 of the survey consisted of the online Participant Consent Form required by the IRB office of the researcher's university. Section 3 consisted of 13 items pertaining to teacher-student interactions. Section 4 consisted of 14 items pertaining to student-student interactions while Section 5 asked for information on the 4 demographic items. The last section, Section 6, thanked the survey respondent for taking the survey.

The 27 core items from Section 3 and Section 4 corresponded to the four dimensions of classroom interpersonal dynamics. These core items are depicted in Tables 14-17. Online help from the SurveyMonkey website and instructions on each page of the survey were explicitly provided to the survey respondents encouraging them to answer each item of the survey. When a completed questionnaire was submitted by a respondent, his/her contact information (e-mail address) was automatically removed from the database by the SurveyMonkey website.

Study Sample

Data for this confidential study were collected from a population of 18,034 adult students taking online classes offered by the 27, two-year technical colleges in Georgia, during the fall quarter of 2009, using an online survey. All survey respondents were students who were enrolled in different courses offered online by the 27 colleges comprising the

Technical College System of Georgia (TCSG). These online courses were ten weeks in length and spanned 62 program areas from (a) Business Technology (b) Education and Professional Development (b) Health Technology (d) Industrial Technology (e) Personal Public Service Technology (f) Public Health and Safety and (g) Transportation.

Students enrolled in the online classes had one of three educational goals for attending these technical colleges: (a) Certificate or (b) Diploma or (c) Two-year Associate degree. All twenty-seven colleges were public institutions funded by the State of Georgia. For the study the population of online students enrolled in the technical colleges was considered adequate because the diverse characteristics of the online student population reflected the characteristics of students enrolled in the technical colleges in Georgia.

Table 14

Items Measuring Teacher Respect in CDQ for Online Classes

Item	
1	The teacher treats all students fairly
4	The teacher respects the diverse backgrounds
8	The teacher treats students with respect
10	The teacher never talks down to students
12	The teacher really listens when students are speaking
13	The teacher respects students' ideas

Table 15

Items Measuring Confidence in Teacher's Ability in CDQ for Online Classes

Item	
2	The teacher provides excellent feedback on students' learning
3	The teacher adequately covers the course content
5	The teacher has excellent teaching ability
6	The teacher is knowledgeable about the course content
7	The teacher makes learning interesting
9	The teacher comes to class prepared
11	The teacher works hard to help students learn

Table 16

Items Measuring Learner Cohesion in CDQ for Online Classes

Item	
19	Students support each other's learning
20	Students learn from one another
21	Students in the class enjoy learning
22	Students share learning resources with each other
23	Students work well together
26	Students care about each other's learning progress
27	Students have developed friendships in the class

Table 17

Items Measuring Learner Voice in CDQ for Online Classes

Item	
14.	Students feel free to speak out in class
15.	Every student gets a chance to speak in the class
16.	Students feel comfortable expressing their opinions
17.	Individual students rarely dominate discussions
18.	Students feel comfortable disagreeing with one another
24.	Students are respectful of one another when speaking in class
25.	Students rarely disrupt one another's comments

Data Collection

The following activities were completed prior to conducting the study:

1. Permission was obtained from the authors of the Classroom Dynamics Questionnaire.
2. Permission was obtained from TCSG to administer the *Classroom Dynamics Questionnaire for Online Classes*.
3. Permission was obtained from the Institutional Review Board and Human Subjects Office of The University of Georgia to conduct the research.
4. A Microsoft Excel file was obtained from TCSG containing a list of e-mail addresses (without duplicates) that represented all adult students from the 27 TCSG colleges in Georgia that were enrolled in online classes in Fall quarter of 2009.
5. The Microsoft Excel file was uploaded to the SurveyMonkey website.

6. The final instrument representing the six sections of the *Classroom Dynamics Questionnaire for Online Classes* was uploaded on the SurveyMonkey website.

In this study, data were collected using a self-completion web-based questionnaire. Data were collected from adult students enrolled in online classes offered by the two-year technical colleges in Georgia. Course topics or subjects covered the entire gamut of online classes offered in the following seven major categories: (a) Business Technology (b) Education and Professional Development (c) Health Technology (d) Industrial Technology (e) Personal/Public Service Technology (f) Public Health and Safety and (g) Transportation.

Prior to the administration of the survey (Appendix A), the researcher used a multiple-contact strategy. The respondents were contacted by e-mail four times within a two-month period. The first communication was an advance notice of the goals of the study and a request for participation. The second communication was an e-mail with a hyperlink to the survey entry page. A follow-up e-mail was sent two weeks later reminding the respondents to take the survey. The fourth and final e-mail request for participation was sent approximately 7 to 10 days after the follow-up request. The follow-up and final requests for participation thanked those who had already responded and appealed to those who had not yet participated in the survey. Researcher information was contained in all the e-mail communication along with a request to notify the researcher.

All requests for participation contained a hyperlink to the Implied Consent Form required by the Institutional Review Board (IRB) and Human Subjects Office of The University of Georgia. The Implied Consent Form was linked to the survey's entry page and contained a welcome message and general information about the study. The survey was setup

on SurveyMonkey in such a way that respondents could participate in the survey process only if they agreed to the terms specified in the Implied Consent Form. The Implied Consent Form was designed to ensure that the study was IRB approved by The University of Georgia.

Data were collected confidentially. There was no requirement or response item on the questionnaire to indicate the name or identity of the respondent. There was no incentive given to the respondents to encourage them to take the survey. Students who did not desire to participate in the online survey process had the option to exit from the survey at any time during the survey.

The instrument that was administered online followed the design principles suggested by Dillman (2007). According to Dillman (2007), online surveys have many advantages such as a more refined appearance, easy access, and dynamic interaction. The researcher used a multiple-contact strategy in his study because Dillman (2007) suggests contacting respondents by e-mail four times within a four week period.

The survey management software by SurveyMonkey offered the option to provide unique hyperlink to each person on the e-mail listserv in order to track responses and send personalized e-mail requests for participation, reminders, and thank you notes. In the present study, the researcher used only the e-mail addresses of the survey respondents to make sure that their responses were received. Therefore these online surveys were considered confidential.

As the e-mails were sent and responses were received from survey participants, their e-mail address was removed from the distribution list. For the purpose of administration and development of the online survey instrument, the researcher chose SurveyMonkey (www.surveymonkey.com) for several reasons: It was not only the most popular web site for

online survey development and administration, but also very cost-friendly. In addition, SurveyMonkey had software that allowed single or multiple access, design, administration, and collection features that were necessary for the successful completion of the study. A worthwhile feature was the ability to control access to the survey instrument using IDs and passwords. Another feature worthy of mention was the ability to control how the responses could be collected. Finally, SurveyMonkey software allowed the researcher to download the results in a format compatible with SPSS statistical analysis software, namely Microsoft Excel.

Dillman (2007) suggested the use of visual design principles for online surveys. The researcher used this suggestion while constructing the online questionnaire by using appropriate colors to enhance the flow of questions, complete instructions, efficient responses, and navigation features. Entry into the online questionnaire via the Implied Consent Form was designed to ensure that the respondents were made aware that the study was IRB approved by the University of Georgia.

The online questionnaire was presented to the respondents as pages that could be viewed on a variety of computer monitors at different resolutions. At the top of each page, there were instructions and information about the number of questions, the total number of pages in the survey, the pages completed by the respondent, and the pages remaining to be completed. The researcher utilized a feature of the SurveyMonkey survey software that allowed all responses to be saved. He also enabled a feature that allowed respondents who may have accidentally exited from the survey, to return to the point of exit, on the same computer.

During data collection an unexpected problem arose which had a dramatic impact on the number of responses received. At the time of signing the contract with SurveyMonkey there were only two subscription plans available for the researcher to select from: (a) free (b) professional. The researcher opted for the paid, professional plan. However, unbeknownst to the researcher, between the pilot study and the final study, SurveyMonkey made a change to the survey collection policy for all subscriptions, including the professional subscription. No notification was sent to the researcher by SurveyMonkey. So the researcher was unaware of this change affecting the professional subscription plan.

As a result of this change, it is likely that a substantial or majority of responses were turned away because of the size limitations (number of responses allowed per day, week, and month) imposed by SurveyMonkey's new plans. This resulted in a response rate of about 1% (1,589) usable responses received from the 18,034 surveys that were e-mailed to the students during the final survey phase of the study (Table 18).

Table 18

Details of Response Rate on Final Survey

Category	Number
Number of participants who were e-mailed the final survey	18,034
Number of e-mails that bounced (Could not be delivered)	1,759
Number of respondents who started the survey and opted out	1,899
Number of surveys that were useful	1,589

Note: Survey respondents did not receive any incentives to participate in the survey

It is the opinion of the researcher that this is an artifact of the things that have little to do with being one of appeal or students' willingness to complete the survey, but one of SurveyMonkey's "system capacity" that was in force at the time of the final survey. The researcher believes that data was either lost or a substantial number of survey responses were turned away and not recorded by SurveyMonkey's response database. It should be noted that a sufficient number of responses (1,589) were obtained to conduct the study. The important question that is raised due to this system capacity error by SurveyMonkey could be one with respect to the validity of the conclusions and not the validity of the instrument. It is possible that this threat could affect generalizability of the results of the study. Again, the researcher believes that a major threat to generalizability would be presented only if the order of responses by students was systematically tied to a deeper idea such as love of online learning, eagerness to complete the survey, excited about the online class they were enrolled in, checked their e-mail and saw the survey request first compared to others who were also sent an e-mail request, etc.

Description of Respondents

The sample consisted of 1,589 adult online students of whom 358 or 22.5% of the respondents were male and 1,231 or 77.4% were female. Regarding race, 1,055 respondents or 66.4% of the respondents were White; while 418 or 26.3% were African Americans. 117 respondents or 7.4% of the participants indicated that they were of another ethnicity. Of the 1,589 respondents indicating their age, the youngest was 17 years old and the oldest 69 years old. The mean age of the sample was 36.13 with a standard deviation of 11.61 (Table 19).

Regarding the number of students in an online class or class size, 1,589 responses were obtained. The mean for class size was 28 with a standard deviation of 13.

Table 19

Description of Respondents

Variable	Value	
Age (in years)	mean = 36.13; SD = 11.61	
17 – 25	n = 363	22.8%
26 – 40	n = 674	42.3%
41 – 59	n = 524	33.0%
60 – 69	n = 28	1.8%
Missing	n = 1	0.1%
Gender		
Male	n = 358	22.5%
Female	n = 1,231	77.4%
Missing	n = 1	0.1%
Race/Ethnicity		
White	n = 1,055	66.4%
Black/African-American	n = 418	26.3%
American Indian	n = 8	0.5%
Hispanic/Latino	n = 28	1.8%
Hawaiian or Pacific Islander	n = 0	0%
Asian	n = 26	1.6%
Multiracial	n = 1	0.1%
Non-resident Alien	n = 2	0.2%
Unknown	n = 51	3.2%
Course Topic or Subject		
Accounting	n = 105	6.6%
Allied Health	n = 180	11.3%
Business	n = 293	18.4%
Computer	n = 277	17.4%
Developmental Studies	n = 43	2.7%
Humanities	n = 254	16.0%
Industrial Technology	n = 28	1.8%
Math	n = 97	6.1%
Miscellaneous	n = 77	4.8%
Science	n = 17	1.1%
Social Science	n = 218	13.7%
Missing	n = 1	0.1%

Data Preparation

This study used a data set containing demographic data from students enrolled in credit courses offered online to adult students during the period beginning September 2009 and ending December 2009 through the Georgia Virtual Technical College (GVTC). GVTC is an online consortium of 27 technical colleges within the Technical College System of Georgia (TCSG), formerly known as the Department of Technical and Adult Education (DTAE). GVTC serves as the central point of contact for all online credit classes and offered by TCSG and standardizes many of the processes and procedures used by faculty and students in the delivery and participation of online classes.

