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EFFECT OF INSTRUCTIONAL STYLES AND THE DURATION OF  
CLASS TIME ON THE SENSE OF CLASSROOM COMMUNITY OF  
MILITARY URBAN GRADUATE STUDENTS

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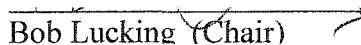
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Old Dominion University in Partial Fulfillment of the  
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DOCTOR OF PHILOSOPHY

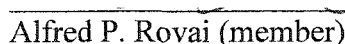
URBAN SERVICES

OLD DOMINION UNIVERSITY

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Alfred P. Rovai (member)

## ABSTRACT

### EFFECT OF INSTRUCTIONAL STYLES AND THE DURATION OF CLASS TIME ON THE SENSE OF CLASSROOM COMMUNITY OF MILITARY URBAN GRADUATE STUDENTS

Old Dominion University, 2005

William J. Davis, Jr.

Director: Dr. Robert A. Lucking

This study measured the effect that instructional style, duration of class time, and repeated administrations of the Classroom Community Scale (CCS) had on the sense of classroom community of military urban graduate students ( $N=263$ ). The Instructional Styles Inventory (ISI) was used to determine instructional style, and the CCS was utilized to measure sense of classroom community. In addition, this research contained qualitative data that were extracted from a random sampling of participants during small focus groups.

Quantitative analysis of the data showed that duration of class time and instructional style had an effect on sense of classroom community. The social/conceptual instructional style (greater use of class discussion and real world examples in teaching) proved to have a more positive effect on sense of classroom community than the conceptual (lecture oriented) instructional style. In addition, it was shown that 5 weeks of class (one class per week for 2 hours) was not as effective as 10 weeks of class (one class per week for 2 hours) for developing a sense of classroom community.

Qualitative analyses of the data showed that students felt that the most important element of the instructional style that contributed to sense of classroom community was that interaction among the students was encouraged. The students made noteworthy

comments that the classroom environment set by the instructor was the key contributor to developing a sense of classroom community. However, of significant note was that once a classroom environment that supported interaction among the students was set, the instructor became ancillary and that the most effective learning was generated from student-to-student interaction.

Co-directors of advisory committee:

Dr. Maurice Berube  
Dr. Alfred P. Rovai

Dedicated to my children, Will and Callie.

Never stop learning  
about life  
about love  
about people  
about the world  
and most important  
about yourself

## ACKNOWLEDGEMENTS

I always thought that not failing out of the Boston Latin School (BLS) was my greatest academic accomplishment, but that has been supplanted by my finishing a doctoral degree. However, like my journey through BLS, the accomplishment was not achieved without the mentorship of several individuals, most significant were the members of my dissertation committee. Foremost, I must acknowledge the patience, guidance, and motivation given to me by my dissertation director Dr. Lucking. His incisive analysis and prodding questions were the catalyst for many of the thoughts expressed within this dissertation. More important, he modeled for me the genuine concern that a true mentor exhibits. Without Dr. Berube's inspiration I would never have entered the doctoral program. His example of scholarship and our personal friendship will always be treasured. Dr. Rovai's friendship, advice, and insights are gratefully acknowledged. He spent many nights at his home trying to explain to me what at the time seemed unexplainable. Each of these men is a treasure and has expanded my concept of what it means to be a professional.

I am very grateful to everyone who offered advice, listened patiently, or gave me a pat on the back (or kick in the rear) when it was required. Most important, I would like to thank those who gave me a break when I most needed one – Sister Barbara, Coach, Mike the Cop, George Downing, Jimbo, Alay, Duke, Pokey, Chess, and Admiral Tallent. Of course, no one could have been blessed with a more superb Mom and Dad than I. I would like to particularly thank the wonderful Miss K who motivated me through the most trying periods in this process.

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## Chapter I

### *Introduction*

#### *Foreword*

The term, *sense of community*, can be defined as the feeling of belonging that exists to a greater or lesser degree within a group. This research study focused on the extent to which a group of military urban graduate students experienced a sense of community in a unique classroom environment. More specifically, it investigated the relationship between the instructional style used by the person teaching the course, the duration of class time, and students' sense of classroom community. This research used both qualitative and quantitative research techniques in order to ascertain the relationship between the instructional styles of instructors and the sense of classroom community perceived by military urban graduate students. The primary theoretical framework for this research is based upon the definition of sense of community developed by Chavis, Hogge, McMillan and Wandersman in 1986, and further refined by Rovai, Lucking and Cristol (2001). The primary purpose of this examination was to expand knowledge regarding sense of community as found in the classroom and its relationship to instructional style and the duration of class time.

#### *Background and Significance of Sense of Community*

Employers typically try to hire employees who can operate effectively as members of a team, work well in groups, and solve complex problems. Brown (2000) postulates that a team often can solve complex problems more effectively than a single individual, and because of this phenomenon, employers have placed an increased emphasis on teamwork in many work settings. This added emphasis on teamwork as a

requirement in many workplaces is fueling a search for employees who have the skills and abilities to work in groups (Brown, 2000; Kagan, 1994; Robbins, 1994). However, despite the opinions and research of Brown, Kagan and Robbins, it appears that there are cultural influences in society that are driving individuals away from developing a sense of community. Cohesion with their fellow community members is a catalyst for individuals to contribute to the community as a whole, with increased teamwork being a desirable second order effect of developing a sense of community (Marciniak, 2002).

People in today's communities may live in physical proximity to one another, but they are having fewer meaningful interactions with each other and appear to live a more independent existence and seldom outwardly exhibit the need for interdependence (Frey, 1998; Putnam, 1995; Schuler, 1996). Examples of this societal trend toward an existence of isolation of the individual range from the mundane, such as next-door neighbors who do not know each other's names, to a more extreme example such as the wanted criminal who is able to remain anonymous in a neighborhood because no one cared to get to know him. Additionally, Hackney (1997) suggests that American society is in a tumultuous period as it struggles to define, legally and culturally, if it is a society wherein individuality or community is important, or whether it is individual liberties or equality that take precedence. Schuler (1996) and Hackney (1997) agree that gated communities and more time alone as an individual is redefining what it means to be an urban citizen in America today. The issue of what the term, sense of community, means to society has generated scholarly sociology journals such as *The Journal of Community Psychology* that addresses issues related to sense of community, its trends, and impact on individuals, families, and society.

Recent changes in the recruiting strategies of the armed forces of the United States of America strongly illustrates the trend of people in society to be focused more on individual needs than communal orientation. Each of the four branches of the United States Military, organizations that normally are held as iconic institutions that require teamwork and community in order to succeed, has undertaken an advertising campaign for recruiting new members that emphasizes the individual over the team. The United States Army recruits “An Army of *One*.” This recruiting campaign was developed in order to inform potential recruits that just because a potential Service member is joining the Army, his or her individualism is still important and will not be lost upon entry into the military. This recruiting strategy of appealing to the needs of the individual has permeated the recruiting strategies of each of the United States’ Armed Services and is an illustration of the current cultural trend in society toward individualism.

Despite this obvious pandering to the concept of the individual during advertising campaigns, Glaser (1990) hypothesizes that groups are better able to turn an unmanageable task into a manageable one. Teamwork and a developed sense of community enable each member of a group to lend his or her expertise to assist the group in solving the task at hand. The group approach to problem solving also allows each individual to learn from others. Not only does the group have more experiences and capabilities to draw on (collectively) than does an individual, but each member of the group learns from the experiences and capabilities of the other members. Thus, the exchange of information, the interaction, and experiences that normally occur when a group solves a problem not only increases the capabilities of each member of the group,

but it also therefore increases the collective knowledge and performance of the group as a whole (Glaser, 1990; Johnson & Johnson, 1991; Bruner, 1962).

The significant research of Glaser (1990) and Johnson and Johnson (1991) and others strongly supports the benefits and desirability of teamwork. Therefore, it is extremely important that society develops processes to ensure that teamwork becomes something that is shared and valued in its culture. Etzioni (1993) supports the idea that societies have needs or deficiencies that must be addressed in order for that society to become and remain effective and functioning. Education is a means for society to embark upon rectifying a societal deficiency or need, and developing teamwork or a sense of community in the classroom is invaluable to society.

Dewey (1940) proposed many solutions to ensuring that education provide the most pertinent solution to any of society's problems. He maintains that society and education are intricately linked and believes that the classroom experience should be as similar as possible to the real life experiences that will be encountered by students later outside the classroom. He advocated that the classroom enhance the opportunity for students to make choices and work collaboratively just as they would do in society. Many modern educators also believe that having classroom experience that emphasizes teamwork and collaboration might be extremely valuable to students and to society. For example, Bruffee (1999) sees the classroom as a transitional community, a place where an individual can learn the culture of an organization before actually becoming immersed in that organization. The classroom, as a prime example of a transitional community, is a place where students can learn the culture of an organization or society in a relatively safe environment, before any cultural blunders might impact their social standing in the

community to which they are transitioning. For example, doctors, lawyers, business people, and other professions have certain shared values, accepted language, and norms of acceptable behaviors, which are often defined as the profession's culture (Schein, 1997). For most professions, the culture of that profession is learned in a transitional community, most notable a classroom environment. Doctors get an early indoctrination into the culture of the medical field via medical school, lawyers through law school, and even professions such as electricians and plumbers have classroom requirements that teach them the accepted norms and standards of behavior. So it is advantageous to the educational community (and society), at all levels, to create an environment in the classroom that develops teamwork and togetherness, thus ensuring that a member of society is exposed to the benefits of such concepts. This premise provides a rationale to conduct further research on sense of classroom community.

#### *Theoretical Framework*

Sense of community has received significant attention from scholars during recent years as a viable psychological and sociological concept. Although many definitions related to the term "community" appear in the literature, a factor common to many of these definitions is the concept of belongingness (Solomon, Watson, Battisch, Schaps & Delucchi, 1996). Bellah, Madsen, Sullivan, Swidler and Tipton (1985), define community as the following: "A community is a group of people who are socially interdependent, who participate together in discussion and decision-making, and who share certain practices that both define the community and are nurtured by it." (p. 333)

This definition appears to define the essence of sense of community, but the nature of this research required a more definitive explanation of sense of community as it

might relate to graduate education. So, for the purposes of this research, the definition and theory of community offered by McMillan and Chavis (1986) served as the basic theoretical framework. The definition offered by McMillan and Chavis (1986) proposes that community consists of four elements: membership, influence, integration, and a shared emotional connection. In essence, “sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (p. 9). McMillan (1996) later modified and refined the four components of community to include: spirit, trust, trade and art. Unfortunately, little consensus among scholars exists as to the constituent elements of this construct (Hill, 1996). Despite this disagreement among scholars concerning the constituent elements of sense of community, Hill, (1996), Royal & Rossi, (1996), Sonn & Fisher (1996) and McMillan and Chavis (1986) do agree that sense of community is comprised of select, identifiable constants. One identifiable constant concerning sense of community is that community is an aggregate variable, comprised of more than one component, and each component is critical to the larger concept of community. For example, McMillan’s (1996) theory offers that all four components of sense of community - spirit, trust, trade, and art - must be present in order for a sense of community to emerge. For the purposes of this research, it is important to note that Puddifoot (1996) theorizes that sense of community and its components will vary from setting to setting. This research is a study of the sense of community in a particular setting, and that setting is an urban graduate classroom.

#### *Sense of Classroom Community*

In order for teamwork to become a shared value in a culture, education serves as a means to develop teamwork as a common value. Even though some might argue that there has been an increase in non-traditional distance learning in higher education, it still remains that the majority of higher education is conducted in a classroom setting. Calling upon much of the theoretical foundation identified here, Rovai et al (2000) and Rovai (2002) conducted research to investigate the constituent components of sense of community in a classroom setting. A thorough review of the literature by Rovai et al. (2000) and Rovai (2002) determined that the constituent components of community in the classroom setting are theorized to be connectedness and learning. These components of sense of classroom community are closely linked to the theory of McMillan (1996). However, just as Puddifoot (1996) thought that the components of sense of community will differ in various settings, Rovai et al. (2000) found that sense of classroom community had unique components.

When sense of community is developed in a classroom setting, there are potential significant theoretical benefits to be gained, both educationally and socially. For example, when a sense of community does develop among members of a classroom, that sense of classroom community is believed to create a social environment that motivates learners to persist in their learning, thus overcoming barriers (real and perceived) that might otherwise hinder the education of those in a classroom where there is a low sense of community (Allen, 2000; Coleman & Hoffer, 1987; Light, 2001). Also, when a sense of community is achieved in the classroom, the class becomes more inclusive; students and teachers get to know each other and feel safe to express themselves, and hostility is decreased (Perry, 1996). These benefits of developing a sense of classroom community

obviously enhance the educational experience. In addition, Coleman and Hoffer (1987) along with Gardner (1983) find that a setting wherein students share strong interpersonal relationships is critical to fostering a feeling of security in the classroom. A student's enhanced feeling of security in the classroom increases that student's understanding of the feelings and behaviors of the other students. This leads to increased empathy among the students, and increased empathy serves as a catalyst for acceptable social behavior. This acceptable social behavior is found not only in the classroom community, but also in the community at large, demonstrating that the benefits of developing a sense of classroom community can potentially benefit society as a whole (Bruffee, 1999). Of further significance, sense of classroom community helps foster a classroom environment that is considered a place where students are free to express themselves. By expressing themselves more freely, students will interact more and share ideas, and this sharing of ideas aids in the development of judgment of its members (Bruffee, 1999; Bruner, 1962). Bruffee conducted further research that concluded that students, who have their ideas openly debated in a non-threatening environment where there is a high sense of community, collaboration, and security, learn judgment faster and more accurately in classrooms than those students who have not been a part of a safe classroom community. Hence, there are significant benefits gained from creating a sense of community in the classroom.

### *Urban Relevance*

A strong sense of classroom community, and the previously noted positive contributions that it makes to the learning environment, is even more critical to cultivate in the urban classroom environment. An urban environment fosters a set of unique

problems that are usually intensified because of social ills such as low socio-economic levels and broken families (Osterman, 2000). Indeed, many universities have even developed Urban Studies Programs as a means to educate individuals concerning the unique aspects of the issues and problems that arise in an urban environment. In support of this concept of an urban setting generating unique concerns, Osterman (2000), McCarthy, Pretty, and Catano (1990), and McGrath and Seymour (1996) feel that the common problems faced by adult learners in an urban environment such as single parenthood, burnout caused by stress, disillusionment, and lack of support at home, might be minimized by increasing the sense of community in the classroom. McCarthy et al. (1990) in particular conducted a study that found “Undergraduate students experiencing a strong sense of community...reported lower burnout...as compared with those not experiencing a strong psychological sense of community...” (p. 211) Therefore, in an urban environment, it becomes critical to understand the impact of sense of community in a classroom setting.

In an urban environment, an additional situation that is one of the toughest urban problems that America faces is the economic subculture that has created an underclass in America’s major urban areas (Rusk, 1995). The disenfranchisement of this economic underclass subculture, (which is usually evidenced by high rates of crime, imprisonment, and social problems), is a catalyst for discord in society and requires significant research and investigation. Wiesenfeld (1996) feels that an important aspect of psychological sense of community is that it generates a feeling of *we* among those in the community, (instead of a more individualistic feeling of *I*), and that developing a sense of community will help stem the disenfranchisement of a subculture. Royal and Rossi (1996) ask if the

presence of strong subcultures, like those generated in an urban environment, inhibits or disrupts the identification of subculture members with the community as a whole. The problem statement derived from Royal and Rossi's question is whether or not a person's strong identification with a certain subculture will prohibit him or her from having a sense of belonging to the larger culture of the community. This is a question that was investigated in this research using the subcultures of the military population of this study.