The demographic data used in this study was extracted and compiled from the state's BANNER student information database by the research staff at the TCSG data center in Atlanta, Georgia. Because of privacy issues related to The Family Education Right to Privacy Act (FERPA), permission to obtain and use the data was obtained from the office of the Commissioner of TCSG. Personally identifying information was stripped from the data set before being given to the researcher. Demographic data of interest to this study was already available because it was collected from the students, by the technical colleges at the time of application and registration. The information is provided to the college by the student on the admissions application and/or financial aid application. All of this data is entered by the technical colleges into the BANNER student information system database. The data center at TCSG in Atlanta, maintains a Data Elements Manual which describes all the data that are collected and maintained by the agency from its 27 technical colleges. By making an official request, the researcher was able to obtain a copy of the Data Elements Manual. He then compiled a list of student characteristics (predictor variables) to be used in the study. This list

consisted of the entire data set for the GVTC online class population of students from the 27 colleges, rather than a few select colleges. After signing a confidentiality agreement with TCSG and the Commissioner of TCSG, the researcher was able to obtain the data set. The data set was a Microsoft Excel spreadsheet. There were 18,034 records of adult students who were enrolled in online classes in the 27 technical colleges of Georgia. The data set obtained by the researcher was unique, i.e., it contained no duplicate records.

Each student record inside the data set had the following fields: (a) e-mail address (b) age (c) gender (d) race or ethnicity (e) education level completed (f) major (g) course name or subject (h) number of students enrolled in the class, and (i) college code.

Data Cleaning or Data Checking

Before analyzing a data set it is important to make sure that the data is correct. Errors can be made when the data is recorded or transcribed at the source or when being typed into a computer. Attention was given to make sure that the recorded values and received values were plausible. Since larger errors rather than smaller errors can influence statistical analyses, the researcher and his methodologist made every attempt to check the data set. The data set was checked for three specific aspects: (a) missing data, (b) outlying values, and (c) possible need for data transformation.

Categorical data (course type or subject) was checked to make sure that it fit the fixed number of pre-specified values. If a mistake was found, the value was changed to one of the valid codes. If a missing value was found, then the missing value code was assigned. Continuous data (age, and class size) were also checked for plausible errors. The researcher checked the data against the specified lower and higher values or limits on what was *reasonable*. Range checking techniques were utilized. Data set was checked for incorrect

values which, when found, were corrected. Values outside the pre-specified range were recorded as 'missing.' Logical checks were also conducted on the data set. Since there was a restriction on who would participate in the study (age > 16), the data was checked to make sure that only eligible adults were included in the study. Those records which showed participant age to be 16 or less were to be marked as missing.

Recoding Variable

The Microsoft Excel data set obtained from the final survey was examined for any suspicious values and potential problems. An examination of the data on race/ethnicity revealed that White students and African American students accounted for 92.7% of the entire population while the remainder of 7.3% consisted of Native Americans, Asians/Pacific Islanders, Hispanics, Multiracial students and Non-resident aliens (TCSG's classification system used in their Data Elements Manual). Because these ethnicities represented such a small segment of the student population, any findings from an analysis of race/ethnicity using this data would be skewed because of their very small numbers. Hence, they were grouped together and race/ethnicity was recoded into a dichotomous variable for use in analyses. Students identified as White were assigned a value of 1. Students identified as African American were assigned a value of 2. All other students were considered as missing data and were not assigned a new value in this variable.

Another variable that was recoded was course type or subject. The 11 different course types that were obtained from TCSG in the Excel data file were recoded into six broad course types: STEM (Science, Technology, Math), Business/Accounting, Social Sciences, Humanities, Health Sciences, and Developmental Studies. This recoding was done to get a

better understanding of the six course types or subjects through multiple comparisons using ANOVA tests.

Description of Key Measures

In this section a discussion of the reliability of the Classroom Dynamics Questionnaire for Online Classes followed by a subsequent discussion of the validity of the instrument is provided.

Instrument Reliability

Instrument reliability is very important in any study. This study employed the use of the *Classroom Dynamics Questionnaire for Online Classes* as a means to collect data for the purpose of understanding the impact of student characteristics (age, race, and gender) and classroom characteristics (number of students in the online class and course topic or subject). This instrument measures students' perceptions of interpersonal relationships in the online classroom among students as well as relationships between students and the teacher. To determine the reliability of the scale used in the study and to make sure that there was consistency, Coefficient Alpha (α) was calculated for the four subscales on the instrument. The Coefficient Alpha (α) results for the four subscales, teacher respect for students, confidence in teacher's ability, learner cohesion and learner voice was 0.97, 0.96, 0.97, and 0.96 respectively (Table 20). Intercorrelations and coefficients of determination among the outcome variables are presented in Table 21 with significance at the .05 level.

Instrument Validity

In addition to establishing the reliability of an instrument, the validity of the instrument is very critical in a study. The instrument that was used was developed based on information that was consistent with the prevailing literature. An extensive review of

Table 20

Distribution and Reliability of Key Measures

Subscale	Items	Mean	SD	Mean Item Mean	Coefficient Alpha (α)
Teacher Respect for Students	6	23.31	6.05	3.88	.96
Confidence in Teacher's Ability	7	26.51	7.44	3.78	.97
Learner Cohesion	7	25.86	7.39	3.69	.97
Learner Voice	7	26.67	6.53	3.81	.96

Table 21

Intercorrelations among the Four CDQ Online Measures

Variable	Confidence		Voice		Cohesion	
	r	r ²	r	r ²	r	r ²
Respect	.940	.884	.781	.610	.736	.542
Confidence	-	-	.765	.585	.735	.540
Voice	-	-	-	-	.897	.805

Note: Correlations are significant at the .05 level

literature was conducted by the researcher. Research relating to the selected dimensions of the study was considered and included during the conceptualization of the instrument by the researcher. Appropriate resources were used in the development of the instrument. Existing knowledge base pertaining to the selected dimensions was gleaned through interviews, literature reviews, consultation with the dissertation advisor, and methodologist. Expert judgment of committee members was obtained to strengthen the subscales and to ensure the construct validity of the instrument.

Data Analysis

Data collected from the final survey were analyzed using Statistical Software Package for the Social Sciences (SPSS). SPSS enabled the researcher to perform comparative analysis

of the data. The statistical analyses and procedures that were used were selected in order to answer the three research questions:

1. How do adult students in two-year technical colleges perceive the four dimensions of classroom dynamics (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) in online classes?
2. To what extent do the students' personal characteristics such as age, race, and gender explain perceptions of classroom dynamics?
3. To what extent do online classroom characteristics such as number of students in the online class and course topic or subject explain perception of classroom dynamics?

Statistical techniques used by the researcher to explain the data values are shown in Table 22. Bivariate analysis and the specific test used were based on the level of measurement of the predictor variable. The purpose of these analyses was to explain the outcome variables using predictor variables.

Table 22

Statistical Techniques Used for Data Analysis

Predictor	Analysis
Age	Correlation
Race/Ethnicity	t-test
Gender	t-test
Number of Students in the Online Class (Class Size)	Correlation
Course Topic or Subject	ANOVA

Simple correlation analyses along with coefficients of determination were calculated for predictor variables that were continuous (age and class size). Simple t-tests were used for dichotomous predictor variables (race, gender).

Correlation analysis (Spearman) was utilized to determine relationships involving ordinal variables. Correlation analysis (Pearson) was used to determine relationships involving interval variables. Although correlation analysis was used to report these relationships, the intended purpose of the analysis was to explain the four outcome variables using the predictor variables.

To answer Research Question 1, item means for each dimension were calculated using SPSS. The distribution was then presented graphically with histograms for each of the four dimensions (Figures 2 – 5).

To answer Research Question 2, a series of bivariate analyses were conducted by using correlation analysis to try to explain observed variance in each of the four dimensions (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) of the CDQ using predictor variables.

To answer Research Question 3, bivariate analyses were conducted by using correlation analysis and ANOVA to try to explain observed variance in each of the four dimensions of the classroom dynamics (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) using predictor variables. Simple correlation analyses along with coefficients of determination were calculated for predictor variable class size (number of students enrolled in a class). Pearson correlation coefficient was used to calculate the results for this variable.

Limitations

The researcher of this study is a college administrator in a two-year technical college in Georgia with 31 years of teaching and administrative experience at the secondary and