The military population of this study was comprised of four distinct subcultures that make up the larger culture of the United States Military – Army, Navy, Air Force, and Marines. Rosen (1991) writes that the military is not monolithic and that the individual Services have very distinct and different ways of thinking. These distinct subcultures were used in order to investigate the validity of whether a member of a strong subculture can achieve a sense of community outside of their subculture. Particularly, this study researched, in an urban classroom setting, the question posed by Royal and Rossi (1996) – whether there was a difference in sense of classroom community among members of different subcultures.

### *Need for the Study*

Sense of classroom community provides many benefits in the educational environment. These benefits help to lessen the ills of the urban classroom. However, in the same manner that a conductor is accountable for the melodic success of the orchestra even though he or she does not play an instrument, the teacher is responsible for the success of the classroom. The primary focal point of a classroom is the teacher, and it follows that research should be conducted on the impact that the teacher has on sense of classroom community. For example, educators, policy makers, and administrators, at all

levels of higher education, are expressing increased concern over the quality of teaching and instruction by professors (Means, 1993). Even the more renowned research universities (which previously ignored teaching as an art), have instituted programs that mentor all levels of faculty in the art of successful teaching (Gudrais, 2001). One of the primary reasons that programs to improve the quality of teaching were created is that it was found that students felt less a part of the academic community when the style and manner of teaching and instruction was sub par. Even a university of highest caliber must evolve to meet the needs of its students. For example, in the past, the majority of professors read from notes while standing at a podium. This lecture style of teaching, which is theorized as a poor conduit for effective learning, is the predominant style of instruction for a majority of university professors (Gudrais, 2001). In addition, much of the theoretical foundation concerning various teaching styles was proposed by Joyce, Weil and Showers (1992) who state "How teaching is conducted has a very large impact on students' abilities to educate themselves" (p.1) and propose that instructional style has a significant impact on the classroom environment and learning. This study will determine the effect that different teaching styles may have upon sense of classroom community.

Coleman and Hoffer (1987) along with Marshall (1985), Allen (2000), and Bruffee (1999) feel that an increased sense of community in the classroom provides a setting for many positive academic behaviors, such as increased persistence in pursuit of academic goals, an increased flow of information among all learners, and increased cooperation among members of the class. In addition, Light (2001) spent ten years researching factors that contributed to the satisfaction of college students. Light

summarizes some of his research findings, which point to the benefit of having a classroom with a strong sense of community: "I believe the big message from these findings is that students are enthusiastic when classes are structured to maximize personal engagement and collegial interaction," (p.80). Additionally, not only did students' performance increase when they felt a part of a community in the classroom but that they also were happiest when they felt connected to the college community. But, it remains to be determined what impact the instructional style of the teacher has on the sense of classroom community, and most important, how that impact is achieved.

Tebben (1992) examined how a teacher's qualities affected sense of classroom community, but she failed to address other dynamics of the classroom such as instructional style. A significant finding of her study was that the "...qualities of the teacher and affiliations with peers in the class contributed to student satisfaction and success more than any other factor" (p.9). A significant gap in her research and the research in general is the study of how the teacher's instructional style affects the sense of classroom community among students. McCabe (2001) discusses the importance of defining the teacher's role in building the sense of classroom community and also notes the absence of research on the subject. Hill (1996) states that there is a need to examine sense of community and what affects it in a variety of settings. It appears that a psychological sense of community is setting specific and aspects of the construct differ from setting to setting.

The classroom is a unique community, and as such, it is an appropriate setting in which to conduct research on sense of community. The sense of community within a classroom is important to the students who are there as learners. The need to research the

sense of classroom community among urban graduate students and also the requirement to investigate whether the sense of classroom community is impacted by the instructional style of the teacher were identified. As an additional aspect of this research, utilizing a military classroom provided the researcher with a classroom that was divided into powerful subcultures. These subcultures were used to investigate the impact that being a member of a subculture has upon sense of classroom community. This access to a unique classroom enriched the study.

McMillan and Chavis (1986) determined that the issue of time was integral to the concept of sense of community and that it took some period of time to develop a sense of community. In a study conducted in 1981, Glynn determined that one of the three strongest predictors of sense of community was the expected length of community residency. In his revision of sense of community theory, MacMillan (1996) refers to the passage of time as a "shared history"; however, he does not attempt to quantify it. Even Bellah, Madsen, Sullivan, Swidler and Tipton (1985) state that developing a sense of community requires time, but they also do not attempt to quantify the amount of time necessary to establish a feeling of being part of a larger community. This study was able to isolate time as an independent variable, and determine its impact on sense of classroom community. In summary, the problem of what effects the development of sense of classroom community, and how significant variables may effect the development of sense of classroom community, requires additional study. This study focuses on how various instructional styles; membership in a subculture, and duration of class time affects sense of classroom community for urban graduate students.

#### *Purpose of the Study*

This study serves three purposes. First, it measures sense of classroom community among a select sample of urban graduate students in a context of strong subcultures and adds to the body of knowledge concerning sense of community within classrooms. Second, it seeks to further define the relationship between instructional style and duration of class time as they influence the sense of classroom community among these urban graduate students. Third, it attempts to add to the body of knowledge concerning the Classroom Community Scale (CCS) (Appendix A), the instrument that was used in this study.

The following research questions were addressed using both qualitative and quantitative methods:

1. Is there a difference in sense of classroom community between military urban graduate students based on the instructional style of their instructor, the duration of class time, and the repeated administration of the Classroom Community Scale (CCS)?
2. Is there a difference in the sense of classroom community between military urban graduate students based upon their membership in a subculture, and the repeated administration of the Classroom Community Scale (CCS)?
3. How do military urban graduate students describe sense of classroom community and its importance in their learning?
4. What classroom interactions do military urban graduate students perceive to be important for developing a sense of classroom community?

### *Research Design*

This study used a causal-comparative design and incorporated both qualitative and quantitative methods (Cresswell, 1994). Causal-comparative research design is similar to an experimental design. The primary difference between the two types is that in a causal-comparative study the researcher does not directly manipulate the independent variables. Most educational research is primarily performed using a causal-comparative design and “it remains a useful method that can supply much information of value in educational decision making”(Ary, Jacobs and Razavieh, 1996, p. 366). The causal-comparative research endeavor incorporated a pre-test and post-test design, which will be amplified on in chapter III.

#### *Participants.*

The participants in this study are students and faculty who are associated with a professional military education institution in Norfolk, Virginia. Ninety percent of the students attending this institution have a master’s degree and the curriculum of the institution represents graduate-level challenges. All of the faculty of this institution have at least a master’s degree and one-third of the faculty possess doctorates. Details of the participants and the curriculum are delineated in chapter three.

#### *Quantitative Method.*

In order to answer research question one, one of the independent variables used in this study was instructional style. The instrument used to measure the independent variable was the Instructional Styles Inventory (ISI) (Canfield & Canfield, 1988) (Appendix B). The Instructional Styles Inventory is a self-report instrument that takes

the responses provided by the teachers and categorizes each respondent into one of nine teaching/instructional styles.

The second independent variable that was used in this study is duration of class time. It is an ordinal variable with two levels: five weeks of class or ten weeks of class. Each week of class is comprised of two contact hours in the classroom, thus a five week class has ten hours of faculty/student contact time and a ten week class has twenty hours of faculty/student contact time.

The third independent variable that was used in this study was the score of the CCS. It is an integer variable with whole number values ranging from 0 to 40. It has two levels, one administration of the CCS which was done as a pre-test and a second administration of the CCS which was done as a post-test.

The dependent variables in this study are the concepts of connectedness and learning as measured components of sense of classroom community. The instrument Classroom Community Scale (CCS) developed by Rovai (2002) operationalized sense of classroom community. The CCS consists of a self-report questionnaire of 20 items, 10 items each for the subscales of sense of classroom community: connectedness and learning.

Research question two is comprised of two independent variables. One independent variable was subcultures. It is a nominal variable with three levels: Army, Air Force, and Sea Service. The research educational institution ensures that their student body is comprised of 1/3 Army, 1/3 Air Force, and 1/3 Sea Service. Sea Service is defined as U.S. Navy or U.S. Marine Corps. This grouping of students satisfies the elements of a definition of "culture" put forth by Schein (1992) inasmuch that both the

U.S. Navy and the U.S. Marine Corps share the same core values (Honor Courage and Commitment), both fall under the Department of the Navy for regulations, and both Services share the same maritime culture. In addition, both Services are treated as a single entity in official Department of Defense doctrine and United States law. As in research question one, the pre-test and post-test were implemented in the statistical analysis as an additional independent variable.

Research questions three and four were answered using qualitative data only and as such have no independent or dependent variables. The methods utilized to collect qualitative data, transcribe that data, and interpret that data are detailed in the following paragraphs.

*Qualitative Method.*

Qualitative data were gathered from a random sampling of students from the intact classes that were used to gather CCS data. Data were collected from each of the elective courses offered by the educational institution and are detailed as follows:

## ELECTIVES

Title	Length
1. CINCs want more – Security Assistance, an Overview	10 weeks
2. Command and Control of U.S. Forces: The Heart of the Art	10 weeks
3. Contemporary Foreign Policy Issues	10 weeks
4. Joint Intelligence, Surveillance, & Reconnaissance	10 weeks
5. Joint Logistics	10 weeks
6. Low Intensity Conflict: Old War/New War	10 weeks
7. NATO, The Combined Command and Issues	10 weeks
8. Politics of Intervention	10 weeks
9. The Joint Training System	10 weeks
10. The Strategy of Global Weapons Proliferation	10 weeks
11. USPACOM Regional Security Studies	10 weeks
12. USSPACECOM and Future Conflict	10 weeks
13. USSTRATCOM and Nuclear Deterrence	10 weeks
14. Joint Operations Planning and Execution System	5 weeks
15. Rules of Engagement	5 weeks
16. USJFCOM Joint Concept Development and Experimentation	5 weeks
17. War in the 20 <sup>th</sup> Century	5 weeks
18. Weapons of mass Destruction and Counter-proliferation	5 weeks
19. Joint Personnel Recovery	5 weeks
20. Military Cultures and Leadership in the Joint Environment**	5 weeks
21. War in the 21 <sup>st</sup> Century	5 weeks
22. Weapons of Mass Destruction and Counter-proliferation	5 weeks
23. Campaigning at the Operational Level of War	10 Weeks
24. China and Pacific Security	10 Weeks
25. Comparative Civil-Military Relations	10 Weeks
26. Contemporary Foreign Policy Issues	10 Weeks
27. Homeland Security, Transformation and The War Against Terrorism	10 Weeks
28. Information Superiority Studies	10 Weeks
29. Joint Air Operations	10 Weeks
30. Joint Targeting	10 Weeks
31. Nationalism and Ethnic Conflict for the Military Planner	10 Weeks
32. Russia: The Road to Transformation	10 Weeks
33. Strategic Paradigms and Operational Consequences	10 Weeks
34. USCENTCOM Regional Studies	10 Weeks
35. USEUCOM Regional Studies	10 Weeks
36. USJFCOM Regional Studies	10 Weeks
37. USSOCCOM Joint Special Operations in the 21 <sup>st</sup> Century	10 Weeks
38. USSOUTHCOM and the Latin American Region	10 Weeks
39. USTRANSCOM Defense Transportation System	10 Weeks
**not to be included in data, taught by researcher	

One subject was randomly selected from 50 percent of the electives. The interviews were conducted in a focus group forum with predetermined questions that acted as an initial parameter for the data collection. Conversations from each of the focus groups were transcribed using a certified court reporter, and also were recorded using detailed note taking to include a tape recording of the session that was used as a safeguard to the written records.

#### *Assumptions.*

The following assumptions are made for the intent of this study:

1. The results of this study can be generalized to the experimentally accessible population and the target population that is urban graduate students.
2. The conduct of this study had a non-reactive effect on the subject's measured perceptions.
3. Subjects responded honestly and without undue external influence regarding the qualitative and quantitative data.
4. The varied topics of the electives all supported the mission of the research institution and thus did not present a predetermined quality that would in and of itself explain variances in sense of classroom community.

#### *Definition of Terms.*

The following definitions are used in this study:

Community: A community is a group of people who are socially interdependent, who participate together in discussion and decision-making, and who share certain practices that both define the community and are nurtured by it.

(Bellah et al. 1985).

Culture: A pattern of shared basic assumptions that the group learned as it solved its

problems of external adaptation and internal integration, that has worked well enough to be considered valid and to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein, 1992).

Learning: Process through which humans internalize the external world and through which they construct their experiences of that world (Johnson & Johnson, 1991).

Learning Style: Preference or predisposition of an individual to perceive and process information in a particular way or combination of ways (Sarasin, 1999).

Subculture: A separate group that shares the core values of the overall group, but that also has additional unique values developed as a response to unique problems, environment or tasks (Robbins, 1993).

Teaching Style: A complex set of preferred behaviors of teachers (Strong, Silver, & Hanson, 1986).

Teamwork: Cooperative effort by the members of a group to achieve a common goal.

#### *Limitations and Delimitations.*

As with any study done there are limitations that are inherent in this study. The first limitation was the causal comparative design of this study. Causality could not be attributed definitely to the independent variable in this study. Although the researcher used significantly valid statistical and research techniques (such as repeated measures, covariation of potentially confounding variables, and applying rival hypothesis) that have been ascertained to help isolate the independent variable; teaching style was not directly controlled or manipulated by the researcher.

A second limitation to the study was the self-report nature of the data collected on the interviews and questionnaires. Despite the researcher's assurance of anonymity to the

participants, there might be some doubt as to the validity of the researcher's assurances. In addition, social desirability and reluctance to report any negative aspects of one's experience might have resulted in skewed data. The researcher not only re-emphasized the assurance of anonymity, but the researcher also held all data until the completion of the course. Holding the data until the completion of the course allayed any unfounded fears of the participants that any data they produced would be associated with them as the source and therefore had an influence on their studies. In addition, the chosen educational institution has a strict policy of non-attribution for all involved. This policy was emphasized to the participants during all phases of data collection.

A third limitation of the study was that the electives were varied in their topics. Although the electives were wide-ranging in title, the content of each elective was academically focused and supported the mission of the educational institution; in these manners they are alike. There is no significant intellectual or emotional gulf between or among the electives. The researcher incorporated the pre-test/post-test as an independent variable or as a covariate where appropriate to control statistically for this threat.

Testing might also have been a threat to the study. Because students took two electives, and some took three electives, (further explained in chapter III) a student might have been administered the CCS two to four times during the course (pre-test and post-test) and some students even took it six times (those who substituted two five week electives for one ten week). This might have constituted the threat of testing which can be simply explained that the subject has seen the instrument so many times, that the answers become predetermined in the subject's mind instead of the subject carefully answering each question of the instrument as it pertains to the current class. This threat

was minimized by reiterating at each administration of the CCS that the answers given should only pertain to the class that the students were currently in during the administration of the test, and by using the pre-test/post-test as either an independent variable or covariate where appropriate to statistically control for the threat.

Multiple treatment interference might have posed a threat to the study. The students were exposed to many different teachers with different styles outside of their elective classes. The feelings of community generated within the electives were potentially a result of things done by teachers outside of those electives. During data collection, it was emphasized that the students' responses to the CCS were to be strictly focused on the feelings that they had as a result of the class that they were currently in. In addition, the pre-test/post-test was an independent variable or covariate where statistically feasible to control for this threat.

A delimitation to this study was the accessible population for the research: students from a military education institution. The characteristics of this accessible population were consistent with those of an urban graduate school with the exception that each member of the class was an active duty military officer from either one of the four U.S. military Services. While diverse in most areas, the participants were relatively homogeneous in terms of current socio-economic status, age, and academic credentials.

This research appears to have only one significant threat to external validity and that is that the research is confined to an accessible population that is comprised of military members. Research suggests that the accessible military population used in this study is diverse and representative of urban graduate students. Despite this research, there

is a misperception that the military is a monolithic culture (Smith, 1997). It is this misperception that constitutes a threat to the external validity of this study.

## Chapter II

### *Literature Review*

#### *Introduction*

The purpose of this review of the literature is to provide the theoretical framework for the study and to summarize previous research that is relevant to the study. The review of the literature is divided into four parts. The first part is a review of the literature focused on sense of community theory and related research. The second part is attentive to sense of classroom community theory and research. The third part centers on the literature on teaching/instructional style and its impact on the classroom and the student. The final part reviews the literature on military culture and subcultures.

#### *Sense of Community*

Sense of community, as a term, is used in numerous ways throughout academic literature. Many aspects of community such as physical proximity, social networks, emotional safety, and sense of belongingness are common components of community that are addressed in the literature (Royal & Rossi, 1996; Pretty et al., 1990). However, one aspect of the term community common to the majority of its uses is the concept of belongingness (Solomon et al., 1996). In Wirth's classic essay on rural-urban differences (1938), he stated that the hastened pace of urban life, along with its intensified mobility, and conflicting and intersecting communities or groups, resulted in the a new definition of the concept of belongingness. This definition included a new characterization, one that included a portrayal of belongingness as becoming unbounded by physical proximity as a constraining element. Later, Sonn and Fisher (1996) and Royal and Rossi (1996) make the same observation, noting that community is not necessarily constrained in

definition to include only communities of physical proximity. Community is a concept that transcends physical presence. Since there is no requirement for physical proximity in order to have a psychological sense of community, then what exactly constitutes sense of community and this concept of belongingness must be determined.

Bellah, Madsen, Sullivan, Swidler and Tipton (1985), define community as follows:

A community is a group of people who are socially interdependent, who participate together in discussion and decision-making, and who share certain practices that both define the community and are nurtured by it. (p. 333)

In an earlier attempt to define the components that comprised a psychological sense of community, McMillan (1976) defines it as not only a feeling that members have of belonging and being important to each other, but also a shared feeling that a member's needs would be met by their commitment to the community. McMillan and Chavis (1986) further propose that a psychological sense of community encompasses four component elements: membership, influence, integration and fulfillment of needs, and a shared emotional connection. According to McMillan and Chavis, members of a community who have a strong sense of community also have a strong feeling of belonging to the community. This belonging generates the feeling among the members that they actually matter to one another and to the community or group as a whole, and that this interdependence is important and beneficial to everyone in the community. This set of beliefs is aligned closely with the writings of Sarason (1974) who defined psychological sense of community as being the perception of similarity to others, and an

acknowledged interdependence with others. More specifically, his definition of community is:

...the sense that one was a part of a readily available, mutually supportive network of relationships upon which one could depend and as a result of which one did not experience sustained feelings of loneliness that impel one to actions or to adopting a style of living masking anxiety and setting the stage for later and more destructive anguish. (p.1)

This interdependence that Sarason deems so important to the construct of psychological sense of community is characterized not only by a willingness to take from other members of the community that which a member needs, but also is characterized by a willingness to maintain this interdependence by giving to, or doing for, others in return. This interdependence causes the member to feel a part of a larger, more dependable and stable environment.

Many other theorists focus on interaction or interdependence as critical aspects of sense of community. Westheimer and Kahne (1993) define sense of community as the result of interaction and deliberation by people who come together based upon similar interests and goals. Graves (1992) defines sense of community as an environment where people interact in a cohesive style, continually reflecting upon the work of the group while always respecting the differences individual members bring to the group.

Despite the focus on interaction and interdependence as a critical element of sense of community, a unique aspect of sense of community that at first inspection appears counter-intuitive, is the proposition that homogeneity does not guarantee a strong sense of community. Research has determined that unique differences among members of a

community serve as a catalyst that strengthens sense of community (Calderwood, 2000). Goudy (1990) conducted research to compare evaluations of ideal and actual communities on social factors. Questionnaires were mailed to 27 communities ranging from 200 to 31,500 inhabitants. Telephone and utility records were used to determine the bounds of each community and households were sampled according to rates that were determined for each community. The response rate was 78.2 percent (4,627 completed questionnaires from 5,920 mailed). Respondents were asked to rank various social dimensions such as pride, participation, commitment, and homogeneity from 1.00 (definitely does not describe the ideal community at all) to 5.00 (definitely describes the ideal community well). Data in Table 1 support the finding that homogeneity was the least valued concept among residents of communities where psychological sense of community was found to be strong. This finding is of particular interest to this researcher because the research population for this study consists of all military officers. Although literature supports the idea that military officers are not monolithic in their culture, the researcher needed to be aware of the possibility that the appearance of homogeneity within the research population might raise questions as to the validity of the study. Goudy's work serves to refute the notion that the researcher's accessible population could have merited a high sense of community based primarily on the fact that the experimental population came from a similar profession.

Table 1

*Evaluations of Social Factors for Ideal and Actual Communities*

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Social Factors	Ideal Mean Scores	Actual Mean Scores
Pride	4.65	4.23*
Equal Opportunity	4.46	4.15*

Participation	4.28	3.74*
Commitment	3.97	3.73*
Homogeneity	3.39	3.42

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\*Difference between ideal and actual mean scores significant at the .001 level (t test)

McMillan (1996) further refined the definition of sense of community offered by McMillan and Chavis (1986). McMillan and Chavis propose four criteria for a definition and theory of sense of community:

First, the definition needs to be explicit and clear; second, it should be concrete, its parts identifiable; third, it needs to represent the warmth and intimacy implicit in the term; and finally, it needs to provide a dynamic description of the development and maintenance of the experience (p. 9)

They offer that the components of sense of community were membership, influence, integration and fulfillment of needs, and lastly, shared emotional connection. However, McMillan's (1996) revised theory further refines and defines the components of sense of community as spirit, trust, trade and art. McMillan's revised theory rearranges and renames the components of sense of community and offers a more inclusive and complete version of sense of community. McMillan's first component, spirit, was originally labeled membership in the earlier version of sense of community theory. Spirit denotes membership in a community and also includes the feelings of friendship, bonding, esprit de corps and cohesiveness that develop in a community. Spirit also implies and leads to emotional safety for its members.

The second element of sense of community defined by McMillan (1996) is trust. This element replaced influence in the original theory. Trust represents a willingness of the community member to rely on others in the community. Trust also includes a belief that the community will wield its authority and power in a fair and just manner. Not only

do the members of a community feel safe and trust the community, but the element of trust also encompasses the notion that other members of the community, and the community as whole, trust the member.

The third element of McMillan's revised theory is trade. In this component of sense of community, the focus of members of a community changes from a focus on similarities to a focus that is defined by differences. Trading takes place when one member has something that another member lacks. A strong sense of community will have integrated a trading component that is fair. In other words, there is a sense of balance achieved with this trading of needs (getting something from other members of the community) and the fulfillment of needs (giving to other members of the community, that which they can not give to themselves).

The final component of sense of community is art. Art, as referred to in McMillan's theory revision, replaces shared emotional connection. Art is considered to be the collective experiences of the community over time. Shared experiences that become part of the community's history are critical to art as a component. The community must have some type of interaction for art to be present and evolve. Most important, art reinforces the concept of spirit, which in turn, serves as a basis for a perpetual cycle of community. This cycle evolves, and while evolving, the cycle should also be strengthening as the experiences of a given community deepen. This thorough description of McMillan's theory helps to explain, and serves as, the basis for the sense of classroom community theory (which will be reviewed later in this chapter) used within this study. However, it is important to note that the section on the empirical measurement of sense of community that follows adds a degree of rigor to any sense of community

theory. It is one matter to theorize, it is a more difficult matter to define theory explicitly enough so that instrumentation could be developed that validates it.

*Empirical measurement of sense of community*

In order to validate psychological sense of community as a construct that might be empirically measured, Chavis, Hogge, McMillan and Wandersman (1986) developed the Sense of Community Index (SCI) that measures the psychological sense of community of individuals. Prior to the work performed by Chavis et al. (1986), there were numerous instruments that were developed to measure a sense of community. For example, Glynn (1981) showed that psychological sense of community (PSOC) was a quantifiable construct. Glynn developed a 120 Likert-style item instrument that measured an individual's perceived actual community and one's ideal community. Glynn's seminal work involved administering a questionnaire to members of three communities- an Israeli Kibbutz and two Maryland communities. From the responses to the questionnaires, he developed 202 behaviors that were related to sense of community. Multiple regression analysis showed that 18 demographic items could adequately predict the real community scale score ( $R^2 = .613$ ,  $p < .001$ ) but not the ideal score ( $R^2 = .272$ ). This finding was significant in that it was able to relate characteristics (the demographic items) of the population to predicted behaviors concerning sense of community. Glynn's instrument inspired Buckner (1988) to continue further development of an instrument entitled the Neighborhood Cohesion Instrument (NCI). The NCI was an 18 item Likert-style self report instrument and was used in a study of 206 residents of three communities in the United States. Like all instruments that were developed to measure sense of community, Buckner's scale also relied on the simple aggregation of individual scaled

responses. Numerous studies were conducted in Europe that utilized the work performed by Glynn and Buckner. These studies developed other instruments that were more free flowing and open-ended in their approach.

Chavis' et al. SCI comprises 12 questions in a true-false format and yields scores on the four dimensions of psychological sense of community that comprise their theory: membership, influence, fulfillment of needs and shared emotional connection (McCarthy et al, 1990). This index proved suitable at the time it was developed, but Hill (1996) argues that the instrument is one-dimensional, and that since psychological sense of community is setting specific, unique instruments should be developed to measure feelings of community in each setting. Thus, the case for further research and study of psychological sense of community in a variety of settings has become clear, and accordingly, the need to specifically develop instruments to measure it in those various settings is required.

Puddifoot (1996) found numerous instruments had been developed that measured sense of community in a variety of settings. Those settings involved researching sense of community in such diverse domains as communities undefined by geographic boundaries, university settings, religious congregations, workplaces, and unions. As an example, the Developmental Studies Center in Oakland, California, as part of the research for the Child Development Program (CDP), developed a valid and reliable instrument to measure sense of community in elementary classrooms grades 3 through 6 (Schaps & Lewis, 1997). This instrument had two subscales. One was "classroom supportiveness" comprised of 14 statements and measured students' perception of how their classmates cared about and treated each other. The second subscale was

“Autonomy and influence in the Classroom” comprised of 10 statements that measured students’ participation in class decision-making. This instrument was never used beyond the sixth grade, but its components closely resemble those components that Rovai, Lucking and Cristol (2001) used in developing a valid and reliable instrument to measure sense of classroom community for graduate and high school students. In this instrument, the four components that constitute sense of classroom community are spirit, trust, interaction and learning. Rovai (2002) later revised the instrument to include two components of classroom community. Rovai (2002) identifies the two components as connectedness and learning and calls the revised instrument the Classroom Community Scale (CCS):

A review of the literature suggested that the most essential elements of connectedness were spirit, trust, mutual interdependence among members, interactivity, shared values and beliefs, and common expectations. Therefore, an initial set of 20 items, labeled connectedness, was developed that addressed the elements of connectedness. Additionally, Rheingold (1991) and Hill (1996) believe that the dimensions of community differ from setting to setting suggesting that sense of community is setting specific. One such setting is the classroom where learning is the goal. Consequently a second initial set of 20 items, labeled learning, was developed that represented the specific classroom setting of classroom community and addressed the learning-specific community issues such as interaction among community members to construct understanding and the extent to which educational goals and expectations are attained by the community.

(p.7)

The validity and reliability of the CCS was tested by collecting data from 375 students. The procedures used to develop the instrument and the professional opinion of three university professors who taught educational psychology provide a high level of confidence that face, construct and content validity were achieved. In addition, the Cronbach's coefficient alpha for the CCS was .93 and the equal-length split half coefficient was .91, indicating excellent reliability. This section provided a review of instruments that were developed in order to measure sense of community in a variety of settings.

*The need for sense of classroom community*

In a study of lower middle school age children from 24 schools across America, the absence of a sense of community was linked to many problems (Battistich & Hom, 1997). There were 1,434 students whose sense of community was assessed using a 38-item scale (internal consistency = .91) composed of two subscales. Those subscales were caring and supportive relationships, and student autonomy. Sense of community and student involvement in problem behaviors were assessed through the questionnaires and hierarchical regression analysis was performed to ascertain within school differences (for gender) and between school differences. Low sense of community accounted for between 50% and 60% of the variability in student delinquency. Although this research focused on lower middle school aged students, the negative correlation between sense of community in the classroom and positive school environment also was found in studies conducted in college aged students and doctoral degree students. Light (2001) interviewed college seniors ( $n > 5,000$ ) over a period of 10 years in relation to their experiences in making the most out of college. Among his findings were that some

problems such as students achieving low grades in college and students not significantly improving their writing skills, might be a result of the students not feeling a sense of community within the college community. Additionally, Lovitts (2001) conducted qualitative and quantitative research concerning the non-completion rate of students seeking a doctoral degree ( $n = 600$ ). The findings suggest that “For each type of integration, completers were overwhelmingly more integrated than noncompleters” (p. 100). The quantitative results for this analysis were significant at  $p < .001$ . Furthermore, absence of sense of community might affect significant quality of life issues. Concerns were increased when it was observed that some people were not able to wholly function within their community because the community did not offer a sense of safety and thus generated feelings of confusion and alienation among those disenfranchised members (Sanders, 1975).

Palmer (1993) notes the importance of achieving a community atmosphere within a classroom. He feels that real learning does not happen until students, teachers, and the subject are all brought into a relationship. The assumption that creating a sense of community in a classroom is critical to success in the learning environment is well founded within the literature. Based upon the sense of community work of McMillan (1996), Rovai et al (2000) and Rovai (2002) develop a sense of classroom community theory that proposes that sense of classroom community is comprised of four components, spirit, trust, interaction, and learning.

The first component of sense of classroom community is spirit. Spirit denotes recognition of membership, cohesiveness and bonding. Learners need to feel a part of the classroom and better are able to perform and handle the stresses of a classroom when a

sense of belongingness or connectedness to the classroom is achieved (Light, 2001). This feeling of spirit, as was measured by the SCI, was found to be critical in preventing burnout of college students in an urban university setting (McCarthy et al, 1990).

McCarthy et al. conducted research in which three-hundred and sixty undergraduate students voluntarily completed questionnaires that determined their psychological senses of community (short form of the SCI by Chavis, 1987), their level of burnout (27-item form developed by Meier and Schmeck, 1985), and their level of physical and psychological distress (using an instrument developed by Moos and Van Dort, 1977).

After dividing students into groups with low SCI scores and high SCI scores, the researcher applied independent t tests that indicated students who experienced a strong sense of spirit and classroom community reported a lower burnout rate as compared to those students not experiencing a strong feeling of belongingness in their classroom community ( $t(358) = 2.44, p < .01$ ).

Rovai et al (2000) argue that the second component of sense of classroom community is trust. Trust is the feeling that the classroom community can be trusted and that feedback will be timely and constructive (Rovai, 2001). Trust is a critical component of a learning community and a community in general. Furman (1998) and McMillan (1996) also feel that the members of a community cannot feel as if they belong to a community without the elements of trust and safety present. When such an atmosphere of trust and emotional safety develops in a classroom, the classroom becomes more inclusive. Teachers and students not only get to know each other, but they feel safe to express themselves and even be vulnerable with each other (Allen, 2000). In her review of the literature on students' need for belonging, Osterman (2000) found that in

classrooms where people are unfamiliar with each other and had not established trust, they are unlikely to ask questions, express a minority opinion, play the devil's advocate or publicly wrestle and debate with new ideas. Light (2001) found considerable qualitative evidence to support Osterman's review of the literature. One student in Light's research stated "Most of all, each of us in the group had to develop trust in one another. We actually began to feel like a small community. It was wonderful" (p.51).

The third component of sense of classroom community was interaction.