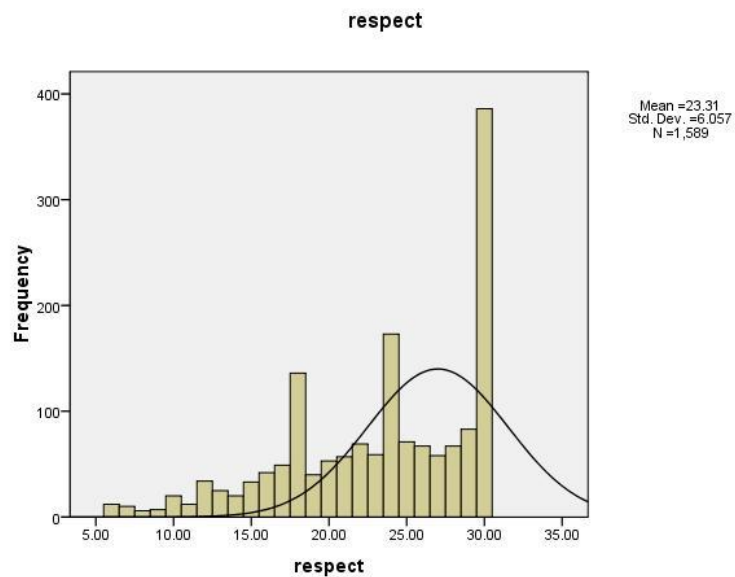


Figure 2 – *Teacher Respect for Students – Final Survey*

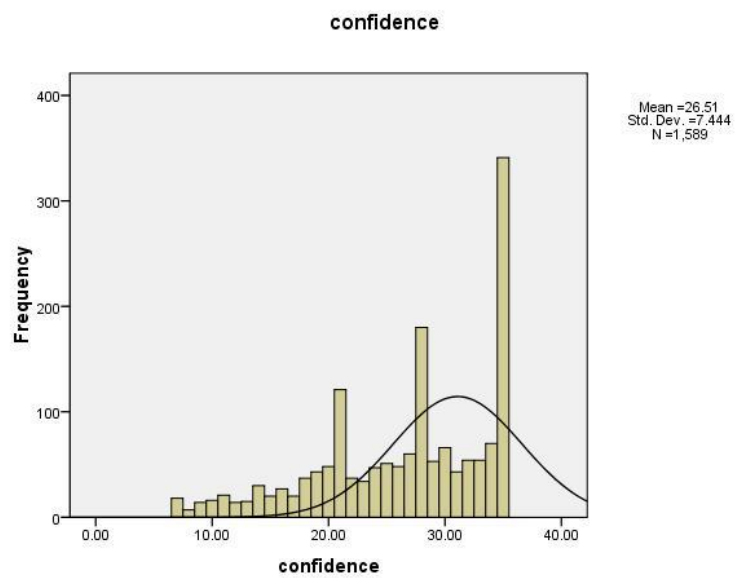


Figure 3 – *Confidence in Teacher's Ability – Final Survey*

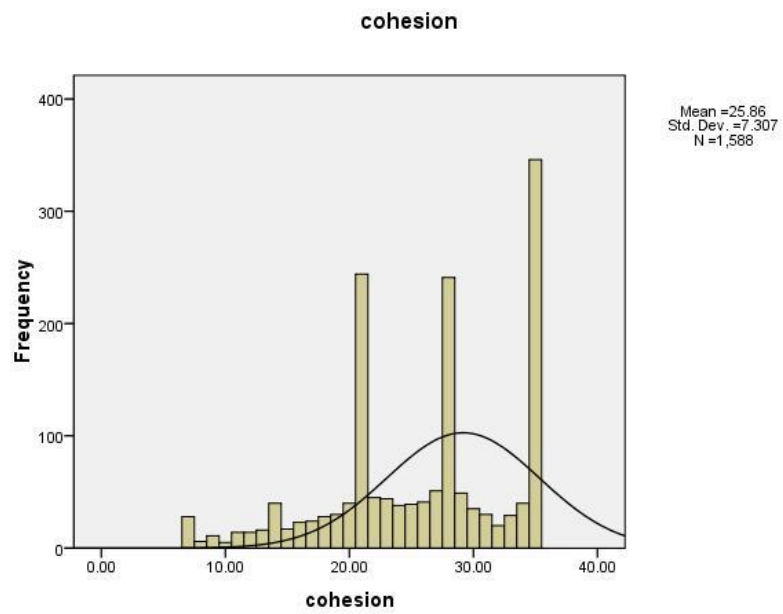


Figure 4 – *Learner Cohesion – Final Survey*

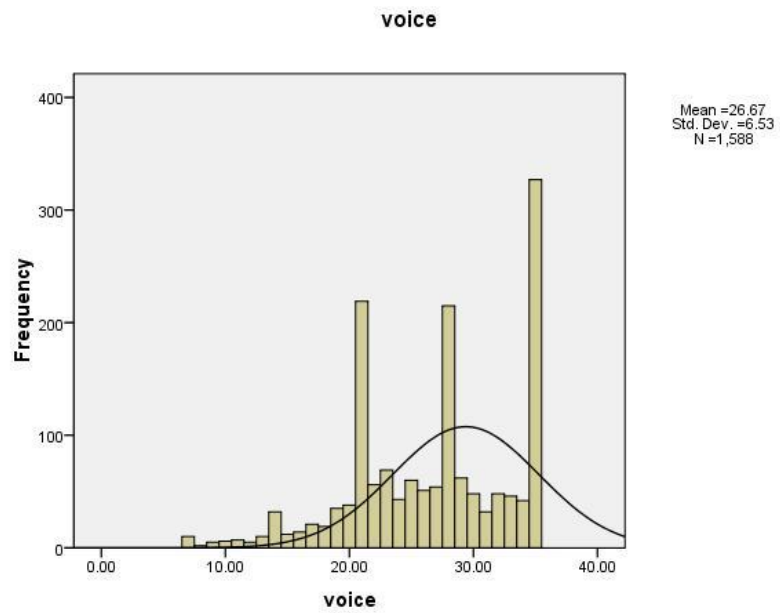


Figure 5 – *Learner Voice – Final Survey*

postsecondary levels. His experiences in the field of education may have impacted many decisions made in this study. Specifically, the selection of the research topic for the present study was influenced by three earlier studies conducted before and during his doctoral studies at The University of Georgia. His classroom experiences as a teacher and a student, his administrative involvement with postsecondary education and his interaction with instructors of face-to-face and online classrooms and practices, may have influenced thoughts and decisions made in this study. The results of this study were interpreted by him based on his experience and educational perspective.

The present study was administered to a population of adult students enrolled in online classes offered by 27 two-year technical colleges located in Georgia using non-random sampling technique. Consequently, generalizations beyond the sample cannot be made statistically and can only be made through logical inference. Though the population used was large in size, further studies with larger representative samples is suggested to extend the results to the entire adult postsecondary college online students in other states within the United States.

The researcher's professional experiences, particularly those involving classroom training, and the culture of the educational profession, may have been factors that could have affected his assumptions, interpretations and interests, and therefore could have affected some aspects of the study. The researcher did not have any professional relationships with any of the participants. Therefore, he expected honest answers to the questions on the survey.

The study also employed a limited number of background variables in order to make analyses regarding their effect, or lack of, on classroom environment. Hence, the researcher had modest expectations. No attempt to capture any information regarding the instructors of

the online classes was made by the researcher due to regulations in effect by TCSG pertaining to the use of instructor data. Additional studies of similar populations of adult learners from online classes are recommended to further explain observed variables in the study.

As discussed earlier, the limited system capacity of SurveyMonkey at the time of the administration of the final survey turned away many would be respondents. At this point in time, the researcher carefully considering this did not come up with a hypothesis in which the order effect would be detrimental to the study. But caution is urged in terms of generalization when using the results of the present study.

CHAPTER 4

FINDINGS

The broad purpose of the study was to understand how adult students enrolled in online classes at two-year technical colleges perceive classroom dynamics. Chapter 4 presents the results of the statistical analyses described in Chapter 3. Results of the analyses are addressed with respect to each of the three research questions that guided this study. The research questions are as follows:

1. How do adult students in two-year technical colleges perceive the four dimensions of classroom dynamics (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) in online classes?
2. To what extent do the students' personal characteristics such as age, race, and gender explain perceptions of classroom dynamics?
3. To what extent do online classroom characteristics such as number of students in the online class and course topic or subject explain perception of classroom dynamics?

Findings Related to Research Question 1

Research Question 1 was: "How do adult students in two-year technical colleges perceive the four dimensions of classroom dynamics (teacher respect for students, confidence in teacher's ability, learner cohesion, and learner voice) in online classes?"

In order to answer this research question, the means and ranks for each of the items comprising each of the four dimensions of classroom dynamics were calculated. Computing

the item means and ranks facilitated the evaluation of the response levels for each of the four dimensions indicated and are shown in Tables 23-26.

Table 23

Item Means and Ranks for Teacher Respect for Students

	Item	Mean	Rank
4.	The teacher's respect for students of diverse backgrounds	4.1	1
8.	The teacher's respect for students	4.0	2
13.	The teacher's respect for students' ideas	3.9	3.5
1.	The teacher's fairness in dealing with students	3.9	3.5
12.	The attention the teacher pays to the students comments	3.8	5
10.	The way the teacher communicates with the students	3.7	6

Table 24

Item Means and Ranks for Confidence in Teacher's Ability

	Item	Mean	Rank
6.	The teacher's knowledge of course content	4.0	1
9.	The teacher's preparedness for the course	3.9	2
3.	The teacher's coverage of course content	3.8	4
5.	The teacher's overall teaching ability	3.8	4
11.	The teacher's commitment to helping students learn	3.8	4
2.	The feedback the teacher provides on students' work	3.6	6.5
7.	The teacher's ability to make learning interesting	3.6	6.5

Table 25

Item Means and Ranks for Learner Cohesion

	Item	Mean	Rank
27.	Students' friendliness towards each other	3.8	1.5
19.	Students' support for each other's learning	3.8	1.5
21.	Students' enjoyment in learning together	3.7	4
26.	Students' commitment to each other's learning	3.7	4
20.	Students' ability to learn from one another	3.7	4
23.	Students' ability to work together	3.6	6.5
22.	Students' sharing of learning resources	3.6	6.5

Table 26

Item Means and Ranks for Learner Voice

	Item	Mean	Rank
15.	The opportunity for students to participate in discussions	4.0	1
16.	Students' comfort in expressing their opinion	3.8	4
17.	Students' unselfishness during discussions	3.8	4
25.	Students' consideration for each others' comments	3.8	4
18.	Students' ability to respectfully disagree	3.8	4
24.	Students' respect for one another's opinions	3.8	4
14.	Students' comfort with participation in discussions	3.7	7

As can be seen, with regard to the “*Teacher Respect for Students*” dimension, the highest mean of 4.1 was for item “the teacher’s respect for students of diverse backgrounds” while the lowest mean of 3.7 was for item “the way the teacher communicates with the students” on a five-point scale.

With regard to the dimension “*Confidence in Teacher’s Ability*,” the highest score of 4.0 was for the item “the teacher’s knowledge of course content.” The lowest mean score of 3.6 was shared by two items, “the feedback the teacher provides on students’ work” and “the teacher’s ability to make learning interesting” on a five-point scale.

The third dimension, “*Learner Cohesion*” had a high mean of 3.8 shared by two items, “students’ friendliness towards each other” and “students’ support for each other’s learning.” The two items with the same low mean score of 3.6 was shared by “students’ ability to work together” and “students’ sharing of learning resources” on a five-point scale.

The item “opportunity for students to participate in discussions” had the highest mean of 4.0 on the fourth and last dimension “*Learner Voice*” while the item “students’ comfort with participation in discussions” had the lowest mean score of 3.8 on a five-point scale.

Findings Related to Research Question 2

In order to answer Research Question 2 which stated “To what extent do the students’ personal characteristics such as age, race, and gender explain perceptions of classroom dynamics?” a series of bivariate analyses were used to observe the relationship between the three predictor variables and each of the four dimensions of classroom dynamics. This required a total of 12 tests. Of these 12 tests, only four tests attained significance.

To analyze the dichotomous variables gender and race, independent samples t-tests were used. Correlation using Pearson test was performed on the age variable. The results of the bivariate analyses and the correlation tests are summarized in Table 27.

Table 27

Predictor Variables Gender, Race, and Age

Variable	Respect	Confidence	Cohesion	Voice
Gender	p = .708, t = .375	p = .480, t = -.706	p = .003, t = -2.946*	p = .057, t = -1.908
Race	p = .775, t = .286	p = .752, t = -.315	p = .286, t = 1.068	p = .072, t = 1.803
Age	p = .029, r = -.055*	p = .488, r = -.017	p = .000, r = -.142*	p = .000, r = -.124*

* Significant at .05

As seen above in Table 27, age as a predictor variable achieved significance with three dimensions: (a) teacher respect for students, (b) learner cohesion, and (c) learner voice. This can be interpreted as: (a) Younger respondents felt or perceived more respect from their teachers (b) Younger respondents felt a higher level of cohesion with other learners in the online classes (c) Younger respondents perceived that they had more voice in the online classroom as opposed to their older classmates. Gender did show significance at the .05 level. Race did not show significance at the .05 level.

Findings Related to Research Question 3

In this study, Research Question 3 which was “To what extent do online classroom characteristics such as number of students in the online class and course topic (or subject) explain perception of classroom dynamics?” required using bivariate tests on two variables, number of students enrolled in the online class (or class size), and course topic (or subject). Specifically, correlations were conducted on the class size variable while ANOVA (Analysis

Of Variance) was conducted on the course topic variable. Neither of these two variables achieved significance. The results are summarized in Table 28.

Table 28

Predictor Variables Class Size and Course Topic

Variable	Respect	Confidence	Cohesion	Voice
Number of Students Enrolled in the Online Class	p = .318 r = .025	p = .195 r = .033	p = .547 r = .015	p = .359 r = .023
Course Topic (or Subject)	p = .192 t = .330	p = .166 t = .143	p = .409 t = .810	p = .713 t = .952

* *Significant at .05*

CHAPTER 5

DISCUSSIONS AND IMPLICATIONS

The purpose of this chapter is to provide an interpretation of the findings presented in Chapter 4. The relationship between the findings of this study and their implications for practice and research are addressed here. Information is presented in the following major sections: Summary of Findings, Discussion of Findings, Accomplishment of Measurement Goals, Implications for Practice, and Implications for Future Research.