Interaction can be one of two types – task-driven or socio-emotional. Task-driven interaction is interaction that occurs as a result of tasks assigned within the classroom while socio-emotional interaction occurs as a result of the relationship among peers within the classroom (Rovai, 2001). Socio-emotional interaction, which occurs on a more informal basis than task-driven interaction, includes such activities as tutoring, lunchtime discussions and museum field trips. Socio-emotional interactions tended to increase empathy and caring among the members of a classroom community (Perry, 1996). In addition, interaction that derived from these types of activities decreases hostility in the classroom and also leads researchers to conclude that learning is facilitated (Marshall, 1985). Four –hundred and sixty graduate level students in an educational administration program from northeast Texas were surveyed over a three-year period asking them to rate on a five-point Likert scale, the various activities they had engaged in for the semester. This research found that when adults are faced with challenging educational tasks in a community atmosphere, there is an enhanced opportunity for the members of the group to optimally complete the task because of the exchange of ideas that come from interaction. It was the "...growing reservoir of

experience...” that made classroom interaction especially vital for providing graduate students with an increasingly rich resource for learning (Schroth, Panak, & Gates, 1999).

Rovai et al (2000) and Rovai (2002) offer that the fourth component of sense of classroom community is learning. Knowles (1980) determined that cooperative learning in the environment of the classroom community was a positive catalyst for growth of knowledge. However, educational institutions often ignore Knowles’ findings. Nevertheless, there are proponents of Knowles’ findings who believe that emphasis on community in the educational environment to be absolutely essential to learning (Dewey, 1940; Doll, 1992). Rovai (2001) states that “Learning thus represents the common purpose of the community and members of the community grow to feel that their educational needs are being satisfied through active participation in the community” (p. 3).

Similar to the role of art in McMillan’s (1996) sense of community theory, the classroom community’s experiences in total are the foundation of learning. Learning reinforces spirit, trust and interaction, and all together they serve as the basis for sense of classroom community. Through the presence of these components of sense of classroom community, learning evolves, and while evolving, learning also should be strengthening as the experiences of a given community deepen. Cusack (1995) found that a necessary component of community in a classroom is students and teachers, brought together through interaction, involved in learning. In addition, Warham (1993) found that students, who participate in reflective thinking in groups, widen the social context of their thinking.

Rovai (2002) revised the four components of sense of classroom community in his instrument, the Classroom Community Scale (CCS) to two components – connectedness and learning. His review of the literature suggested that the most critical elements of connectedness were spirit, trust, mutual interdependence among members, interactivity, shared values and beliefs, and common expectations. Additionally, Rheingold (1991) and Hill (1996) believe that the dimensions of community differ from setting to setting suggesting that sense of community is setting specific, and one such setting is the classroom where learning is the goal. Thus, some learning-specific community issues such as interaction among community members to construct understanding, and the extent to which the community attains educational goals and expectations, were found to be significant and essential elements to learning in the classroom. Learning, in his revised theory, is a combination of the interaction and learning dimensions of Rovai et al's (2000) earlier theory of sense of classroom community. The CCS was developed and refined using a field test of 375 graduate students enrolled in 28 different Blackboard-based e-learning courses. The test instrument was found to have high validity and reliability as reported earlier in this chapter.

Literature suggests a sense of classroom community as one of the more desirable outcomes of an effective school (Rowan, 1990). High-poverty schools that are more likely to spring up in the urban environment greatly benefit from an increased sense of community (Kozol, 1991). Battisch et al. (1995) conducted research (N = 4,515) that examined the relationships between students' sense of community, poverty level and academic attitudes, motives, and behavior among a diverse sample of 24 schools.

Students' sense of community was measured by a 38-item scale (internal consistency = .91). Free or reduced lunch population determined the poverty level of the schools, and academic attitudes were determined by a range of questions concerning task orientation, ego orientation, intrinsic academic motivation, and respect for teachers among others. The research supported the belief that sense of community has its most significant positive impact in high-poverty schools. Schaps and Lewis (1997) state that sense of classroom community is less about what is happening in the neighborhood and more about what is happening in classrooms. In other words, a sense of classroom community is related directly to what the teacher does in the classroom and is less closely bound to the environment that the students live in when they are away from the classroom. Teachers who are successful at creating sense of classroom community develop an atmosphere that will aid their students in growing ethically, socially and academically (Orbe, 1992).

### *Teaching and Instructing*

Since the literature suggests that creating a sense of community in the classroom is beneficial to the learner, then it follows that research should be conducted as to what aspects of the classroom environment significantly contributes to achieving a sense of community within the classroom. Although there have been studies conducted that find correlation between students' sense of community and their persistence in pursuing their studies and how much they value schoolwork (Goodenow, 1993), none of these studies has scrutinized the teacher's teaching or instructional style and its relationship to sense of classroom community (McKeachie, 1986). Orbe (1995) identifies teacher or instructor actions as one of the primary contributors to, or detractors from, the development of

sense of classroom community, but he fails to encompass instructional style in total in his list of actions.

### *Instructional Styles*

Dunn and Frazier (1990) believe that one of the most critical factors contributing to the success of the educational environment is the teacher. They write “Student academic growth and improvement depends in great measure on developing teacher strengths in critical areas that can be defined as teaching style” (p. 6). Entwistle (1981) agrees with Dunn and Frazier. He believes that each teacher has a preferred teaching or instructional style, and that the preferred style of the teacher has a direct impact on the classroom environment and the student. However, instructional style is sometimes ill defined throughout educational literature and it has been characterized as only a narrow listing of specific behaviors or as broadly as general personality characteristics (Kleine, 1984). Despite being ill defined in some instances, there are others who have offered robust definitions for instructional style. Strong, Silver and Hanson (1986) feel that instructional style refers to a complex set of behaviors and as a whole “...remains infinitely greater and richer than the sum of its parts.” Dunn and Dunn (1977) define teaching style as consisting of eight major parts, which can be classified as characteristics: instructional planning, teaching methods, student grouping, room design, teaching environment, evaluating techniques, educational philosophy and instructional characteristics. These eight characteristics, as performed by the instructor, combined over time to form an instructional style. In an attempt to further refine the definition of instructional style, Dunn and Frazier narrowed the conceptual framework for the definition of instructional style to six elements: instructional planning, teaching methods,

teaching environment, evaluation techniques, teaching characteristics and classroom management, and educational philosophy.

In the fourth edition of their classic book *Models of Teaching*, Joyce et al. (1992) align themselves with the theoretical school of thought that teaching style is a composition of parts that is more art than science. For example, another nascent commentary on instructional style was developed by Dobson and Dobson (1974), who suggest that instructional style is a synthesis of instructor's efforts to gain congruence between their beliefs and their practices. Bostrom (1979) agrees and defines instructional style as an instructor's disposition toward the behaviorist, functionalist, socialist, or humanist approach to teaching. In an attempt to scientifically categorize teaching style, Joyce et al. (1992) define four primary categories of teaching styles: social, information-processing, personal, and behavioral systems. The social teaching style is based upon the teachings of Dewey. It is a teaching style that uses classroom management to effectively build a learning community within the classroom. The primary components of the effective classroom management techniques supported by Dewey include such classroom strategies as role-playing and group investigations. The information-processing style focuses more on the individual's ability to internalize concepts and information and "...emphasizes ways of enhancing the human being's innate drive to make sense of the world by acquiring and organizing data, sensing problems and generating solutions to them..."(p.7). The personal style attempts to shape the education process so that the learner is encouraged to become independent. It is based on the premises that if learners come to understand themselves better, then they will begin to take responsibility for their education and therefore grow accordingly. This style includes such things as nondirective

teaching and allowing students to use the classroom meeting as a means to become self-aware. The behavioral systems teaching style organizes task and feedback systems in order to capitalize on the self-correcting capability of human beings. This style includes such techniques as behavior modification and direct instruction. This system of categorization of instructional styles proved too broad for use in this research.

In an attempt to further define and refine Joyce et al.'s (1992) categories, Schroth et al (1999) conducted a study over three years that evaluated teaching activities that were designed to increase education administration graduate students' ability to reflect on their learning. In this study, Schroth et al. categorized each teaching activity according to one of the four teaching styles defined by Joyce et al. (1992). The teaching activities that were categorized as behavioral systems, received ratings from the students as being the most valuable and most enjoyable activities. Schroth et al. recommended that the results of the research could serve as the basis for building a curriculum that might instigate a revolution in the way that adults are taught. Reforming a curriculum based upon teaching styles is a revolutionary idea. However, for the purposes of this research, the observations of Schroth et al. serve to emphasize the significant impact that teaching styles have upon the learning environment.

Grow (1991) also identifies four teaching styles which he describes in terms of roles and those roles are authority, motivator, facilitator, and consultant. The authority role style of teaching uses informational lecture with drill that allows for immediate feedback. The motivator role style is centered on inspired lecturing plus guided discussion and the use of goal setting as a learning strategy. The facilitator role style uses group discussion as the primary teaching vehicle with the teacher participating as an

equal in the discussion. The consultant role style can be equated with the style of a dissertation advisor - one who inspires and helps learners to self-actualize.

Grow also focuses on the dynamic that occurs in the classroom when there is a mismatch between the teaching role style that is being used and the learning style of the students. An example of this mismatch between teaching style and learning style might be investigated by studying what affect on learning occurs if there are students who require the specific direction that is normally given by an authority role style teacher, but the teacher actually teaches in the role style of a facilitator. Kalsbeek (1989) conducted research focusing on the congruence/incongruence of teaching style and learning style. Participants in his study were asked to identify a delta between "the perfect teacher" and the teacher that taught them the course. Kalsbeek's research finds that the teaching style-learning style congruence or incongruence has minimal impact on self-assessment of learning. Cooper and Miller (1991) measured the learning style-teaching style congruence or incongruence of a volunteer sample of 113 students and 16 faculty in an adult business course. Their findings suggests that adult students tended to adapt their learning styles to meet the classroom environment. Although students will differ in their means of processing information; (some students may be analytical, some will draw on intuition, some may be concrete in their approach to problem solving and answering questions, while others tend to see multiple perspectives to a problem, some may enjoy working alone while others prefer exchanging ideas through group work) it was determined that adult learners will alter their learning style in order to achieve in the classroom. Regardless of the explanations for these behaviors, Davis (1993) found that there is no conclusive research that supports the theory that matching teaching styles of

instructors to the learning styles of students will lead to an increase in learning. In fact, it is often found that students with one style outperform others in a given course regardless of which teaching method is used. Even when students are taught in ways incongruent with their preferred learning style, they still adapt and learn. Thus it follows that instructional style and not learner preference would then be a primary factor in determining the outcome of a classroom environment. In figure 1 below, Battisch and Solomon (1995) theorize that it is teacher practices that are the catalyst for developing a student's sense of classroom community:

### Summary Model of Sense of Community

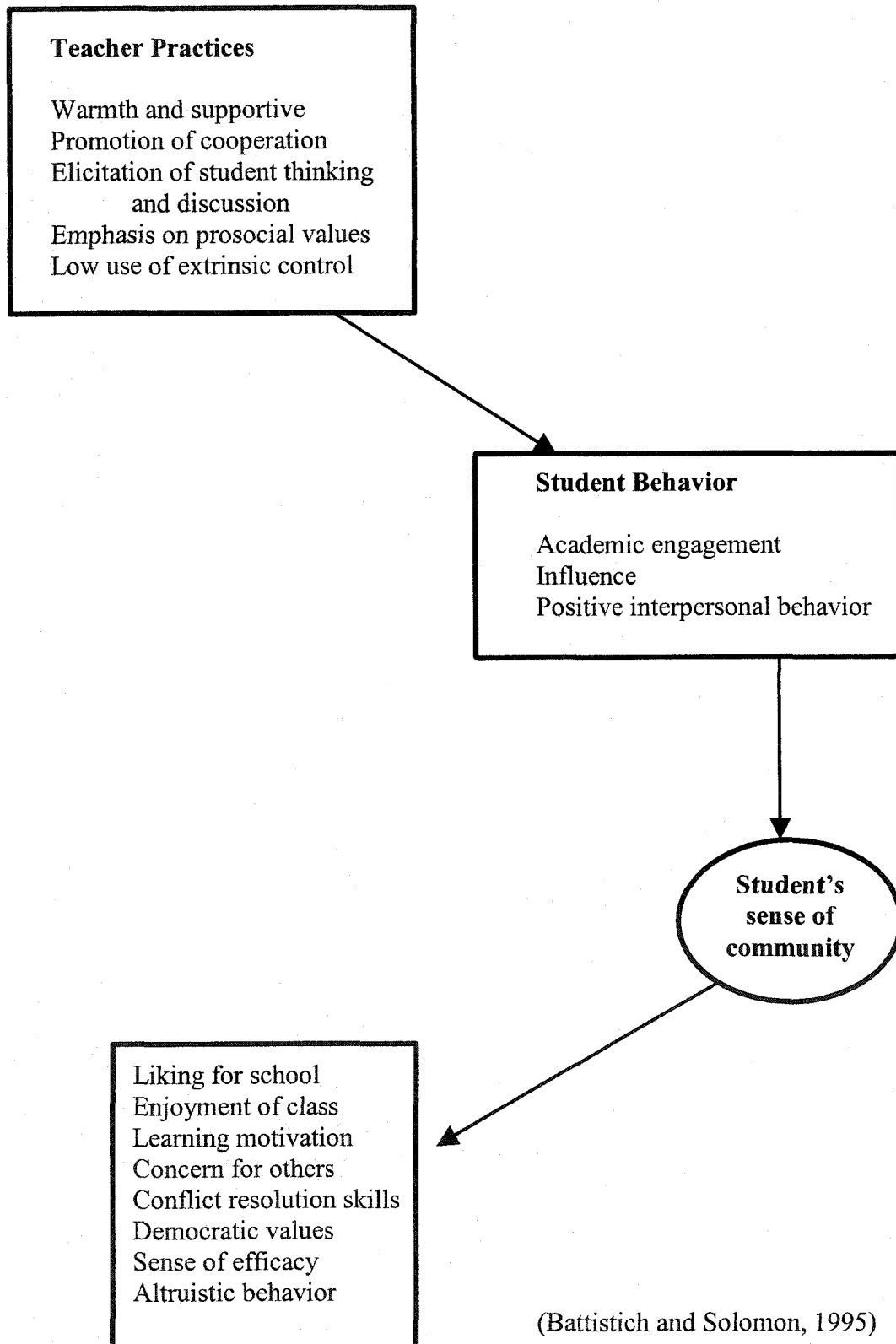


Figure 1

The researcher reviewed a wealth of instruments found in various academic literatures in an effort to find one that could reliably and validly measure instructional style. The Instructional Styles Diagnosis Inventory (Cripple, 1996), the Teaching Styles Inventory (Silver, Hanson & Strong, 1980), the Instructional Skills Assessment (Parry, 1982), and the Training Style Inventory (Bostrom, 1979) were examined for applicability, reliability and validity. For the purposes of this research, the Instructional Styles Inventory (ISI), developed by Canfield and Canfield (1988) met the requirements for research involving instructor typologies. The ISI can be used to determine the instructional style with which a teacher is most comfortable, has a preference for, and will most likely use. The ISI is self-administered and 21 scores are produced from 25 items. For each item, the instructors rank order four alternatives in order of their preference, making five sets of four scales dependent on each other. Development of the instructor typology allows information from 10 different ISI scales to be combined to classify instructors into nine discrete categories. Internal stability phi coefficients show that individual items are associated with their respective scales at a median of .74. These data are based on a sample of 200 college level instructors. Seven-day test-retest correlation for individual scales has a Pearson correlation coefficient of .89. This is based on administering the ISI twice to a sample of 62 students with no discussion of the ISI or its purpose or contents between the two administrations. The ISI is intended for use with adult instructors, and sex differences appeared to be negligible in analyzing the normative data. The test has good face and content validity. In a study conducted that incorporated 3000 students, the focal preferences for each group of students appear to be a sensible reflection of the types of experiences that might be expected from that group.