Summary of Findings

The broad purpose of this study was to understand how adult students enrolled in online classes at two-year technical colleges perceive classroom dynamics by attempting to find answers to three research questions. The findings of this study can best be summed up with reference to these three research questions.

The first research question asked “How do adult students in two-year technical colleges perceive the four dimensions of classroom dynamics (teacher respect for students, confidence in teacher’s ability, learner cohesion, and learner voice) in online classes?” On a global level the survey items indicated that on most measures of classroom dynamics, online classes received relatively high ratings suggesting there is something going on. This was enhanced by the fact that the instrument used in the current study did not use a simple Likert scale (Appendix F) but actually asked the survey respondents to apply quality ratings (Appendix F) of poor, fair, good, very good, and excellent. From an examination of the

means as shown in Table 23 – 26, it does seem there is a healthy classroom environment in most of these online classes.

Research Question 2 and Research Question 3 both sought to understand what explains variances in perceptions of classroom dynamics by adult students enrolled in online classes by posing the questions:

- To what extent do the students' personal characteristics such as age, race, and gender explain perceptions of classroom dynamics?
- To what extent do online classroom characteristics such as number of students in the online class and course topic or subject explain perception of classroom dynamics?

Generally speaking, the predictor variables utilized in the study (age, race, gender, number of students in online class, and course topic or subject) did not in a very substantive and important way help the researcher to understand what is going on. But variance was observed in the dimensions. Based on the results from the survey the two conclusions were made: (a) there is variance (b) the variables chosen in this study are not the predictors at work.

Based on this information, it would be safe to state that online classrooms are no less rich in classroom dynamics than are traditional face-to-face classrooms. The results obtained for Research Question 1 demonstrates this. Classroom environment appears to be healthy in online classroom settings. Students in online classrooms perceive their classrooms as being rich in teacher respect, rich in confidence in the teacher's ability, rich in learner cohesion, and rich in learner voice.

The findings in this study are informative. They inform us in the simplest terms, that which is consistent with work done in the past studies in traditional, face-to-face classrooms

and work done in the field of classroom social environment; the predictor variables that were used, are not significant predictors of classroom dynamics. This is a reality that the researcher is willing to accept, even though it makes for a very difficult scenario from which to draw practical implications.

Discussion of Findings

Gender accounted for a small percentage of variance with learner cohesion. Age accounted for a small percentage of variance with three dimensions: teacher respect for students, learner cohesion, and learner voice. However race had no predictor power on any of the four dimensions of classroom dynamics.

As noted in Chapter 2, variables such as age, race, and gender have little predictor power in determining classroom perceptions in traditional classes. Studies by Fraser (1986); Darkenwald (1987); Oliva (2003); and Thomas (2004) support this claim. However, in the present study with adults enrolled in online classes, gender contributed to the variance in one dimension of classroom dynamics: learner cohesion. Though contributing significantly in the learner cohesion dimension, the *t* values revealed negative correlations. These findings revealed that male students rated learner cohesion lower than female students. Additionally, it could be stated that males feel less support from other learners in the classroom and do not feel comfortable sharing and associating with other learners. These findings might be due to the idea that females tend to bond more closely with others as opposed to males, and thus form closer and more supportive relationships with others. Therefore, females can experience a different perception of classroom environments than males.

As seen in Table 27 (Chapter 4), age as a predictor variable achieved significance with three dimensions: (a) teacher respect for students, (b) learner cohesion, and (c) learner

voice. This may be interpreted as: (a) Younger respondents felt or perceived more respect from their teachers (b) Younger respondents felt a higher level of cohesion with other learners in the online classes (c) Younger respondents perceived they had more voice in the online classroom as opposed to their older classmates.

The ceiling effect that affected the correlations in a previous study (Davis, 2006) was not visible. Correlations in this study were modest. Stronger correlations may have resulted if a model of what teachers perceive in terms of respect consisted of teacher behavior, what the teacher did, the composition of the classroom, etc. However, variables such as class levels (introductory and advanced) and student abilities were not examined. Based upon what was measured, only modest predictions were observed.

The characteristics of students, characteristics of instructors, as well as other external forces can, and often have, effects on the psyche of students. To students, judgments about perceptions are sometimes secondary to what is actually happening to them. This researcher's experiences in his classrooms have taught him that many students' primary concerns are the events taking place in their daily lives. In such instances, there is little or maybe no concern about what happens in the online classroom. This kind of thinking and behavior in students can and does influence perceptions sometimes.

This study was approached with the belief that the predictors used in the past studies by Oliva (2003), Thomas (2004), and Davis (2006) might well have been predictors of classroom environment. But the instrumentation used in those studies was not sufficiently sensitive to pick those predictors. The findings of the current study suggest that even though the current instrument (Classroom Dynamics Questionnaire for Online Classes) was

significantly improved for sensitivity, we are left with the reality that the variables chosen and tested in this study are not important predictors.

Accomplishment of Measurement Goals

As the research began, it was determined that even though these were not the primary reasons for study, there were two measurement-related goals that would have to be met before the study could be conducted.

The first goal was to redesign the survey to ensure that it would work with online classrooms. This goal was successfully accomplished. Evidence of this showed up in the form of solid reliability scores in both the pilot instrument (Appendix B) and the final survey instrument (Appendix A).

The second goal was a developmental goal. It was to try to improve sensitivity of the survey instrument by reducing the ceiling effect. This goal was achieved by changing the response scale used by the researcher in both the pilot survey instrument and the final survey instrument. Evidence of this was found in the results in the form of mean scores (Table 29). By changing the response scale (Appendix F), the researcher was able to get results that were much closer to resembling a normal curve (Figures 2 – 5) even though there were some slightly higher ratings.

Ratings of the Outcome Variables

Figures 2 and 3 illustrate the distribution of scores for the CDQ measures *teacher respect for students* and *confidence in teacher's ability*. As stated earlier, these illustrations did not show the ceiling effect discovered in a previous study (Davis, 2006).

Figures 4 and 5 illustrate the distribution of scores for the CDQ measures *learner voice* and *learner cohesion*. Again there was no ceiling effect that occurred in the previous

study by Davis (2006). These findings attest to the strength and reliability of the Classroom Dynamics Questionnaire for Online Classrooms which was developed based on a pilot study and input from the methodologist and a committee of reviewers that included faculty.

Implications for Practice

The findings of this study showed modest correlations between predictor and outcome variables for classroom dynamics. A few practical implications can be drawn from this study with suggestions for teachers of adult online classes, technical college and community college practitioners, and others who are involved in the study and development of online classes. Some practical suggestions are listed below:

Educators involved in online education may not be aware of the interpersonal dynamics that occur in online classrooms. They may also not be aware of the environment preferred by participants in online classes. Understanding the nature of online classroom dynamics can assist the educator in creating a classroom environment that supports a positive learning experience. This study found that adult online students value respect from their online teachers, desire a teacher who is competent and committed, appreciate a sense of affiliation with other online students, and like to experience a sense of comfort and safety when expressing themselves in online classrooms.

Winston (1994) posited that a better understanding of student perceptions can be used to improve instructional approaches and to evaluate different teaching techniques for presenting material in diverse disciplines. Student perceptions can translate into positive or negative learning outcomes. Strategies in online education must be developed and utilized to maximize the success rate of online classroom participants. In spite of their previous educational endeavors and experiences, online adult learners are enrolled in these classes for

a variety of reasons. Online educators must be dedicated to these online learners' success and remember that these students may be unprepared for these online classes.

Lewin (1948) suggested that group behavior exhibited in a classroom reflects the dynamics of that classroom. These group dynamics consist of interpersonal relationships that are a fundamental characteristic of the classroom environment and affect learning.

Understanding these dynamics can assist online educators in identifying the relationships between the teacher and the online students and relationships among the students that could facilitate learning.

The relationship domain of a classroom is an integral domain of environmental variables that can be used to evaluate an educational setting (Moos, 1979). This domain assesses the human involvement in a setting, particularly the extent to which people support and help each other and express themselves freely and openly. Moos' research supports the findings in this study that reveal the importance of the learner cohesion and learner voice dimensions in the classroom and the students' desire for the interpersonal dynamics relating to these dimensions.

The survey instrument developed for this study provides adult education administrators and educators with a tool that can be used to self-assess their own classes. The results of the self-assessment can be used to identify some strengths and weaknesses of the class currently being taught. From the identified weaknesses, an action plan can be developed that has the potential to improve the overall quality of online classes. The results could also be utilized to elevate the level of quality required when planning new online program initiatives.

The findings of this study have practical implications for anyone involved in the planning, teaching, or supervision of online credit courses and continuing education courses. By understanding the personal characteristics of students which may place them at a higher risk of dropping out or otherwise unsuccessfully completing an online course, course modifications and other early interventions may be made. A win-win situation can result only when students persist in their studies and successfully complete their courses and their academic programs. So it is in the best interest of everyone involved in online education to recognize academic progress and be proactive in keeping students engaged toward academic progress.

For instructors teaching online courses, an awareness of the students' personal characteristics requires more of an effort than is needed in a traditional face-to-face course. Because the instructor and students may never meet in person, it would benefit the instructor to do as much research as possible on the demographics of each student. The predictor variables included in this study, age, gender, and race/ethnicity, are typically available to instructors, either on an online class roster or in the institution's student information database, such as BANNER used by the Technical College System of Georgia. Accessing this student information can assist the instructor in tailoring instruction specifically to the students and in identifying those most at risk for non-completion.

If possible, orientation sessions, either online or face-to-face, could be held prior to students' enrollment in online courses. These sessions could help to assess at-risk students' readiness for online instruction by explaining course expectations, including such information as time requirements, technical skills needed, and minimum standards for computers, software, and connectivity. During these sessions, interactivity could be

incorporated in order to learn as much as possible about each of the new students, so possible at-risk characteristics might be identified and intervention strategies incorporated as early as possible. Examples of possible intervention strategies are small-group projects involving diverse team members, mentoring programs in which experienced, successful online students are paired with less experienced new students and frequent online discussions in which all students are expected to participate.

Implications for Future Research

The predictors chosen in this study are not good predictors of classroom dynamics in online classes. Future research will have to think more broadly about social-psychological variables and less about static variables such as race and gender. Future researchers will have to broaden their search to include other variables such as social-psychological variables even though at this time the researcher does not have proof supporting this belief. Variables holding promise may very well be social-psychological variables such as: (a) the extent to which a student wants affiliation in class, (b) the extent to which a student believes an online class to be effective, (c) the degree to which a student participates in online classroom (i.e. how many times did the student logon, how many messages did that student send), etc.

Another variable that may be a good predictor could relate to teacher characteristics. How skilled was the online classroom teacher? How much time did the teacher invest in preparing for the online class? How flexible is the teacher? Is the teacher willing to admit making a mistake? How creative is the teacher in teaching an online class?

The current study attempted to determine the nature of classroom perceptions of adult students enrolled in online classes at postsecondary two-year technical colleges in Georgia. However, these results are not true for all students enrolled in online classes. Future research

could continue to investigate the findings of this study or approach the research from a different perspective. The following are a few avenues for future research.

1. The study employed a convenience sample of adult students enrolled in online classes offered by two-year technical colleges in Georgia. Future research should include online students from two-year community colleges or technical colleges outside Georgia as replications to enhance the reliability and interpretability of this study, since other states may have more diverse groups of students than those in the current study. Also, students from other states may have cultural backgrounds and/or experiences that may be so different from Georgia that researchers in other states may find results different from those found in this study in Georgia.
2. The present study was conducted at technical colleges in Georgia and included much higher percentages of White and African American student population compared to other ethnic minorities. Even though race did not prove to be a factor for perceptions, replicate studies should include other ethnic groups such as Native Americans living in New Mexico and Oklahoma, to further generalize the statistical implications.
3. Demographic data pertaining to teachers of online classrooms was not accessible from the Technical College System of Georgia (TCSG). In an ideal world, the researcher could have obtained data on teacher characteristics. However, TCSG's agreement with the researcher could not include collecting any data pertaining to online classroom teachers. Further studies should gather information about online classroom teacher characteristics to determine if variables pertaining to teacher characteristics have any effect on student perceptions in online classes.

4. The current study used quantitative methodology. However, supplementary qualitative approaches in concurrence with quantitative methodology may provide additional information regarding classroom perceptions. The use of interviews may allow collection of data pertaining to what actually takes place in the everyday lives of the population of adult online students taking these classes. Information gleaned may cast light on answers to questions such as: (a) actual feelings about teachers and other students in the online class, (b) possible bias in the instructor's teaching style toward a younger and/or more online savvy age group, (c) how comfortable the student feels in a college setting, (d) older age as a factor affecting a student's learning in an online class, (e) concerns about participating in an online class activity while juggling family, job, and financial responsibilities, (f) students' feelings about being adequately prepared to undertake the challenges of an online class setting, and (g) a student's physical disability or handicap and how it affects his/her participation in an online setting. These factors are important ingredients of what students bring into an online classroom setting and can translate into perceptions and learning outcomes.
5. Future studies should pursue other variables as predictors of classroom dynamics. The results of the current study showed concurrence with other studies on predicting classroom dynamics and perceptions using variables such as age, race, and gender as not being significant predictors of perceptions (Oliva, 2003; Thomas, 2004; Davis, 2006). In order to build a better and fuller model, perhaps gathering data on some other online classroom social-psychological behaviors would benefit another study.

6. In an attempt to explain more fully the confidence that students place in their teacher's ability, more characteristics about the teacher and the classroom may have to be included in a future study.
7. There is the possibility that the students who signed up for online classes rather than face-to-face classes had a different structure of expectations for social relationships. In order to investigate this possibility, future research studies could investigate the "preferred" classroom environments for online classes.

Overall, the current study had a restrictive scope that looked only at student perceptions. Additional data should be collected to increase the explanatory powers of future studies. This data could perhaps include teachers' perceptions, group descriptions, observational data of classroom obtained from face-to-face interviews with online classroom participants and other settings. A more complete implementation of the current model would do this.

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APPENDICES

APPENDIX A

FINAL INSTRUMENT

Classroom Dynamics Questionnaire for Online Classes

Classroom Dynamics Questionnaire for Online Classes

Welcome!

Thank you for participating in this study. You are helping educators, web administrators, software authors, and others in the online education community to improve the delivery of online classes. This survey will allow the researcher to gather data about classroom interactions taking place (1) between the students and the teacher in the online classes and (2) among the students in the online classes.

Classroom Dynamics Questionnaire for Online Classes

Participant Consent Form

Dear Survey Participant:

I am a doctoral candidate working under the direction of Dr. Thomas Valentine from the Department of Adult Education in the College of Education at The University of Georgia.

I invite you to participate in this research study entitled "Perception of Classroom Dynamics by Adults in Postsecondary Online Classes" that I am conducting for my dissertation. The purpose of this study is to understand how adult students taking online classes at the postsecondary level perceive the human interactions taking place in online classes. The results of this study may help educators, web administrators, software authors and others in the online education community to improve the delivery of online classes to adult online students.

To be eligible to participate, you must be at least 18 years of age. In addition, you must be enrolled in an online class in a technical college in Georgia.

Your participation will involve completing an online survey and will only take about 10 to 15 minutes. Your involvement in the study is voluntary, and you may choose not to participate or stop taking part at any time without any penalties. Although research results may be published, your identity will not be associated with your responses in any way. Any personally identifying information about you, such as your name, and your e-mail address, will be available only to me and will not be shared with anyone else. Your participation is therefore confidential.

The University of Georgia's Institutional Review Board has approved this research effort for adequately protecting your rights as a research participant. Questions or concerns about your rights as a research participant should be directed to: The Chairperson, University of Georgia Institutional Review Board, 612 Boyd GSRC, Athens, Georgia 30602-7411; Phone (706) 542-3199; e-mail address IRB@UGA.EDU

Classroom Dynamics Questionnaire for Online Classes

If you have any questions about this research project, or are experiencing technical problems, please feel to contact me by e-mail at:

NSETHNA@UGA.EDU

Sincerely,

**Nosh Sethna
Department of Adult Education
College of Education
The University of Georgia
Athens, GA 30602**

☐ No, I Do NOT Agree

☐ Yes, I Agree

Classroom Dynamics Questionnaire for Online Classes

Teacher - Student Interactions

Please rate each of the following aspects of your classroom

	Poor	Fair	Good	Very Good	Excellent
1. The teacher's fairness in dealing with students	☐	☐	☐	☐	☐
2. The feedback the teacher provides on students' work	☐	☐	☐	☐	☐
3. The teacher's coverage of course content	☐	☐	☐	☐	☐
4. The teacher's respect for students of diverse backgrounds	☐	☐	☐	☐	☐
5. The teacher's overall teaching ability	☐	☐	☐	☐	☐
6. The teacher's knowledge of the course content	☐	☐	☐	☐	☐
7. The teacher's ability to make learning interesting	☐	☐	☐	☐	☐
8. The teacher's respect for students	☐	☐	☐	☐	☐
9. The teacher's preparedness for the course	☐	☐	☐	☐	☐
10. The way the teacher communicates with the students	☐	☐	☐	☐	☐
11. The teacher's commitment to helping students learn	☐	☐	☐	☐	☐
12. The attention the teacher pays to the students' comments	☐	☐	☐	☐	☐
13. The teacher's respect for students' ideas	☐	☐	☐	☐	☐

Classroom Dynamics Questionnaire for Online Classes

Student - Student Interactions

Please rate each of the following aspects of your classroom

	Poor	Fair	Good	Very Good	Excellent
1. Students' comfort with participation in discussions	☐	☐	☐	☐	☐
2. The opportunity for all students to participate in discussions	☐	☐	☐	☐	☐
3. Students' comfort in expressing their opinions	☐	☐	☐	☐	☐
4. Students' unselfishness during discussions	☐	☐	☐	☐	☐
5. Students' ability to respectfully disagree with each other	☐	☐	☐	☐	☐
6. Students' support for each others' learning	☐	☐	☐	☐	☐
7. Students' ability to learn from one another	☐	☐	☐	☐	☐
8. Students' enjoyment in learning together	☐	☐	☐	☐	☐
9. Students' sharing of learning resources	☐	☐	☐	☐	☐
10. Students' ability to work together	☐	☐	☐	☐	☐
11. Students' respect for one another's opinions	☐	☐	☐	☐	☐
12. Students' consideration for each other's comments	☐	☐	☐	☐	☐
13. Students' commitment to each other's learning	☐	☐	☐	☐	☐
14. Students' friendliness towards each other	☐	☐	☐	☐	☐

Classroom Dynamics Questionnaire for Online Classes

Demographics

1. What educational qualification are you currently working towards?

2. How many credit hours have you earned in your program of studies?

3. What is your current Grade Point Average?

4. How many online classes have you successfully completed?
Please type a number.

5. In what year were you born?

6. What is your employment status?

Classroom Dynamics Questionnaire for Online Classes

Thank You for Participating!

Thank you for taking the time to participate in this important survey.

Please do not forget to close your browser after exiting the survey.

Have a fantastic day!

First E-mail
Request for Participation

Dear

Good morning.

You have been selected to participate in an online survey, in an effort to gain a better understanding of how online learners perceive the classroom interactions taking place between the teacher and the students in an online class. Your name was drawn randomly from a list of students taking online classes through one of the technical colleges in the Technical College System of Georgia.

In the next couple of days, you will receive another e-mail from me at this e-mail address. I would appreciate it very much if you would take 10 to 15 minutes of your time to take this online survey.

Please complete the survey within 5 days from receiving it. The purpose of this survey is to obtain your input on your perceptions of teacher-student interactions occurring in online classes. There are no “right” or “wrong” responses.

The information you provide will help teachers, administrators, software authors, and others in the online education community to improve the quality and delivery of online classes to adults. Results from this research may contribute to improving the online class experiences for students. A better understanding of how classroom dynamics affects online instruction may enable adult educators to better satisfy adult learners from diverse backgrounds in online classrooms.

The e-mail you receive will contain a link that you may click or copy and paste into your browser. This link will take you to a survey website that has been designed specifically for this research study. Once connected, you will find specific instructions on how to complete the survey online. The survey will take approximately 10 to 15 minutes to complete.

There are no foreseeable risks associated with this project. Your participation is completely voluntary; you can withdraw by signing off at any time. There will be no impact on your academic standing. All your answers will be kept strictly confidential. Please be as open and honest as possible responding to the survey questions. Your privacy is guaranteed throughout the research process. Your responses will be kept completely confidential and cannot be traced. Data collected will not be sold or shared with any other person or agency. No teacher will handle or examine any survey during any stage of the research process. A teacher will never know who chose to or chose not to participate in the survey process. None of the response items on the survey will ask for or indicate your name or identity.

If you have trouble accessing the survey or have technical questions or concerns, please feel free to contact me by e-mail at nsethna@uga.edu or by phone at 678-863-2392.

Thank you for your cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

Second E-mail
With Hyperlink to Survey Page

Dear

Good morning.

Last week you received an e-mail asking for your participation in an online survey. The purpose of the survey is to seek input on your perceptions of the teacher-student interactions taking place in your online classes.

It will take less than 15 minutes of your time to answer the 27 one line questions. I realize that your time is valuable and that this is a busy time of the year. There are no “right” or “wrong” responses. The survey measures your perceptions. Information gleaned from your responses will help teachers, administrators, software authors, and others in the online education community to improve the quality and delivery of learning experiences in online classes.

Your participation is totally voluntary. You can withdraw by signing off at any time. There will be no impact on your academic standing. Please respond openly and honestly to the survey questions. All your answers will be kept strictly confidential. Your views and insights are critical to this research. No teacher or other person will handle or examine any survey or any results of the survey during the entire research process. They will never know who chose to participate in the survey. None of the response items on the survey will ask for or indicate your name or identity.

Please complete the survey within the next five days by clicking on the link below:

Survey Link

If you have trouble accessing the survey, or have technical questions or concerns, please feel free to contact me by e-mail at NSETHNA@UGA.EDU or by phone at 678-863-2392.

Thank you very much for your help and cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

Third E-mail

First Reminder to Take the Survey

Dear

Good morning.

Last week you received an e-mail from me requesting your participation in an online survey. The purpose of the survey is to seek input on your perceptions of the teacher-student interactions taking place in your online classes.

As of today, I have not received a completed survey from you. If you have not completed the survey, I urge you to take about 10 to 15 minutes of your time to answer the 27 short, one line questions. I do realize that you are busy with your classes and that your time is valuable. There are no “right” or “wrong” responses. The survey measures your perceptions. Information that you provide will help teachers, administrators, software authors, and others in the online education community to improve the quality and delivery of learning experiences in online classes.