In addition, a number of studies have been conducted using the ISI. These studies have shown a very high incidence of instructor typologies reflecting classroom behaviors (Canfield & Canfield, 1988).

The nine instructional styles, their occurrence as a matter of percentage of the general population (in parentheses), and their description are as follows:

- a. Social (11%) – Prefers extensive opportunities to interact in the classroom. Less likely to use learning methods that require solitary and self-directed activity. Emphasizes group discussion and teamwork in creating instructional plans.
- b. Independent (11%) – Prefers to set up opportunities for students to work alone toward individual goals. Tends to be less interested in allowing for social interaction than is the average instructor.
- c. Applied (10%) – Feels that students should work on activities that have a clear relation to everyday activities. Instructions involving practicum, site visits, and team labs will be the emphasis of this instructor's plans.
- d. Conceptual (10%) – Likes to work with highly organized language oriented materials. Lecture and reading formats will be the emphasis of this instructor's plans.
- e. Neutral (11%) – No particular preferences. Will change instructional technique to suit the needs of the students or the curriculum. Instructional technique may reflect lack of commitment and could result in inability to enthusiastically motivate students.

- f. Social/Applied (6.5%) – Prefers to create opportunities for students and instructors to interact in activities that closely relate real-world experiences. Instruction involving role playing, group problem solving, and supervised practicum will likely be the center of this instructor's plans
- g. Social/Conceptual (17%) – Prefers students to interact using language oriented materials. Prefers to plan lessons involving a balance of lecture and discussion formats. Will prefer not to supervise independent tasks.
- h. Independent/Applied (17%) – Prefers students to work independently using materials closely related to real-world experiences. Individual labs or less supervised technical practicum will closely match this instructor's preferences.
- i. Independent/Conceptual (6.5%) – Prefers for students to work alone toward individual goals using language-oriented materials. An emphasis on independent reading, literature searches, and reviews is likely to match this instructor's plans.

During the factor analysis, it was found that there was a low correlation of  $r = .37$  between instructor types of social and conceptual preferences, and independent and applied preferences. This accounts for the higher proportions of instructors who tend to fall into the social/conceptual and independent/applied categories and also for the smaller proportions that fall into the social/applied and independent/conceptual typologies.

#### *Military Culture and Subculture*

Royal and Rossi (1996) ask if the presence of strong subcultures, like those generated in an urban environment, inhibits or disrupts the identification of subculture

members with the community as a whole. Culture, and subsequently subculture, as a concept is used in numerous ways. However, in the last two decades or so, culture has heralded the espoused values and shared beliefs of an organization.

Schein (1992) defines organizational culture as the following:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 12)

In the past ten years, the organizational culture of the military has changed to reflect the civil culture of a democracy more than it ever has in the past (Murray, 1999). Smith (1997) states that although most people believe that regardless of branch of Service, professional and personal background, race or creed, that all military officers share the same values, opinions, and assumptions about life, the literature indicates quite the opposite. Rosen (1991) writes that “each Service is far from monolithic”(p.19) and that the Services should be regarded as complex political communities unto themselves. Although Snider (1999) identified four basic elements of military culture (discipline, professional ethos, ceremony, and competence), he argues that there is an identifiable set of subcultures and that “...it should be obvious to any observer that the Army, Navy, Air Force and Marine Corps display sharply divergent cultures” (p.19). Builder (1989), Martin (1992), and Smith (1997) have written about the vast differences in the Service cultures. However, for the purposes of this research, the Navy and Marine Corps will be grouped into the same subculture. This grouping of students satisfies the elements of a definition of “culture” put forth by Schein (1992) inasmuch that both the U.S. Navy and

the U.S. Marine Corps share the same core values (Honor Courage and Commitment), both fall under the Department of the Navy for regulations, and both Services share the same maritime culture.

The organizational cultures of the individual military Services, are particularly strong cultures and, thus, elicit distinct behaviors and beliefs (Smith, 1997). Each of these organizations recruits personnel upon completion of their basic education, and these personnel spend their entire career within the organization (Saplosky, 1997). Because Service members spend their career within the same Service, the Service cultures are strongly institutionalized by the organizations and internalized by their members. Such powerful institutional cultures will produce members that have a strong sense of belonging to that institutional culture; and the individuals will behave according to that culture's norms (Schein, 1992). Wilson (1989) focuses on the core mission of each of the Services as the catalyst for the vast differences among the Services, and the subsequent differences of the behaviors of the members of each of the Services. Not only do the different missions and operating environments of the Services serve as a catalyst for different Service cultures, but the differing missions of various branches within each Service serve as the basis for distinct subcultures also. So significant and diverse are the subcultures within the Services, that some propose that U.S. Navy policy be crafted broadly enough to allow each subculture within the U.S. Navy to interpret it for its specific needs (Davis, 1994). Rosen noted:

...U.S Army officers may come from the infantry, armor, artillery, aviation, airborne or special forces. Navy officers may be carrier pilots from the fighter or attack communities, antisubmarine warfare pilots, submariners, surface ship

commanders, or from an amphibious force. Each branch has its own culture and distinct way of thinking... (p.19)

Murray (1999) and Smith (1997) feel that different military Services breed distinctively different cultures. However, although there are distinctive subcultures within the Services, these subcultures share the values of the Services to which they are affiliated (Builder, 1989). Each Service has a set of core values that act as the basis for all members of the Service regardless of their specialty. The Navy and Marine Corps share the core values Honor, Courage, and Commitment. The Air Force exclaims Integrity First, Service Before Self, and Excellence in All We Do. Finally, the Army has Duty, Honor, and Country as its core values (Murray, 1999). Schein proposes that although an organization with overarching values may develop distinctive subcultures, those subcultures will hold the values of the mother organization as the primary shared assumption.

Frey (1998) determines that the coexistence of distinctively different cultures that exhibit extreme distrust among them closely parallels the current situation in urban America. Caves (1995) agrees that this coexistence of diversity is found in most urban environments. This distrust and disparate feelings towards other Services is documented at the research educational institution through the use of the Inter Service Perspective Instrument (ISPI). The ISPI is a 40 item self-reporting instrument that records the impressions that each Service member has of the other Services and of their own Service. The items ask for them to rank their impressions of the other Services on a Likert sliding scale of 6 possible responses that cover a range of answers possible between two opposite descriptors of the Services. Examples of some items that are surveyed in the instrument

are “apathetic...ambitious”, “out of shape...fit”, and “disciplined...undisciplined.” This instrument has a Cronbach’s Alpha reliability rating of .916 on a sample size N=184. This instrument finds that Service members will show a significant bias between how they feel about themselves and how they feel about the other Services, regardless of their specialty. For example, a Navy pilot feels no more affinity for the Air Force than does a Navy ship handler. In addition, analysis of the responses to the ISPI of different subcultures within each Service shows no significant statistical difference among each Service’s subculture. The results of the ISPI are a statistical tool that demonstrates each Service views the other Services distinct from it. Thus, there is no question as to the separateness of the Service cultures.

#### *Research Hypothesis*

The literature suggests the need for further research into the construct of sense of community, and in particular the literature points out the need to research the instructor’s role in the development of sense of classroom community. The literature further demonstrates that instructional style is a critical factor in determining the learning environment, and that there is a need to conduct research on the effect that instructional style has on the environment. In addition, the literature directs researchers to the need to determine if being a member of a strong subculture inhibits someone from developing a sense of community. Finally, the literature directed future researchers to various potentially moderating variables. For the purposes of meeting the validity requirements of this study’s research design, the researcher determined that the variables that represented the most likely and identifiable threat as moderating variables included race, gender, age, physical proximity (living in close quarters), and family support. However,

because of the inequality of the groups used within this study, these moderating variables had to be treated statistically as potential rival hypotheses. To find evidence of instructional style and its affect or relationship to learning or connectedness components of sense of classroom community, the following null research hypotheses were tested:

(Ho1) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors, duration of class time, and repeated administrations of the CCS.

(Ho2) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors remains constant regardless of duration of class time, and repeated administrations of the CCS.

(Ho3) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on duration of class time remains constant regardless of instructional styles of instructors, and repeated administrations of the CCS.

(Ho4) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of instructional styles of instructors, and duration of class time.

(Ho5) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military

urban graduate students based on their membership in a subculture and repeated administrations of the CCS

(Ho6) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on membership in a subculture remains constant regardless of repeated administrations of the CCS.

(Ho7) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of membership in a subculture.

(Ho8) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on gender and repeated administrations of the CCS.

(Ho9) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on ethnic group membership and repeated administrations of the CCS.

(Ho10) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on on-campus or off-campus living arrangements and repeated administrations of the CCS.

(Ho11) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military

urban graduate students based on whether students are currently residing with family or without family and repeated administrations of the CCS.

## Chapter III

### *Methods*

#### *Introduction*

This chapter provides details regarding the methods that were used to conduct the research, gather data on the independent and dependent variables, and analyze the data. Most important, this chapter details the methodology that was used to gather the quantitative and qualitative data that is the basis for answering the following research questions:

1. Is there a difference in sense of classroom community between military urban graduate students based on the instructional style of the instructor, the duration of class time, and the repeated administration of the Classroom Community Scale (CCS)?
2. Is there a difference in the sense of classroom community between military urban graduate students based upon their membership in a subculture, and the repeated administration of the Classroom Community Scale (CCS)?
3. How do military urban graduate students describe sense of classroom community and its importance in their learning?
4. What classroom interactions do military urban graduate students perceive to be important for developing a sense of classroom community?

More specifically, this chapter describes: (a) the environment of the educational institution that the research was conducted in to include an overview of the curriculum of the educational institution; (b) the participants who participated in the research; (c) the procedures that were used to conduct the study and collect the data on the independent

and dependent variables; (d) the instrumentation that was used to measure the independent variable (instructional style) and the dependent variable (sense of classroom community) to include reliability and validity; and (e) the methods that were used to analyze the data.

### *The Environment*

The college that was used as the setting for the study is a professional military educational institution located in Norfolk, Virginia. The mission of the chosen educational institution as stated in the Joint Forces Staff College annual report to stakeholders is:

To educate staff officers and other leaders in joint operational-level planning and warfighting in order to instill a primary commitment to joint, multinational, and interagency teamwork, attitudes and perspectives. (p. 2 ) (Joint Forces Staff College Annual Report to Stakeholders, 2004)

This institution accomplishes its mission primarily through the administration of a curriculum that is 12 weeks in length. This curriculum is administered in a graduate education seminar environment with each seminar consisting of between 18-20 students. The student body is normally between 250-275 students therefore resulting in approximately 13 to 15 seminars being constituted during a 12-week class session. The student body is normally composed of 99 percent military. One-third of the student body are United States Air Force officers, one-third United States Naval Service officers (Navy and Marine Corps) and one-third are from the United States Army. Approximately 12-15 students are from foreign militaries of United States' allies and up to five students can be civilians from various United States government agencies like the Department of State or

Defense Intelligence Agency. All students matriculate and graduate on the same dates. Also, students remain in the same seminar throughout their tenure in the course. The course is administered and taught at the seminar level with only sporadic lectures being given to the entire student body in an auditorium. The content of the course is strictly dictated by a standardized curriculum that must be followed by the teachers of the 13-15 seminars. The students are tested twice during the curriculum. One test is a mid-term that is a long essay format and administered during week six of the curriculum. The second test is administered at the end of week eleven and is a short essay format.

The 12-week curriculum has been developed based upon 15 learning objectives. The students attend seminar every weekday, except Wednesdays, from 8:00 A.M. to approximately 3:00 P.M. with an hour set aside for lunch on a typical day. On Wednesdays, the students attend two electives, the first elective is from 11:45 A.M. until 1:45 P.M. and the second elective is from 2:00 P.M. until 4:00 P.M. These electives are normally 10 weeks in length and are attended by all students. Students have the opportunity to substitute 2 five-week electives from 11:45 A.M. to 1:45 P.M. in place of the one ten-week elective. A list of electives was provided in chapter one. It was the students and teachers from these electives that were the source of data for this research. Wednesday mornings and Friday afternoons are normally reserved for research and study time.

#### *Participants and Target Population*

The participants in this study were the students and faculty of the previously described military educational institution. The target population of this study is urban graduate students. The students in the study, with the exception of the foreign exchange

officers, are selected for attendance at the research institution based upon completion of one year of professional education at one of four masters-degree granting educational institutions (Army Command and Staff College, Marine Corps Command and Staff College, Air Command and Staff College, or Naval War College) either in residence or through seminar and correspondence. This pre-requisite year of education is equivalent to a masters degree in international relations and for most of the in residence attendees of these schools results in the receiving of a masters degree. The students attending the educational institution in this research are usually of the military rank of major, lieutenant colonel or equivalent. They have attained a level of experience and status within the military that is comparable to attaining the status of middle-upper management in the civilian sector (ages between 33 and 50). Despite the myth of military officers being monolithic in their culture, the socio-economic backgrounds, professional areas of expertise and geographic backgrounds of the students are quite varied. Approximately 90 percent of the students lived on campus in apartments that closely resemble the dormitory residences found in an urban university environment. The other ten percent are commuters who are indistinguishable from the students at large. In addition, approximately five percent of the student population is comprised of international students. The wide diversity of cultures and backgrounds of the participants in this study is truly representative of an urban environment or any other large educational environment.

The faculty of the institution numbers approximately 55. Two-thirds of this are military officers of the rank of lieutenant colonel or equivalent while the other one-third of the faculty consists of civilian professors. Each of the military faculty has a master's

degree and significant military experience. The military Service mix of the faculty represents the same one-third Naval Service/one-third Air Force/one-third Army mix of the student body. The 60 percent of the civilian faculty hold a doctoral degree, and the remaining hold a masters degree. The military faculty normally completes a three-year tour of duty on the faculty while the civilians and four of the military faculty are assigned permanently.

### *Procedure*

#### *Design.*

This study used a causal-comparative design and incorporated both qualitative and quantitative methods (Cresswell, 1994). Causal-comparative research design, in basic logic, is similar to an experimental design. The primary difference between the two types is that in a causal-comparative study the researcher does not directly manipulate the independent variables. Most educational research is primarily performed using a causal-comparative design and “it remains a useful method that can supply much information of value in educational decision making”(p.366, Ary, Jacobs and Razavieh, 1996). The accessibility to an urban graduate student population could only be guaranteed to the researcher if there were to be no direct manipulation or disruption of the normal events of the student and teacher population. It is because of this requirement that the researcher did not deliberately manipulate the independent variable in this study.

#### *Selection.*

Selection criteria were a moot issue because the researcher gave the entire student body the opportunity to participate in the study. In addition, this study was conducted in the summer of 2002 and the student body in attendance for that session was unremarkable

from previous classes. All participants signed a waiver (Appendix C) acknowledging the anonymous nature of the research and that they understood that this research was independently conducted and was not be a part of the curriculum of the institution. The researcher assured all respondents that their responses were confidential (which as in keeping with the strict non-attribution policy of the chosen educational institution) and none of the information was reported to any administrator or faculty member. In addition, all participating faculty signed a waiver (Appendix D) indicating an understanding that the data collected would not be associated with them by name or any other identifiable information, and that the data were used by the researcher and not reported to any administrator at the educational institution.

Some faculty members only act as facilitators when teaching their electives, relying on outside lecturers to provide the necessary expertise. In these cases, when the faculty member had more than 20 percent of his or her classes taught by guest speakers, then the independent variable of instructional style became confounded. But, the researcher determined along with colleagues from neighboring universities and colleges that collecting data on sense of classroom community from these classes would enrich the data collected. Data collected from classes that had guest speakers for greater than 20 percent of the classes were put in a unique teaching style category. A total of 38 faculty members participated in the study. Each of the participating faculty was administered the Instructional Styles Inventory. Data were collected from each of the faculty who teach one of thirty-eight elective classes.