Your participation is completely voluntary. You can withdraw by signing off at any time. There will be no impact on your academic standing if you choose not to take the survey. Please respond openly and honestly to the survey questions. All your answers will be kept strictly confidential. Your views and insights are critical to this research. No teacher or other person will handle or examine any survey or any results of the survey at any stage of the research study. Teachers will never know who chose to participate in the survey. None of the response items on the survey will ask for or indicate your name or identity.

In case you did not receive the previous e-mail or if it was accidentally deleted, the link to the online survey is shown below. Please complete the survey within the next five days.

Survey Link

If you have trouble accessing the survey, or have technical questions or concerns, please feel free to contact me by e-mail at NSETHNA@UGA.EDU or by phone at 678-863-2392.

Thank you very much for your consideration, help and cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

Fourth E-mail

Last Reminder to Take the Survey

Dear

Good morning.

Two weeks ago you may have received an e-mail asking for your participation in an online survey. The purpose of the survey is to seek input on your perceptions of the teacher-student interactions taking place in the online classes that you are enrolled in.

As of today, I have not received a completed survey from you. I urge you to take about 10 to 15 minutes of your time to answer the short, one line questions. I do realize that you are busy with your class work. There are no “right” or “wrong” responses. The survey measures your perceptions. Information derived from your responses will help those working in the online education community to improve the quality and delivery of online classroom learning experiences.

Your participation is strictly voluntary. You can withdraw by signing off at any time. There will be no impact on your academic standing. I hope you will respond openly and honestly to the survey questions. All your responses will be kept strictly confidential. Your views and insights are critical to this research study. No teacher or other person will handle or examine any survey or any results of the survey throughout the research process. They will never know who chose to participate in the survey. None of the response items on the survey will ask for or indicate your name or identity.

In case you did not receive the previous e-mail or if it was accidentally deleted, the link to the online survey is shown below. Please complete the survey within the next five days.

Survey Link

If you have trouble accessing the survey, have technical questions or concerns, please feel free to contact me by e-mail at NSETHNA@UGA.EDU or by phone at 678-863-2392.

Thank you in advance for responding to the survey. I appreciate your help and cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

APPENDIX B

PILOT INSTRUMENT

Classroom Dynamics Questionnaire for Online Classes

Classroom Dynamics Questionnaire for Online Classes (Pilot)

Welcome to the Classroom Dynamics Questionnaire for Online Classes!

Thank you for participating in this study. You are helping educators, web administrators, software authors, and others in the online education community to improve the delivery of online classes. This survey will allow the researcher to gather data about classroom interactions taking place (1) between the students and the teacher in the online classes and (2) among the students in the online classes.

Classroom Dynamics Questionnaire for Online Classes (Pilot)

Participant Consent Form

Dear Survey Participant:

I am a doctoral candidate working under the direction of Dr. Thomas Valentine from the Department of Adult Education in the College of Education at The University of Georgia.

I invite you to participate in this research study entitled "Perception of Classroom Dynamics by Adults in Postsecondary Online Classes" that I am conducting for my dissertation. The purpose of this study is to understand how adult students taking online classes at the postsecondary level perceive the human interactions taking place in online classes. The results of this study may help educators, web administrators, software authors and others in the online education community to improve the delivery of online classes to adult online students. Results obtained from data gathered about online classroom interactions, may contribute to better online class experiences for students. An understanding of the classroom dynamics in adult online classes may significantly improve the quality of instruction, and the teacher-learner process in online classes. This study may result in better design of adult online classes thereby improving the quality of training in online environments at both college and university levels. A better understanding of how classroom dynamics affects online instruction, may enable adult educators to better satisfy the needs of adult online learners from various backgrounds.

To be eligible to participate, you must be at least 18 years of age. In addition, you must currently be enrolled in an online class in a technical college in Georgia. institution.

Your participation will involve completing an online survey and will only take about 10 minutes. Your involvement in the study is voluntary, and you may choose not to participate or stop taking part at any time without any penalties. You may skip any questions that you are not comfortable responding to. Although research results may be published, your identity will not be associated with your responses in any way. Any personally identifying information about you, such as your name, and your e-mail address, will be available only to me and will not be shared with anyone else. Your participation is, therefore confidential. However, there is a limit to the confidentiality that can be guaranteed due to the technology itself. There is a slight risk that data sent through the Internet can be intercepted by a third-party. A secure server and encryption technology are being used to guard against unauthorized receipt of data. During the course of this study, I do not foresee any physical or psychological distress to you in this study.

The University of Georgia's Institutional Review Board has approved this research

Classroom Dynamics Questionnaire for Online Classes (Pilot)

effort for adequately protecting your rights as a research participant. Questions or concerns about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board, 612 Boyd GSRC, Athens, Georgia 30602-7411; Phone (706) 542-3199; e-mail address IRB@UGA.EDU

If you have any questions about this research project, or are experiencing technical problems, please feel to contact me by e-mail at: NSETHNA@UGA.EDU

Sincerely,

**Nosh Sethna
Department of Adult Education
College of Education
The University of Georgia
Athens, GA 30602**

☐ No, I Do NOT Agree

☐ Yes, I Agree

Classroom Dynamics Questionnaire for Online Classes (Pilot)

Questions on Teacher - Student Interactions

Please rate each of the following aspects of your classroom

	Poor	Fair	Good	Very Good	Excellent
The teacher's fairness in dealing with students	☐	☐	☐	☐	☐
The feedback the teacher provides on students' work	☐	☐	☐	☐	☐
The teacher's coverage of course content	☐	☐	☐	☐	☐
The teacher's respect for students of diverse backgrounds	☐	☐	☐	☐	☐
The teacher's overall teaching ability	☐	☐	☐	☐	☐
The teacher's knowledge of the course content	☐	☐	☐	☐	☐
The teacher's ability to make learning interesting	☐	☐	☐	☐	☐
The teacher's respect for students	☐	☐	☐	☐	☐
The teacher's preparedness for the course	☐	☐	☐	☐	☐
The way the teacher communicates with the students	☐	☐	☐	☐	☐
The teacher's commitment to helping students learn	☐	☐	☐	☐	☐
The attention the teacher pays to the students' comments	☐	☐	☐	☐	☐
The teacher's respect for students' ideas	☐	☐	☐	☐	☐

Classroom Dynamics Questionnaire for Online Classes (Pilot)

Demographic Information

In what year were you born?

What is your gender?

What is your race or ethnicity?

What is your highest educational qualification?

Classroom Dynamics Questionnaire for Online Classes (Pilot)

Thank You for Participating!

Thank you for taking the time to participate in this important survey.

Please do not forget to close your browser after exiting the survey.

Have a fantastic day!

First E-mail

With Request for Participation

Dear

Good morning.

You have been selected to participate in an online survey, in an effort to gain a better understanding of how online learners perceive the classroom interactions taking place between the teacher and the students in an online class. Your name was drawn randomly from a list of students taking online classes through one of the technical colleges in the Technical College System of Georgia.

In the next couple of days, you will receive another e-mail from me at this e-mail address. I would appreciate it very much if you would take 10 to 15 minutes of your time to take this online survey.

Please complete the survey within 5 days from receiving it. The purpose of this survey is to obtain your input on your perceptions of teacher-student interactions occurring in online classes. There are no “right” or “wrong” responses.

The information you provide will help teachers, administrators, software authors, and others in the online education community to improve the quality and delivery of online classes to adults. Results from this research may contribute to improving the online class experiences for students. A better understanding of how classroom dynamics affects online instruction may enable adult educators to better satisfy adult learners from diverse backgrounds in online classrooms.

The e-mail you receive will contain a link that you may click or copy and paste into your browser. This link will take you to a survey website that has been designed specifically for this research study. Once connected, you will find specific instructions on how to complete the survey online. The survey will take approximately 10 to 15 minutes to complete.

There are no foreseeable risks associated with this project. Your participation is completely voluntary; you can withdraw by signing off at any time. There will be no impact on your academic standing. All your answers will be kept strictly confidential. Please be as open and honest as possible responding to the survey questions. Your privacy is guaranteed throughout the research process. Your responses will be kept completely confidential and cannot be traced. Data collected will not be sold or shared with any other person or agency. No teacher will handle or examine any survey during any stage of the research process. A teacher will never know who chose to or chose not to participate in the survey process. None of the response items on the survey will ask for or indicate your name or identity.

If you have trouble accessing the survey or have technical questions or concerns, please feel free to contact me by e-mail at nsethna@uga.edu or by phone at 678-863-2392.

Thank you for your cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

Second E-mail

With Hyperlink to Survey Page

Dear

Good morning.

Last week you received an e-mail asking for your participation in an online survey. The purpose of the survey is to seek input on your perceptions of the teacher-student interactions taking place in your online classes.

It will take less than 15 minutes of your time to answer the 27 one line questions. I realize that your time is valuable and that this is a busy time of the year. There are no “right” or “wrong” responses. The survey measures your perceptions. Information gleaned from your responses will help teachers, administrators, software authors, and others in the online education community to improve the quality and delivery of learning experiences in online classes.

Your participation is totally voluntary. You can withdraw by signing off at any time. There will be no impact on your academic standing. Please respond openly and honestly to the survey questions. All your answers will be kept strictly confidential. Your views and insights are critical to this research. No teacher or other person will handle or examine any survey or any results of the survey during the entire research process. They will never know who chose to participate in the survey. None of the response items on the survey will ask for or indicate your name or identity.

Please complete the survey within the next five days by clicking on the link below:

Survey Link

If you have trouble accessing the survey, or have technical questions or concerns, please feel free to contact me by e-mail at NSETHNA@UGA.EDU or by phone at 678-863-2392.

Thank you very much for your help and cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

Third E-mail

First Reminder to Take the Survey

Dear

Good morning.

Last week you received an e-mail from me requesting your participation in an online survey. The purpose of the survey is to seek input on your perceptions of the teacher-student interactions taking place in your online classes.

As of today, I have not received a completed survey from you. If you have not completed the survey, I urge you to take about 10 to 15 minutes of your time to answer the 27 short, one line questions. I do realize that you are busy with your classes and that your time is valuable. There are no “right” or “wrong” responses. The survey measures your perceptions. Information that you provide will help teachers, administrators, software authors, and others in the online education community to improve the quality and delivery of learning experiences in online classes.

Your participation is completely voluntary. You can withdraw by signing off at any time. There will be no impact on your academic standing if you choose not to take the survey. Please respond openly and honestly to the survey questions. All your answers will be kept strictly confidential. Your views and insights are critical to this research. No teacher or other person will handle or examine any survey or any results of the survey at any stage of the research study. Teachers will never know who chose to participate in the survey. None of the response items on the survey will ask for or indicate your name or identity.

In case you did not receive the previous e-mail or if it was accidentally deleted, the link to the online survey is shown below. Please complete the survey within the next five days.

Survey Link

If you have trouble accessing the survey, or have technical questions or concerns, please feel free to contact me by e-mail at NSETHNA@UGA.EDU or by phone at 678-863-2392.

Thank you very much for your consideration, help and cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

Fourth E-mail

Last Reminder to Take the Survey

Dear

Good morning.

Two weeks ago you may have received an e-mail asking for your participation in an online survey. The purpose of the survey is to seek input on your perceptions of the teacher-student interactions taking place in the online classes that you are enrolled in.

As of today, I have not received a completed survey from you. I urge you to take about 10 to 15 minutes of your time to answer the short, one line questions. I do realize that you are busy with your class work. There are no “right” or “wrong” responses. The survey measures your perceptions. Information derived from your responses will help those working in the online education community to improve the quality and delivery of online classroom learning experiences.

Your participation is strictly voluntary. You can withdraw by signing off at any time. There will be no impact on your academic standing. I hope you will respond openly and honestly to the survey questions. All your responses will be kept strictly confidential. Your views and insights are critical to this research study. No teacher or other person will handle or examine any survey or any results of the survey throughout the research process. They will never know who chose to participate in the survey. None of the response items on the survey will ask for or indicate your name or identity.

In case you did not receive the previous e-mail or if it was accidentally deleted, the link to the online survey is shown below. Please complete the survey within the next five days.

Survey Link

If you have trouble accessing the survey, have technical questions or concerns, please feel free to contact me by e-mail at NSETHNA@UGA.EDU or by phone at 678-863-2392.

Thank you in advance for responding to the survey. I appreciate your help and cooperation.

Sincerely,

Nosh Sethna
Department of Adult Education
College of Education
University of Georgia

APPENDIX C

PILOT STUDY - RESULTS OF ONLINE SURVEY

Classroom Dynamics Questionnaire for Online Classes

CLASSROOM DYNAMICS QUESTIONNAIRE

PILOT STUDY

A pilot study was conducted prior to the final dissertation study to determine the adequacy of the online version of Classroom Dynamics Questionnaire, an instrument developed in preparation of the final study, and the adequacy of the administration procedures. The sample for the pilot study surveyed adult students from technical colleges in Georgia. Permission was sought from the Deputy Commissioner of the Technical College System of Georgia to conduct the pilot study and also to obtain the data file containing the e-mail addresses of the students to whom the survey would be sent using SurveyMonkey website. All documents relating to administration of the instrument were accessible to administrators or instructors for their review prior to administration of the instrument.

The instrument was e-mailed to a random sample of 5,988 participants. 277 participants responded. 24 of these 277 surveys were not completed fully. Another 14 started the survey and quit (opted out) before completing the survey. Of the 5,988 surveys e-mailed, 299 were returned (bounced) due to incorrect e-mail addresses or e-mail address no longer in use. Details from Pilot Survey are shown in Table A.

The responses from each completed questionnaire were downloaded from SurveyMonkey, then imported into Excel spreadsheet format, and retrieved into Statistical Package for the Social Sciences (SPSS) software for analyses of the data collected.

Technical Properties of the Pilot Instrument

Data from the pilot study were analyzed to examine the technical adequacy of the CDQ instrument. Three technical properties were examined: (a) Frequency Distribution, (b) Item Intercorrelation, and (c) Subscale Reliability. The frequency distribution was calculated

Table A

Statistics on E-mails (Pilot Survey)

Total Number of Surveys E-mailed to Participants	5,988
Number of Surveys to Which Participants Did Not Respond	5,711
Participants Who Opted Out from Taking the Survey	14
E-mails That Could Not Be Delivered (Bounced)	299
Surveys That Were Partially Completed	24
Surveys That Were Received Fully Completed	253
Percentage of Response from Pilot Survey	4.6%

to determine the distribution of responses to scale items. Intercorrelations of items were calculated to identify any redundant items. The reliability of each of the four subscales was calculated to confirm the instrument's consistency in measurement.

Frequency Distribution

An analysis of the data was conducted to ensure that each item exhibited a sufficient degree of variance. Examination of the data collected using the online version of the instrument revealed an adequate distribution of participants' responses. Examination of the distribution of each item revealed that all items represented a normal distribution, which would be ideal for statistical purposes. A subjective assessment of the distributions revealed that all of the items represented a reasonable distribution; no items were rated using only one or two of the response choices and the majority of the items were rated using a variety of response choices. This was especially significant to the current study in light of the "ceiling effect" that showed up in a previous study by Davis (2006). In consideration of this analysis,

the distribution for all items was deemed satisfactory. Additionally, no single item exhibited excessive missing data. Thus, no instrument amendments were warranted based on the frequency analysis.

Item Intercorrelation

An analysis of the data was conducted to ensure that items depicted on of the instrument were not unduly redundant. Any pairs of items that correlated at or above .70 were examined to ensure they were conceptually different items. Variables exhibiting a correlation of .70 or higher correlation would indicate a 49% ($.70^2$) shared variance. However, no items contained within either version of the instrument were judged redundant or identical, and all items were considered reasonably related. Thus, no instrument amendments were warranted in review of the correlation analysis.

Subscale Reliability

An analysis of the data was conducted to ensure the reliability of the subscales. Coefficient alpha was calculated for each of the four subscales to determine the reliability of each subscale. These calculations are depicted in Table B.

The reliabilities calculated for the pilot survey of the scale ranged from .95 to .96. Although occasionally research instruments will reflect reliability scores ranging from the high .60s to low .70s, the reliability coefficients for the pilot version of the Online Classroom Dynamics Questionnaire exceeded the standards for accepted reliability and lend credence to the instrument's reliability.

Administration Procedures for the Pilot Instrument

Prior to the administration of the pilot survey online, each respondent was e-mailed a request through SurveyMonkey regarding the details of the survey (Appendix C). This

Table B

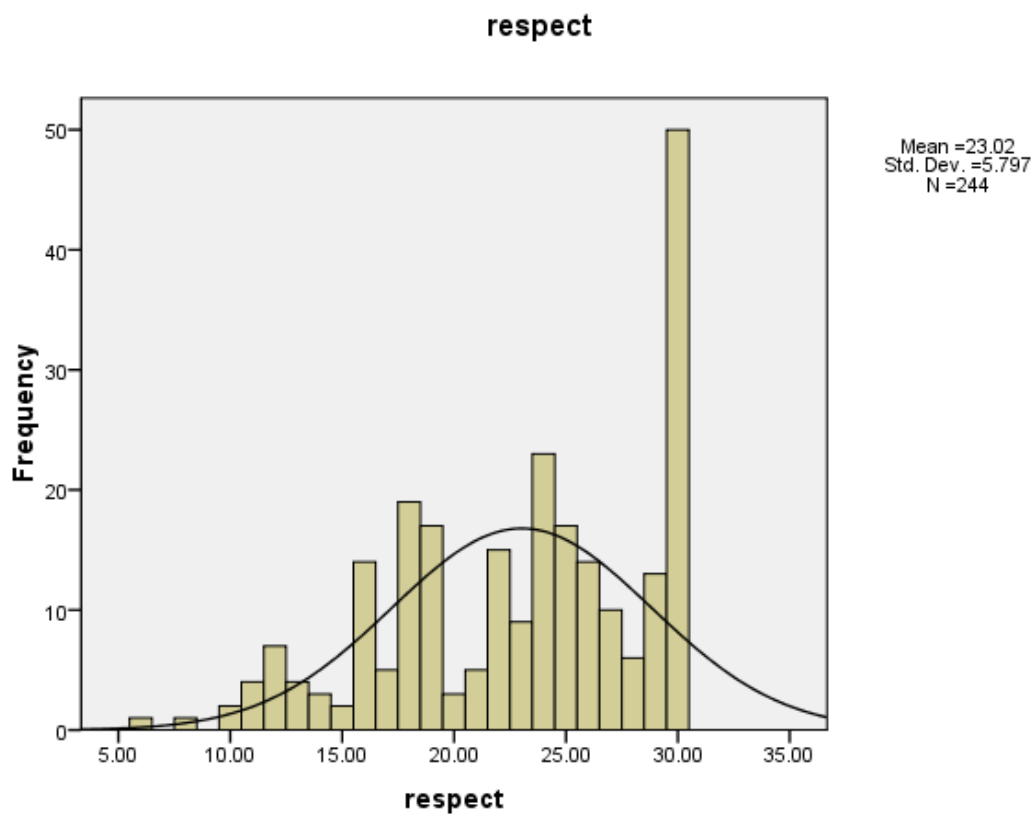
Reliability Coefficients for Dimensions of CDQ (Pilot Survey)

D I M E N S I O N S			
Teacher Respect For Students	Confidence in Teacher's Ability	Learner Cohesion	Learner Voice
.95	.96	.96	.96

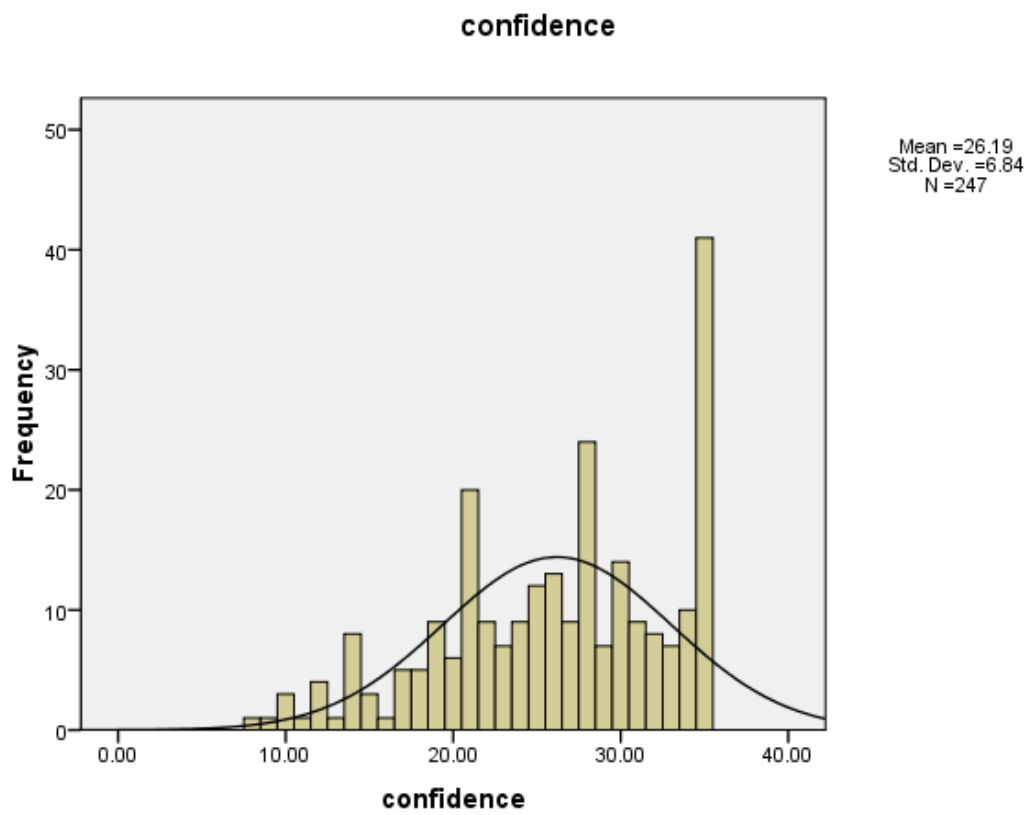
e-mail addressed the voluntary nature of the survey, anonymity, and provided the participants with the University contact information.

During the administration of the pilot survey the author did not encounter any problems. Survey respondents did not have to spend more than 15 minutes to complete the survey. SurveyMonkey collected all the responses and saved them for download as a Microsoft Excel file.