#### *Collection of Data.*

Data on the independent and dependent variables were collected from the 10 and 5-week elective classes (which meet only once a week). Data on the independent variable, instructional style, were collected at the end of the 10 and 5-week electives. The data on the dependent variable were collected on the first day of the elective (pre-test) and on the last day of the elective (post-test). Each faculty member gave the Classroom Community Scale (CCS), developed by Rovai (2002), to their class at the beginning of their first elective meeting. The nature of the instrument and the procedures for administering it were briefed to the faculty on the Wednesday morning prior to administering the CCS. The faculty member then left the room for approximately 10 minutes while the students completed the CCS. A student that was selected by the faculty member collected the CCS and the selected student then brought the completed forms by the researcher's office and dropped them in a box.

Students were selected randomly for the qualitative portion of the study as suggested by Ary, Jacobs, and Razavieh (1996) and were interviewed on the day following the end of the five and ten week electives respectively. Interviewing the students immediately following collection of the quantitative data ensured that the data collected during the interview was not the result of events that occurred between the collection of quantitative data and the qualitative sessions. The semi-structured focus groups were recorded using a certified court reporter and detailed notes. In addition, the focus groups were audio taped via electronic means as a backup to the court reporter and notes.

*Open-ended Interviews.*

Students who were selected randomly to participate in the qualitative analysis of this study participated in focus groups of between 5 and six individuals. Each focus group participant was also asked to sign a research subjects waiver (Appendix E). The primary questions that were asked are delineated below:

1. Please describe what a sense of classroom community means to you.
2. Please describe whether you felt there was a sense of community in your classroom. If yes, detail why. If no, then detail why not.
3. Please detail whether you feel that achieving a sense of community in the classroom is necessary to maximize learning.
4. Please describe the impact that your teacher had on sense of community in the classroom.
5. Please describe the impact that your fellow students had on sense of community in the classroom.

The researcher minimized the questions asked in order to be able to ask detailed probing questions without having the interviewees feel as though they were answering an inordinate number of questions. Following the interviews for this research, a sample of the analyzed responses were provided to an independent third party who through careful perusal of the data, ascertained the reliability of the researcher in analyzing the qualitative data.

The validity and reliability, and thus the credibility, of the interviews were enhanced by the detailed record of the sessions that were taken. A court reporter was

present for each interview session. In addition, the researcher took detailed notes and an audiotape was recorded. The complete and accurate record of these focus groups allowed for an enriched analysis of the data. Ary et al. (1996) suggested that accurate recording of the data is one of the most critical components of success in the qualitative arena.

### *Instrumentation*

#### *Independent Variables.*

One of the independent variables in this study was Instructional Style. It was measured using the Instructional Styles Inventory (ISI) developed by Canfield and Canfield (1988). The ISI can be used to determine the instructional style with which a teacher is most comfortable. The ISI is self-administered and 21 scores are produced from 25 items. For each item, the instructors rank order four alternatives in order of their preference, making five sets of four scales dependent on each other. Development of the instructor typology allows information from 10 different ISI scales to be combined to classify instructors into nine discrete categories. The ISI is based upon early research and literature on learning and thinking styles. Internal consistency coefficients show that individual items are associated with their respective scales at a median of .74. These data are based on a sample of 200 college level instructors. Seven-day test-retest correlations for individual scales have a Pearson  $r$  correlation of .89. This is based on administering the ISI twice to a sample of 62 subjects with no discussion of the ISI or its purpose or contents between the two administrations. The ISI is intended for use with adult instructors, and sex differences were negligible in analyzing the normative data. The test has good face and content validity. In addition, a number of studies have been conducted using the ISI, and these studies have shown a very high incidence of instructor typologies

reflecting classroom behaviors. The nine instructional styles, their occurrence as a matter of percentage of the general population, and the description of each that was used as the independent variable were detailed in Chapter II.

The second independent variable that was used in this study is duration of class time. It is an ordinal variable with two levels: 5 weeks of class or 10 weeks of class.

The third independent variable that was used in this study was the pre-test and post-test administrations of the CCS. The CCS was administered to each class prior to the first meeting of the class, and then it was administered again at the end of the final meeting of the class.

#### *Dependent Variables.*

The dependent variables in this study were the learning and connectedness components of sense of classroom community. They were measured using the Classroom Community Scale (CCS) developed by Rovai (2002). This instrument was administered to all elective students on the first day of electives and on the final day of electives. Each time the test was administered, the students were told that the questions and answers on the CCS apply only to experiences in that specific classroom.

As reported by Rovai (2002), the CCS consists of a self-report questionnaire of 20 items, 10 items each for the subscales of connectedness and learning. Sample items for each subscale are: (a) connectedness - "I feel that students in this course care about each other" and "I do not feel a spirit of community," (b) learning - "I feel that this course results in only modest learning" and "I feel that my educational needs are not being met." Following each item is a five-point Likert scale of potential responses: strongly agree, agree, neutral, disagree, and strongly disagree. The subjects fill in the blank on the scale

that best reflects their feelings about the item. Scores are computed by adding points that are assigned to each of the 20 five-point items. These items are reverse-scored where appropriate to ensure the most favorable choice is always assigned a value of four and the least favorable choice is assigned a value of 0. Therefore, the total possible scores range from 80 to 0, with higher scores reflecting a stronger sense of classroom community. Similarly, scores for each of the two CCS subscales of connectedness and learning range from 40 to 0 with the higher scores reflecting a stronger presence of the scored subscale. The CCS possesses high face validity. A close inspection of items reveals that on face value they appear to measure what is needed to assess sense of classroom community. Additionally, the CCS uses language that precludes confusion or misunderstanding. The CCS provides high confidence that it possesses high content and construct validities. Considerable effort was expended to ensure that: (a) the definition of classroom community was based on the concept of community proposed by McMillan and Chavis (1986), (b) classroom community is seen as a type of community that is applied to an educational setting, and (c) the CCS captures both components of classroom community. Additionally, the CCS was presented to a panel of experts consisting of three university professors who taught courses in educational psychology. Each expert independently rated the relevance of each CCS item to sense of community in a classroom environment using a four-point Likert scale consisting of the following possible answers: totally relevant, reasonably relevant, barely relevant, and totally not relevant. The potential score for each item ranged from 4 (totally relevant) to 0 (totally not relevant). The mean score for each CCS item as evaluated by the expert panel ranged from a high of 4.00 to a low of 3.33.

In order to determine the validity of the CCS, an examination of the 20 Classroom Community Scale items reveals that on face value they appeared to measure what was needed to measure classroom community. The procedures used to develop the Classroom Community Scale provide high confidence that the test instrument also possesses high content and construct validities. Considerable effort was expended to ensure that the concept of classroom community was based on the concept of community as contained in the professional literature as applied to an educational setting. Additionally, all 20 final Classroom Community Scale items were rated as "Totally Relevant" to sense of community in a classroom setting by three university professors who taught educational psychology.

Classroom Community Scale items have a Flesch Reading Ease score of 68.4. This scale rates text on a 100-point scale, the higher the score, the easier it is to understand the document. Most standard documents have a score of approximately 60 to 70. Additionally, Classroom Community Scale items reflect a Flesch-Kincaid Grade Level score of 6.6. Two internal consistency estimates of reliability were calculated for the Classroom Community Scale: Cronbach's coefficient alpha and the split-half coefficient corrected by the Spearman-Brown prophecy formula. Cronbach's coefficient alpha for the full Classroom Community Scale was .93 and the equal-length split-half coefficient was .91, indicating excellent reliability. Additionally, internal consistency estimates were calculated for each of the two subscales. Cronbach's coefficient alpha and the equal-length split-half coefficient for the connectedness subscale were .92 each, also indicating excellent reliability. Cronbach's coefficient alpha for the learning subscale

was .87 and the equal-length split-half coefficient was .80, indicating good reliability (Rovai, 2002).

In addition to the 20 questions pertaining to the CCS, the researcher will ask basic demographic data. The demographic data will consist of age, sex, branch of military Service, and years in military Service.

### *Data analyses*

#### *Introduction.*

This section describes the quantitative and qualitative measures that were used to answer the research questions. To aid in the reader's understanding of the measures that were used to answer each research question, the research question has been restated, the independent variable(s) and dependent variable(s) that were used have been identified and defined, the null hypothesis stated, the procedures and measures used to test the null hypothesis are noted, any required post hoc are stated and statistical control of threats have been identified where appropriate.

#### *Research Question One*

Is there a difference in sense of classroom community between military urban graduate students based on the instructional style of the instructor, the duration of class time, and the repeated administration of the Classroom Community Scale (CCS)? There were three independent variables for this research question. One independent variable was the nominative variable "instructional styles" with nine levels that are: social, applied, conceptual, independent, neutral, social/applied, social conceptual, independent/applied, and independent/conceptual. Instructional style was operationalized by, and measured according to, the data collected via the ISI. The second independent

variable was duration of class time. Time normally is an interval variable, but for the purposes of this research has only 2 levels: 10 weeks and 5 weeks. The third independent variable was the two administrations of the CCS. The dependent variables for this research question were the connectedness and learning components of sense of classroom community as measured by the CCS. The CCS has two subscales, learning and connectedness; hence there were two dependent variables. Since the CCS was administered using a pre/post test design, the statistical test selected incorporated the pre/post test as a control feature. The null hypotheses for this question are:

(Ho1) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors, duration of class time, and repeated administrations of the CCS.

(Ho2) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors remains constant regardless of duration of class time, and repeated administrations of the CCS.

(Ho3) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on duration of class time remains constant regardless of instructional styles of instructors, and repeated administrations of the CCS.

(Ho4) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate

students based on repeated administrations of the CCS remains constant regardless of instructional styles of instructors, and duration of class time.

The statistical test that was used for this question is a repeated measures Multivariate Analysis of Variance (MANOVA). The independent variables were analyzed as primary factors, and an interaction analysis was also performed between the three independent variables. MANOVA also allows the researcher to make multiple comparisons while maintaining a constant Alpha, thus reducing the chance of Type 1 Error associated with conducting multiple Univariate Analysis of Variance (ANOVA) tests. Type 1 Error refers to the misinterpretation of data in which the researcher believes there is a difference caused by the treatment, but there is not. If significant differences are produced then post hoc multiple comparison tests were conducted using univariate statistical analysis, and if homogeneity of variances are tenable and further analysis is required then Tukey's Honestly Significant Difference (HSD) procedure if required. Effect size was calculated using the eta squared statistic and interpretation was based on Cohen's (1977) thresholds of .01 for a small effect, .06 for a moderate effect, and .14 for a large effect. Also to aid in the analyses of the quantitative data, qualitative data were used to aid answering the research question.

#### *Research Question Two*

Is there a difference in the sense of classroom community between military urban graduate students based upon their membership in a subculture, and the repeated administration of the Classroom Community Scale (CCS)? In this research question the independent variables are subculture and the repeated administrations of the CCS. Subculture is a nominative variable with 3 levels that are: Army, Air Force, and Sea

Service (Navy and Marine). The second independent variable was the two administrations of the CCS. The dependent variables are the learning and connectedness components of sense of classroom community as measured by the CCS. The CCS has two subscales, learning and connectedness; hence there were two dependent variables. The statistical test that was used for this question was a Repeated Measures MANOVA. If significant differences were produced then post hoc multiple comparison tests were conducted using univariate statistical analysis and if homogeneity of variances were tenable, and if required, further analysis was conducted using Tukey's Honestly Significant Difference (HSD) procedure. Also to aid in the analysis of the quantitative data, qualitative data were used to aid answering the research question. The null hypothesis for this question is:

(Ho5) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on their membership in a subculture and repeated administrations of the CCS

(Ho6) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on membership in a subculture remains constant regardless of repeated administrations of the CCS.

(Ho7) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of membership in a subculture.

*Research Question Three*

What teacher actions do military urban graduate students perceive to be important for developing a sense of classroom community? The question is a descriptive question and as such there is no independent variable. There is no null hypothesis. Analyses of the qualitative data were done in accordance with techniques outlined in Creswell (1998). A content analysis was performed on the data, examining topics, categories of topics and patterns across questions. In order to enhance and check the validity of the analysis, a third party review was performed to obtain a second opinion on the findings. Because of the presence of a certified court reporter in order to ensure a reliable record of the proceedings and the anonymity guaranteed during these proceedings, the researcher did not find it necessary to take back any data, conclusions, etc. to the participants to comment on the credibility or accuracy of the account.

*Research Question Four*

How do military urban graduate students describe sense of classroom community and its importance in their learning? The question is a descriptive question and as such there is no independent variable. There is no null hypothesis. Analyses of the qualitative data were done in accordance with techniques outlined in Creswell (1998). A content analysis was performed on the data, examining topics, categories of topics and patterns across questions. In order to enhance and check the validity of the analysis, a third party review was performed to obtain a second opinion on the findings. Because of the presence of a certified court reporter in order to ensure a reliable record of the proceedings and the anonymity guaranteed during these proceedings, the researcher did

not find it necessary to take back any data, conclusions, etc. to the participants to comment on the credibility or accuracy of the account.

### *Testing of Rival Hypotheses*

In order to thoroughly investigate the problem, it is desirable to scrutinize potential moderating or confounding variables through the analysis of rival hypothesis. In most cases, a moderating variable could have been statistically accounted for by co-varying it. But in this instance, because the groups were unequal and the extent to which the moderating variables were present was of varying degrees, treating the variables as potential rival hypotheses was prudent. The following rival null hypothesis was investigated using repeated measures MANOVA:

(Ho8) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on gender and repeated administrations of the CCS.

(Ho9) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on ethnic group membership and repeated administrations of the CCS.

(Ho10) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on on-campus or off-campus living arrangements and repeated administrations of the CCS.

(Ho11) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military

urban graduate students based on whether students are currently residing with family or without family and repeated administrations of the CCS.

## Chapter IV

### Results

#### *Introduction*

The purpose of this study was to determine the effect that instructional style, and duration of class time had on the sense of classroom community of urban military graduate students. This chapter presents the results of the data analyses and reports on the following: (a) the results of the Instructional Styles Inventory (ISI) used to quantify the independent variable of instructional style; (b) the demographics of the accessible population used in the study; (c) the results of quantitative tests used to tests main, null, and rival hypotheses; (d) the results of the qualitative analysis of student interviews.

The following research questions are addressed:

1. Is there a difference in sense of classroom community between military urban graduate students based on the instructional style of the instructor, the duration of class time, and the repeated administration of the Classroom Community Scale (CCS)?
2. Is there a difference in the sense of classroom community between military urban graduate students based upon their membership in a subculture, and the repeated administration of the Classroom Community Scale (CCS)?
3. How do military urban graduate students describe sense of classroom community and its importance in their learning?
4. What classroom interactions do military urban graduate students perceive to be important for developing a sense of classroom community?

### *ISI Data*

The populations used in this study were the students and faculty of a military educational institution. The faculty of the institution numbers approximately 55. Two-thirds of this group are military officers of the rank of lieutenant colonel or equivalent while the other one-third of the faculty consists of civilian (non-military) professors. The educational level of the military faculty is such that each one has at least a masters degree. Beyond his or her educational qualifications, each faculty member has significant practical experience in the subject matter of the curriculum. The military faculty mirrors the student body in that one-third of the military faculty is in the Naval Service, one-third in the Air Force, and one-third in the Army. The civilian faculty has either a doctoral degree or a masters degree in international relations, military history, history, or some related field. The military faculty normally completes a three-year tour of duty on the faculty while the civilians and four of the military faculty are assigned permanently to the college. Data were collected from 38 of the 41 electives offered at the college. Two electives were exempted because of the researcher's involvement in the teaching of that elective, and one elective was exempted because the faculty member who taught the class incorporated a teaching methodology into the class that skewed the sense of community data. That faculty member had each student make presentations over a social setting for each of his classes in lieu of the more traditional methodology.

The ISI was administered by the researcher to each elective faculty member during the final week of class. This was done in order to preclude a faculty member from altering his or her teaching style based upon interaction with the ISI instrument. Data

collected in an informal qualitative study of professors from neighboring colleges and universities and the researcher's college suggested that if any elective had greater than 20 percent of its classes taught by guest speakers, then the independent variable of instructional style became confounded. But, the researcher determined that collecting data on sense of classroom community from these classes would enrich the data collected. Data collected from classes that had guest speakers for greater than 20 percent of the classes were placed in a separate teaching style category. That teaching style category was labeled as "various" by the researcher. Table 2 shows the both the frequency that the various teaching styles transpired and their percentage of the 38 classes as determined by the ISI. Table 3 shows the total number of responses to the CCS and the corresponding percentage of the respondents who were exposed to each teaching style.

Table 2

*Frequency of Teaching Styles at Subject College*

Teaching Style	n	%	% Expected in Population
Social/Applied	0	0	6.5
Social	0	0	11.0
Social/Conceptual	9	24.0	17.0
Applied	4	10.5	10.0
Neutral	2	5.5	11.0
Conceptual	7	18.0	10.0
Independent/Applied	3	8.0	17.0
Independent	4	10.5	11.0

Independent/Conceptual	3	8.0	6.5
Various (Guest Speakers)	6	15.5	N/A
Total	38	100	100

*Note:* Total number of faculty tested equals 32; Instructor Styles were from the Canfield and Canfield ISI

Table 3

*Students Exposure to Teaching Styles*

Teaching Style	n	% of Total Responses
Social/Applied	0	0
Social	0	0
Social/Conceptual	138	28
Applied	51	11
Neutral	29	06
Conceptual	78	17
Independent/Applied	39	07.5
Independent	39	07.5
Independent/Conceptual	27	06
Various (Guest Speakers)	77	17
Total	457*	100

*Note:* \*some students were tested in more than one elective class

*Demographics of the Research Population*

Statistical analyses were conducted on demographic data collected from 263 students at the college. Demographic data were self-reported as part of the CCS instrument administered during the pretest phase of the research. Demographic data

were collected on gender, race, age, Service, rank, whether the students were living on-campus or off-campus, whether the students were living with their families during the course, and how much of the 12 weeks were spent living with their families if it were the case that a student had their families in the local area.

Data on gender are summarized in Table 4:

Table 4

*Gender of Students*

Gender	n	%
Male	219	83.3
Female	42	16.0
Missing	2	0.7
Total	263	100.0

Students were given six options to select from when reporting their ethnicity.

Those six options were: African-American, Asian, Hispanic, White, Native American, and Other. Data on the ethnicity of students are summarized below in Table 5:

Table 5

*Race of Students*

Race	n	%
African-American	30	11.4
Asian	11	4.2
Hispanic	11	4.2
White	196	74.5

Native-American	2	0.8
Other	8	3.0
Unknown	5	1.9
Total	263	100

---

The pooled mean (with standard deviation in parenthesis) for the age demographic data were 38.53 (3.12). The maximum age was 56 and the minimum age was 29.

Each student was asked to choose one of six possibilities for Service affiliation: Navy, Marines Corps, Army, Air Force, International Officer, or Other. Analysis of the initial results of the data indicated that the population for Marine Corps, International Officers, and Other groups were not populated enough to be statistically useful. Therefore, the researcher, after conferring with colleagues and advisors, discarded the International Officer and Other groups as cases in the study. Since the college assigned students to seminars based upon a one-third Army, one-third Air Force, and one-third Sea Service (no differentiation between Marine Corps and Navy) standard, the researcher followed this standard. As was discussed in chapter 3, for reasons of shared core values, shared history, shared seafaring traditions, and other cultural similarities between the Navy and Marine Corps, it is valid for them to be considered in the same group for purposes of this research. The data on Services are summarized in Table 6:

Table 6

*Service Affiliation and Race of Students*

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Service	Service n	%	AA	CAUC	NA	Asian	HIS	OTH
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Army	78	29.7	11	64	0	3	1	4
Air Force	75	28.5	15	75	0	4	5	2
Sea Services	103	39.2	4	57	2	4	5	2
Unknown	7	2.7						
Total	263	100	30	196	2	11	11	8

---

*Note:* AA = African-American, CAUC = Caucasian, NA = Native-American, HIS = Hispanic, O = Other, Total N for race = 258 with 5 unknown

Identifiable rank worn upon a uniform that establishes a hierarchical structure is a characteristic of the military. For the purposes of this research, a student's rank might prove a confounding variable (and subsequently an alternative hypothesis). It could be argued that a student might have a higher sense of community based on the premise that their higher rank meant that they had a higher affection for the military and their fellow military members in general because of increased affiliation with the military. Data were collected on the rank structure of the students and are summarized in Table 7:

Table 7

*Military Rank of Students*

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Rank	n	%
0-1	1	.4
0-2	0	0
0-3	0	0
0-4	188	71.5
0-5	65	24.7
0-6	5	1.9

Missing	4	1.5
Total	263	100

---

*Note:* The rank structure is 0-1 is the lowest rank present at the college to 0-6 being the highest rank present at the college.

Another potential confounding variable for sense of classroom community was whether a student lived on or off campus, and whether they had their families with them.

Data were collected on these variables and are summarized in Table 8 and Table 9:

Table 8

*Students' On or Off Campus Status*

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Status	n	%
Off Campus	51	19.4
On Campus	211	80.2
Missing	1	.4
Total	263	100

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Table 9

*Students' Family Status*

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Status	n	%
With Family	87	33.1
Without Family	173	65.8
Missing	3	1.1
Total	263	100

---

## *Quantitative Data*

### *CCS Data*

The researcher conducted all measurements of the sense of classroom community using the CCS during the summer of 2002. The class matriculated on Monday, the 8<sup>th</sup> of July and graduated on Friday, the 27<sup>th</sup> of September. The reliability and validity of the CCS for use with an adult population as reported by its author are fully detailed in Chapter 3 of this study. Table 10 is a summary of the descriptive statistics for the CCS disaggregated by Service, Table 11 is disaggregated by rank, Table 12 is disaggregated by race, and Table 13 is disaggregated by gender.

Table 10

#### *CCS Descriptive Statistics Disaggregated by Service*

	Army		Air Force		Sea Services	
Variable	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-Social	24.38	3.66	24.80	4.55	24.56	4.44
Pre-Learning	27.77	3.99	27.43	4.43	27.16	4.81
Post-Social	26.38	5.33	26.55	4.94	26.91	4.19
Post-Learning	29.86	4.72	30.00	4.49	30.20	4.71

*Note:* N=256 total, 78 Army, 75 Air Force, 103 Sea Service; maximum possible score is 40; Pre-Social indicates the pre-test data for the connectedness portion of the CCS, Post-Social indicates the results for the post-test data of the connectedness portion of the CCS. Likewise for the Pre-Learning and Post-Learning headers.

Table 11

#### *CCS Descriptive Statistics Disaggregated by Military Rank*

	0-4	0-5	0-6
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Variable	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-Social	24.75	4.09	24.36	4.86	24.44	4.16
Pre-Learning	27.57	4.34	27.26	4.67	27.11	5.51
Post-Social	26.64	4.76	26.66	5.24	31.00	4.56
Post-Learning	29.94	4.52	30.11	5.01	33.66	5.55

*Note:* N=256 total, 78 Army, 75 Air Force, 103 Sea Service, max possible score is 40; Pre-Social indicates the pre-test data for the connectedness portion of the CCS, Post-Social indicates the results for the post-test data of the connectedness portion of the CCS. Likewise for the Pre-Learning and Post-Learning headers.

Table 12

*CCS Descriptive Statistics Disaggregated by Race*

	Pre-Social		Pre-Learning		Post-Social		Post-Learning	
Race	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
African-Am	24.54	4.59	27.72	4.68	26.36	4.89	30.47	5.27
Caucasian	24.66	4.19	27.51	4.37	26.00	4.97	30.10	4.64
Asian-Am	25.50	5.14	27.11	4.75	26.28	4.55	28.90	3.90
Hispanic	23.60	3.38	26.35	4.20	25.40	3.63	31.40	3.88
Native-Am	21.00	n/a	30.00	n/a				
Other	24.40	5.45	27.86	6.28	27.93	5.22	29.00	4.16

*Note:* N=258 total, 196 Caucasian, 11 Asian, 11 Hispanic, 30 African-American, 2 Native-American, 8 Other; Pre-Social indicates the pre-test data for the connectedness portion of the CCS, Post-Social indicates the results for the post-test data of the connectedness portion of the CCS. Likewise for the Pre-Learning and Post-Learning headers.

Table 13

*CCS Descriptive Statistics Disaggregated by Gender*

Variable	Male		Female	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-Social	24.78	4.22	23.66	4.51
Pre-Learning	27.80	4.32	25.63	4.72
Post-Social	26.08	4.83	26.04	5.12
Post-Learning	29.97	4.54	30.86	4.99

*Note:* maximum possible score is 40, N = 261, 219 male, 42 female

As a method to further investigate the data, an inter-correlation analysis of the CCS data was completed. This inter-correlation analysis was conducted in order to aid in determining the independence of the data. The results of the analysis are displayed in Table 14, and indicate the unique aspects of the data. Each of the pre-tests conducted (pre-social, pre-learning, pre-total) had correlation coefficients in the range of .60 - .68, which is a moderate correlation and that although pre-test data were somewhat related (because they both measure components of sense of classroom community), there is enough independence to argue the uniqueness of the components. In addition, the correlation between pre-test data and post-test data had correlation coefficients in the range of .15 - .22 which is low correlation. This demonstrates the independent character of the results of the pre-tests and post-tests.

Table 14

*Inter-Correlation Matrix*

Variable	1	2	3	4	5	6
1. Pre-Social	-	.68	.22	.15	.63	.22

2. Pre-Learning	-	.18	.22	.60	.23
3. Post-Social	-	.49	.33	.87	
4. Post-Learning		-	.26	.86	
5. Pre-Total Community			-	.34	
6. Post-Total Community				-	

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*Note:*  $p < .01$ .

### *Within Subjects Results*

The results of the repeated measures MANOVA for the between subjects independent variables that were conducted are reported in the following pages and answered according to research question and hypotheses posed. However, the results of the repeated measures MANOVA for the within subjects independent variable (the pre-test and post-test) were steadfastly consistent throughout the statistical analysis. For the purposes of parsimony, the results of all of the within subjects independent variable statistical tests conducted are reported below according to hypotheses:

(Ho1 through Ho4)

(Ho1) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors, duration of class time, and repeated administrations of the CCS.

(Ho2) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors remains constant regardless of duration of class time, and repeated administrations of the CCS.

(Ho3) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on duration of class time remains constant regardless of instructional styles of instructors, and repeated administrations of the CCS.

(Ho4) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of instructional styles of instructors, and duration of class time:

Connectedness – Pillai's Trace .368,  $F(1, 377) = 219.84$ ,  $MSE = 2154.18$ ,  $p < .001$ , partial  $\eta$  squared = .368, observed power = 1.00. Multivariate effects size was large, and observed power was good.

Learning – Pillai's Trace .089,  $F(1, 377) = 36.68$ ,  $MSE = 893.75$ ,  $p < .001$ , partial  $\eta$  squared = .089, observed power = 1.00. Multivariate effects size was large, and observed power was good.

(Ho5 through Ho7)

(Ho5) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on their membership in a subculture and repeated administrations of the CCS

(Ho6) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on membership in a subculture remains constant regardless of repeated administrations of the CCS.

(Ho7) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of membership in a subculture:

Connectedness – Pillai's Trace .298,  $F(1, 404) = 171.453$ ,  $MSE = 1727.95$ ,  $p < .001$ , partial  $\eta$  squared = .298, observed power = 1.00. Multivariate effects size was large, and observed power was good.

Learning – Pillai's Trace .089,  $F(1, 404) = 28.59$ ,  $MSE = 730.18$ ,  $p < .001$ , partial  $\eta$  squared = .066, observed power = 1.00. Multivariate effects size was large, and observed power was good.

(Ho8) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on gender and repeated administrations of the CCS:

Connectedness – Pillai's Trace .376,  $F(1, 404) = 243.28$ ,  $MSE = 2451.78$ ,  $p < .001$ , partial  $\eta$  squared = .376, observed power = 1.00. Multivariate effects size was large, and observed power was good.

Learning – Pillai's Trace .137,  $F(1, 404) = 64.26$ ,  $MSE = 1603.86$ ,  $p < .001$ , partial  $\eta$  squared = .137, observed power = 1.00. Multivariate effects size was large, and observed power was good.

(Ho9) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on ethnic group membership and repeated administrations

of the CCS (for purposes of increased statistical power, ethnic group membership was grouped into three levels – African American, Caucasian, and Other):

Connectedness – Pillai's Trace .221,  $F(1, 396) = 112.22$ ,  $MSE = 1129.40$ ,  $p < .001$ , partial  $\eta$  squared = .221, observed power = 1.00. Multivariate effects size was large, and observed power was good.

Learning – Pillai's Trace .054,  $F(1, 396) = 22.57$ ,  $MSE = 580.30$ ,  $p < .001$ , partial  $\eta$  squared = .054, observed power = .99. Multivariate effects size was large, and observed power was good.

(Ho10) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on on-campus or off-campus living arrangements and repeated administrations of the CCS:

Connectedness – Pillai's Trace .430,  $F(1, 406) = 306.08$ ,  $MSE = 3067.21$ ,  $p < .001$ , partial  $\eta$  squared = .430, observed power = 1.00. Multivariate effects size was large, and observed power was good.

Learning – Pillai's Trace .090,  $F(1, 406) = 40.29$ ,  $MSE = 1026.70$ ,  $p < .001$ , partial  $\eta$  squared = .090, observed power = 1.00. Multivariate effects size was large, and observed power was good.

(Ho11) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on whether students are currently residing with family or without family and repeated administrations of the CCS:

Connectedness – Pillai's Trace .493,  $F(1, 403) = 392.62$ ,  $MSE = 3921.50$ ,  $p < .001$ , partial  $\eta$  squared = .493, observed power = 1.00. Multivariate effects size was large, and observed power was good.

Learning – Pillai's Trace .119,  $F(1, 403) = 54.62$ ,  $MSE = 1400.72$ ,  $p < .001$ , partial  $\eta$  squared = .119, observed power = 1.00. Multivariate effects size was large, and observed power was good.

What can be determined from each of the repeated measures MANOVA statistics provided above is that there was a significant within subjects effect between the pre-test and the post-test on all accounts. The following repeated measures MANOVA statistics were used in order to determine the interaction effects of the within subjects and between subjects variables.

#### *Research Question One*

Research question one posed "Is there a difference in sense of classroom community between military urban graduate students based on the instructional style of the instructor, the duration of class time, and the repeated administration of the Classroom Community Scale?" The null hypotheses that were tested to answer this research question were:

(Ho1) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on instructional styles of instructors, duration of class time, and repeated administrations of the CCS.

(Ho2) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate

students based on instructional styles of instructors remains constant regardless of duration of class time, and repeated administrations of the CCS.

(Ho3) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on duration of class time remains constant regardless of instructional styles of instructors, and repeated administrations of the CCS.

(Ho4) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of instructional styles of instructors, and duration of class time.

These null hypotheses were tested using a repeated measures MANOVA. Class time, instructional style, and repeated administrations of the CCS were the three independent variables, while the dependent variables were the social (or connectedness) and learning components of sense of classroom community for the MANOVA.