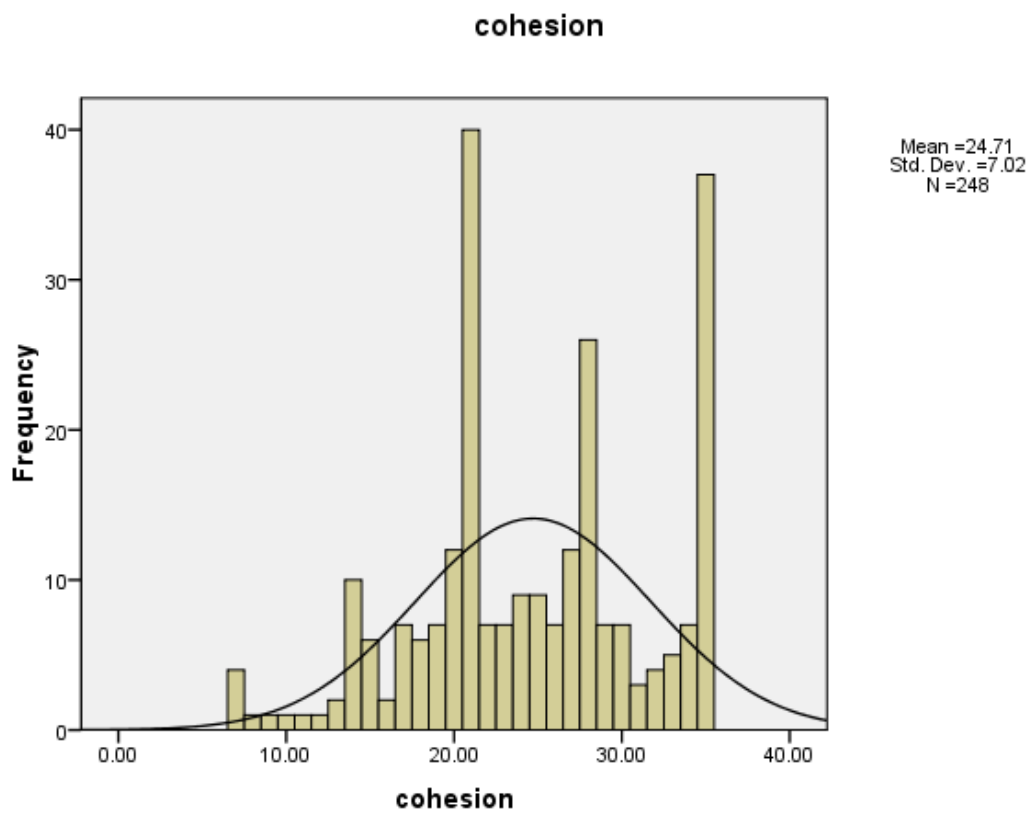
Following successful administration of the pilot instrument, and the subsequent results in the form of data and proof regarding the reliability of the instrument, the procedures for conducting a final study using the Classroom Dynamics Questionnaire did not have to be amended. It was decided to by the researcher and his methodologist to remove the word “pilot” from the instrument and use it “as is” to conduct the final survey.



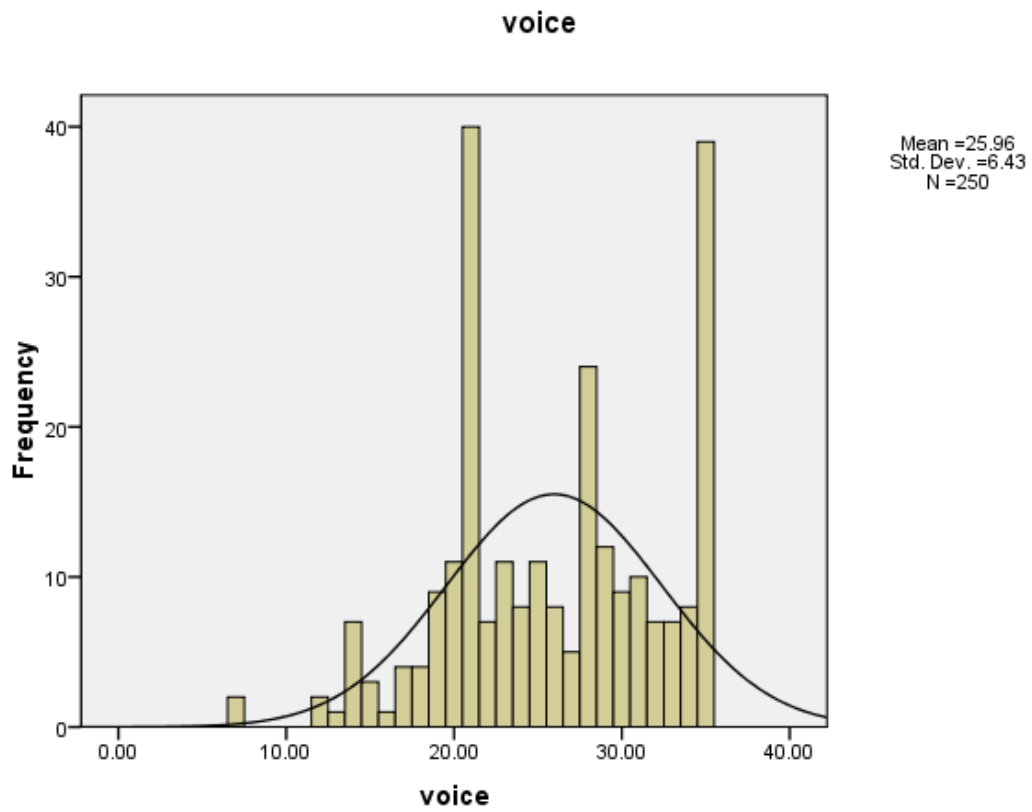
Teacher Respect for Students – Pilot Survey



Confidence in Teacher's Ability – Pilot Survey



Learner Cohesion – Pilot Survey



Learner Voice – Pilot Survey

APPENDIX D

DATA SHARING AGREEMENT

and

LETTER OF PERMISSION

from

Technical College System of Georgia



Sonny Perdue
Governor

Ronald W. Jackson
Commissioner

**Agreement between the
Technical College System of Georgia
and Nosh Sethna**

The Technical College System of Georgia (TCSG) agrees to share individual student data for the purpose of research for a doctoral dissertation.

I, Nosh Sethna agree to safeguard the confidentiality of student data as defined by the federal Family Educational Rights and Privacy Act (FERPA) and other applicable laws and regulations. FERPA establishes a right of privacy for student data based on a rule of non-release of individually identifiable data to anyone outside the student's institution or to persons inside the institution who have no legitimate need for the information without the express written permission of the student.

Specifically, TCSG agrees to share data under the following stipulations:

- The data will be used only for research for a doctoral dissertation
- The data will not be released to any other agency, individual, third party, or for publication, with the exception of the doctoral dissertation.
- The data will be maintained in a secure environment and shall not be shared with other parties, entities, or state agencies.
- The data will be destroyed after use.
- No release of reports or information based on the data will include any information that could be identifiable or linked to a specific person.

Requestor of Data:

Date: February 12, 2009



Signature

TCSG Coordinator:

Date: February 12, 2009



Signature

TECHNICAL COLLEGE
TCSG
SYSTEM OF GEORGIA

Sonny Perdue
Governor

Ronald W. Jackson
Commissioner

February 18, 2009

Mr. Nosh Sethna
Director, Computer Training
Continuing Education Division
Gwinnett Technical College
5150 Sugarloaf Parkway
Lawrenceville, GA 30043

Dear Mr. Sethna:

The Research Office of the Technical College System of Georgia has reviewed your plan of study for your dissertation and received a copy of a signed data sharing agreement from you. You have permission to use the student data based on the plan of study and the IRB approval that was submitted to our office.

My research assistant, Cynthia Lee will contact you to go over your request for data and any problems or issues with the fields requested. Please do not hesitate to contact our office if you have any questions.

Sincerely,

Sandra Kinney/sn

Sandra Kinney
Research Manager

cc: Andrew Dollar

APPENDIX E

CLASSROOM DYNAMICS QUESTIONNAIRE USED IN PREVIOUS STUDIES

CLASSROOM DYNAMICS QUESTIONNAIRE

DIRECTIONS. Not all classrooms are the same. We are attempting to understand the way in which classrooms differ and how those differences can affect learning. In this questionnaire, we ask you to describe your present classroom. Please read each statement and indicate your response by circling one number.

To what extent do you agree with each statement?

Strongly ← *Strongly*
Disagree *Agree*

1. The teacher treats all students fairly 1 2 3 4 5 6
2. The teacher provides excellent feedback on students' learning. 1 2 3 4 5 6
3. The teacher adequately covers the course content. 1 2 3 4 5 6
4. The teacher respects the diverse backgrounds of the students. 1 2 3 4 5 6
5. The teacher has excellent teaching ability. 1 2 3 4 5 6
6. The teacher is knowledgeable about the course content 1 2 3 4 5 6
7. The teacher makes learning interesting. 1 2 3 4 5 6
8. The teacher treats students with respect. 1 2 3 4 5 6
9. The teacher comes to class prepared. 1 2 3 4 5 6
10. The teacher never talks down to students. 1 2 3 4 5 6
11. The teacher works hard to help students learn. 1 2 3 4 5 6
12. The teacher really listens when students are speaking. 1 2 3 4 5 6
13. The teacher respects students' ideas. 1 2 3 4 5 6

To what extent do you agree with each statement?

Strongly ← *Strongly*
Disagree *Agree*

- | | | | | | | |
|--|---|---|---|---|---|---|
| 14. Students feel free to speak out in class. | 1 | 2 | 3 | 4 | 5 | 6 |
| 15. Every student gets a chance to speak in the class. | 1 | 2 | 3 | 4 | 5 | 6 |
| 16. Students feel comfortable expressing their opinions. | 1 | 2 | 3 | 4 | 5 | 6 |
| 17. Individual students rarely dominate discussions. | 1 | 2 | 3 | 4 | 5 | 6 |
| 18. Students feel comfortable disagreeing with one another. | 1 | 2 | 3 | 4 | 5 | 6 |
| 19. Students support each other's learning. | 1 | 2 | 3 | 4 | 5 | 6 |
| 20. Students learn from one another. | 1 | 2 | 3 | 4 | 5 | 6 |
| 21. Students in the class enjoy learning together. | 1 | 2 | 3 | 4 | 5 | 6 |
| 22. Students share learning resources with each other. | 1 | 2 | 3 | 4 | 5 | 6 |
| 23. Students work well together. | 1 | 2 | 3 | 4 | 5 | 6 |
| 24. Students are respectful of one another when speaking in class. ... | 1 | 2 | 3 | 4 | 5 | 6 |
| 25. Students rarely disrupt one another's comments. | 1 | 2 | 3 | 4 | 5 | 6 |
| 26. Students care about each other's learning progress. | 1 | 2 | 3 | 4 | 5 | 6 |
| 27. Students have developed friendships in the class. | 1 | 2 | 3 | 4 | 5 | 6 |

APPENDIX F

Classroom Dynamics Questionnaire

Response Scales

Old and New

CLASSROOM DYNAMICS QUESTIONNAIRE

DIRECTIONS. Not all classrooms are the same. We are attempting to understand the way in which classrooms differ and how those differences can affect learning. In this questionnaire, we ask you to describe your present classroom. Please read each statement and indicate your response by circling one number.

To what extent do you agree with each statement?

Strongly Disagree ← → *Strongly Agree*

1. The teacher treats all students fairly 1 2 3 4 5 6
2. The teacher provides excellent feedback on students' learning. 1 2 3 4 5 6
3. The teacher adequately covers the course content. 1 2 3 4 5 6

Response Scale Used in Previous Studies

Classroom Dynamics Questionnaire for Online Classes

Pilot Survey

Section 1: Teacher – Student Dynamics	
<i>Please rate each of the following aspects of your classroom</i>	<i>Select only One Choice Per Item</i>
The teacher fairness in dealing with students	☐ Poor ☐ Fair ☐ Good ☐ Very Good ☐ Excellent

Revised Response Scale Showing the Asymmetrical Scale Used in the Pilot Study