### *Results*

The first repeated measures MANOVA was conducted to determine if the two dependent variables differed based on the main effect of each independent variable or if there existed an interaction effect between the variables. Data analyses revealed no univariate or multivariate within-cell outliers at  $p < .001$ . Results of evaluation of normality, singularity, and multicollinearity were satisfactory, although the social and learning community distributions were slightly negatively skewed. The multivariate assumption of equality of covariance matrices was not tenable based on the results of Box's test,  $M = 183.06$ ,  $F(110, 15441.21) = 1.50$ ,  $p = .000$ . Consequently, Pillai's Trace

was used to evaluate multivariate significance because it is robust to violations of the assumption of equality of covariance. The repeated measures MANOVA showed no statistical interaction significance between the three independent variables with Pillai's Trace .01,  $F(3, 377) = 1.32$ ,  $MSE = 9.64$ ,  $p = .267$ , partial  $\eta$  squared = .010. The multivariate effects size was small and the observed power was .35, which is low observed power. However, the repeated measures MANOVA showed a statistically significant main effect between learning community and teaching style, and learning community and duration of time spent in class. There was no statistical significance for any of the remaining main effects (connectedness and or interactions). The results for the main effect between learning community and teaching style were, Pillai's Trace = .04,  $F(7, 377) = 2.43$ ,  $MSE = 59.13$ ,  $p = .019$ , partial  $\eta$  squared = .043. The multivariate effects size was slightly moderate. The observed power was .87, which is good observed power. Dunnett C was used as the post hoc test because homogeneity of variances was not tenable. The results of the Dunnett C post hoc,  $p < .05$ , are summarized in Table 15:

Table 15

*Dunnett C Post Hoc Results for Teaching Style and Learning Community.*

<u>(I) Style</u>	<u>(J) style</u>	<u>Mean Difference (I-J)</u>
Social/Conceptual	Conceptual	2.27
Social/Conceptual	Various	2.03

Note:  $p < .05$ . Social/Conceptual scored higher than Conceptual or Various

For learning community and duration of class time, Pillai's Trace was .012,  $F(1, 377) = 4.59$ ,  $MSE = 111.78$ ,  $p = .033$ , partial  $\eta$  squared = .012. The multivariate effects size was small. The observed power was .57, which is low observed power. No post hoc test

was necessary because the independent variable of duration of class time has only two levels (5 and 10 weeks).

The following is a summary of the results of research question one: there was no statistical significant interaction between the three independent variables of duration of class time, repeated administrations of the CCS and instructional styles. There was a significant main effect between duration of class time and the learning component of sense of classroom community and there was a significant main effect between instructional style and the learning component of sense of classroom community. The post hoc test showed that the difference in instructional style was between the social/conceptual style and the guest speaker style (various) and the social/conceptual style and the conceptual style.

#### *Research Question Two*

Research question two stated “Is there a difference in the sense of classroom community between military urban graduate students based upon their membership in a subculture, and the repeated administration of the Classroom Community Scale (CCS)?” The null hypotheses that were tested to answer this research question were: (Ho5) There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on their membership in a subculture and repeated administrations of the CCS. (Ho6) A difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on membership in a subculture remains constant regardless of repeated administrations of the CCS. (Ho7) A difference in the population means for the scores on the learning and

connectedness components of sense of classroom community of military urban graduate students based on repeated administrations of the CCS remains constant regardless of membership in a subculture. These null hypotheses were tested using a repeated measures MANOVA. Service affiliation was one independent variable consisting of 3 levels that were Army, Air Force, and Sea Service, the other independent variable was repeated administrations of the CCS. The dependent variables were the social (or connectedness) and learning components of sense of classroom community for the MANOVA.

### *Results*

The pooled means of the CCS for each Service, with standard deviations, are listed in Table 11. The repeated measures MANOVA was conducted to determine if the two dependent variables differed based on Service affiliation or repeated administrations of the CCS. Data screening revealed no univariate or multivariate within-cell outliers at  $p < .001$ . Results of evaluation of normality, singularity, and multicollinearity were satisfactory, although the social and learning community distributions were slightly negatively skewed. The multivariate assumption of equality of covariance matrices was tenable based on the results of Box's test,  $M = 43.31$ ,  $F(30, 4673.06) = 1.35$ ,  $p = .096$ . Consequently, Wilks' Lambda was used to evaluate multivariate significance. The repeated measures MANOVA showed no significant effect or interaction due to Service affiliation or repeated administrations of the CCS. As a main effect, Service affiliation, Wilk's Lambda was .98,  $F(3, 404) = 2.06$ ,  $MSE = 15.65$ ,  $p = .105$ , partial  $\eta$  squared = .015. The multivariate effects size was small. The observed power was .53, which is low observed power.

### *Rival Hypotheses*

The following rival hypotheses were tested using a repeated measures MANOVA and the results are reported after each hypothesis:

Ho8: There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on gender and repeated administrations of the CCS. The multivariate assumption of equality of covariance matrices was tenable based on the results of Box's test,  $M = 9.52$ ,  $F(10, 55710.56) = .93$ ,  $MSE = 7.60$ ,  $p = .504$ . Wilks' Lambda  $.989$ ,  $F(1, 404) = 4.53$ ,  $p = .034$ , partial  $\eta$  squared  $= .011$ . The multivariate effects size was small, and the observed power was  $.565$  which is low observed power. This demonstrated a significant interaction effect between the repeated administrations of the CCS and gender. Wilk's Lambda with the main effect of gender and learning community was significant with Wilk's Lambda of  $.974$ ,  $F(1, 404) = 10.62$ ,  $MSE = 265.10$ ,  $p = .001$ , partial  $\eta$  squared  $= .026$ . The multivariate effects size was small, and the observed power was  $.90$  that is good observed power.

Ho9: There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on ethnic group membership and repeated administrations of the CCS. The multivariate assumption of equality of covariance matrices was tenable based on the results of Box's test,  $M = 56.49$ ,  $F(40, 9905.39) = 1.29$ ,  $p = .102$ . Wilks' Lambda  $.810$ ,  $F(2, 405) = 2.11$ ,  $MSE = 1.62$ ,  $p = .052$ , partial  $\eta$  squared  $= .036$ . The multivariate effects size was moderate, and the observed power was  $.82$ , which is good observed power.

Ho10: There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on on-campus or off-campus living arrangements and repeated administrations of the CCS. The multivariate assumption of equality of covariance matrices was tenable based on the results of Box's test,  $M = 9.52$ ,  $F(10, 55710.56) = .93$ ,  $p = .504$ . Wilks' Lambda  $.989$ ,  $F(1, 404) = 4.53$ ,  $p = .034$ , partial  $\eta^2 = .011$ . The multivariate effects size was small, and the observed power was  $.565$ , which is low observed power.

Ho11: There is no difference in the population means for the scores on the learning and connectedness components of sense of classroom community of military urban graduate students based on whether students are currently residing with family or without family and repeated administrations of the CCS. The multivariate assumption of equality of covariance matrices was not tenable based on the results of Box's test,  $M = 18.84$ ,  $F(10, 326460.1) = 1.86$ ,  $p = .046$ . Consequently, Pillai's Trace was used to evaluate multivariate significance because it is robust to violations of the assumption of equality of covariances. . The repeated measures MANOVA showed no statistical significance with Pillai's Trace  $.001$ ,  $F(1, 403) = .479$ ,  $MSE = 3.685$ ,  $p = .106$ , partial  $\eta^2 = .001$ . The multivariate effects size was small and the observed power was  $.11$ , which is extremely low observed power.

### *Research Questions Three and Four*

#### *Conduct of the Research*

The qualitative research questions for this dissertation were: What teacher actions do military urban graduate students perceive to be important for developing a sense of classroom community and What classroom interactions do military urban graduate students perceive to be important for developing a sense of classroom community? The researcher conducted five focus groups in order to conduct the qualitative research portion of the study. One focus group was conducted on the Thursday, the 15<sup>th</sup> of August. This focus group consisted of four randomly selected (student numbers were randomly generated via excel random number generator function) individuals who had completed a five-week elective. The other four focus groups were conducted on Monday the 23<sup>rd</sup> of September which was the Monday following the end of all electives. Initially, the focus groups were scheduled on the 19<sup>th</sup> of September, but the court reporter that was to record the interviews became ill and the focus groups were rescheduled. The researcher believes that this was the primary reason that only 13 of the requested 22 students showed up to the focus groups. Students were notified by e-mail of their selection to participate in the focus groups, were informed of the voluntary nature of the focus groups, that they would have to sign another statement of informed consent, and were told of the place and time of the focus groups. The researcher did not gather data on reasons for those students who elected not to attend the focus groups. In addition, the only data gathered on the subjects attending was the Service, gender, length of electives, and race of participants. The Service of the individuals participating was six Army, eight Air Force, and three Sea Service; there were 14 males and three females; seven of the participants had exposure to the five-week elective program; and 13 of the individuals

were Caucasian (two females), two were African-American (one female), and one was Asian.

### *Analysis*

A content analysis was used to identify themes in students' responses to the researcher's queries. Reliability in coding the responses was assessed by having another researcher independently code the transcript by determining primary themes and key words. There was approximately an 89% agreement in categorization between the two researchers across the transcript. The researcher had a list of five pre-drafted questions that, at face validity, would generate discussion among the focus group members and provide sufficient data to answer the research questions. The researcher determined that standardization in the approach to collecting qualitative data among the focus groups was critical to prevent the researcher from leading the subjects. Below is the list of questions used by the researcher (the only follow-up question used by the researcher is noted by an F):

- a. Please describe what sense of classroom community means to you.
- b. Please describe whether you felt there was a sense of community in your classroom. If yes, detail why. If no, then detail why not.
- c. (F) So, can you describe the intensity that you felt that sense of community, for example, like a team, a club, a family, etc.
- d. Please detail whether you feel that achieving a sense of community in the classroom is necessary to maximize learning.
- e. Please describe the impact that your teacher had on sense of classroom community.

- f. Please describe the impact that your fellow students had on sense of classroom community.

### *Interview Results*

The most frequently stated responses by keyword and category are reported in Tables 16-21. Each table reports the results of a single question. Discussions of the results shown in a table are discussed immediately following the table. Results for the first interview question asked are delineated in Table 16:

Table 16

#### *Results for "Please describe what sense of classroom community means to you."*

Themes	n (indiv)	n (grp)	% (indiv)
1. Like being on a team	17	5	100
2. Reliance upon others for education	16	5	94
3. Everyone in the same position	13	5	76
4. Non-threatening environment	10	4	59
5. Teacher is a part of the classroom community	8	3	47

The number of individuals that mentioned certain themes and the number of focus groups that mentioned the theme are delineated in Table 16. The researcher found this to be particularly important to note, because often, one member of a focus group mentioned a theme, and then the other members would reiterate the theme or most often they would expand upon the theme. Students responded without exception that sense of classroom community was like being on a team (100%). A student commented "I think it is important that everyone be on the same page, kind of like a football or basketball team, I mean that if we can work together, we can all learn together." Another student followed up with the comment that "Not really learn together, but learn from each other. If we can

do that, then we can be a team with each person not only playing a role, but making the others around them better. In my class it was by sharing their experiences that some of us haven't had." In addition, comments focused on the lack of hierarchy as determining sense of classroom community. One student responded "I think that not having any sense of rank in the classroom helps." Another commented "Having a faculty member who made it clear that we would all be there to learn and that ideas were what was valued not who could speak the most." A little less than 50% of the respondents made it clear that having a faculty member who acted more as a facilitator and less as an autocratic teacher was critical to having a sense of classroom community: "The best, I mean biggest, part of creating a sense of community is not having the faculty be divisive in their manner. Like, pit students against one another, or even make themselves seem superior to everyone in the class." Another was more eloquent and summarized "In order for me to feel a part of a community, classroom or otherwise, I need to ensure that everyone in the community is focused on making the community work. It has to start with the faculty. They set the standard and if they only seem concerned with getting out the information, and not that they are learning along with you, then no one cares."

The results of the next interview question are summarized in Table 17:

Table 17

*Results for "Please describe whether you felt there was a sense of community in your classroom. If yes, detail why. If no, then detail why not."*

Themes	n (indiv)	n (grp)	% (indiv)
1. Class discussion was abundant	17	5	100
2. Student's were center of class	17	5	100
3. Learning through discussion	16	5	94

4. Instructor used challenging questions	13	4	76
5. Non-threatening environment	11	4	65
6. No PowerPoint was used	6	3	35

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There were no negative responses to this question. Each participant described why he or she felt a sense of community in the classroom existed, not why it did not exist. A particularly strong theme was that sense of classroom community emanated from student participation (100%). One student stated “When the discussion was good, between students and all, it really gave me a feeling that we were learning together.” Another student commented “When the faculty answered our question with a question, and we had to wrestle with the idea and come up with an answer through our own discussions rather than the faculty giving us the answer, it made it seem more like a team as we found the answer.” Another commented, “As the class progressed, it became important that everyone participated. That way, we got to know each other and we could learn from each other’s experiences.” An interesting theme that appeared in the comments of 35% of the focus group participants was the idea that because no PowerPoint was used, that it would be a main reason for the feeling of community. Comments such as, “There was plenty of discussion primarily because the faculty didn’t use PowerPoint. Instead, the faculty member would ask questions that got us into a discussion rather than just having us read from a slideshow,” and “My every day seminar uses a lot of PowerPoint instruction, and, I never really thought about it, but we have much greater discussion in my focus study [elective] and because of that discussion, I think I learned great deal more.”

The results of the third interview question are summarized below in Table 18:

Table 18

*Results for "So, can you describe the intensity that you felt that sense of community, for example, like a team, a club, a family, etc."*

Themes	n (indiv)	n (grp)	% (indiv)
1. More like a Team	17	5	100
2. Not like a Family	15	5	88
3. Like being in a unit	15	5	88
4. Develop some reliance for knowledge on others	12	4	70
5. Develop some kind of trust	8	3	47
6. Doesn't extend after class	4	2	23

Although the question asked for specifics, the responses to this follow-up question were thorough and unbounded. For example, "It's important to have some kind of connection with your classmates in order to speak your mind without fear, but it definitely doesn't have to go as far as having a feeling of a family." The team theme consistently appeared in comments (100%) such as "I don't think a class can be a family in the sense of what a family should be, but it definitely needs to feel like a team, like you can count on everyone to help out." Also, one student commented very directly concerning trust, "I think that trust is the key component that you can have in a class in order to maximize learning." In the same focus group, a response to that last statement was made "I don't think the feeling of trust or community or whatever you have extends beyond the classroom, I am not calling up my classmates, maybe if we were in class every day, but once a week I think you only need to not feel jeopardized." Finally, the researcher noted that there was a reluctance to use the term family when describing whatever sense of classroom community was present. As one student remarked "I have enough family, what I need are professional colleagues who are willing to share their experiences."

Results for the fourth question asked are summarized in Table 19:

Table 19

*Results for "Please detail whether you feel that achieving a sense of community in the classroom is necessary to maximize learning."*

Themes	n (indiv)	n (grp)	% (indiv)
1. In order to learn from others	17	5	100
2. Best in non-threatening atmosphere	15	5	88
3. You can learn without it	15	5	88
4. Required to some extent for "maximum"	15	5	88
5. For adults	13	5	76
6. Good Instructor	13	5	76

The themes that surfaced during this interview question were strong and consistent among the focus groups. Each group felt that achieving some sense of classroom community was paramount if the class was expected to learn from the experiences of others (100%). One student commented "It's tough to learn from others if no one is saying anything, and I think you need to feel some sense of community in order to maximize discussion so you can learn from others." Also, it was particularly consistently noted (88%) that a non-threatening environment was important for maximum learning, "I think that trusting those around you is important in maximizing learning, if you are afraid to think outside the box, because you might be embarrassed, then you will never maximize your critical thinking capability." A surprising number (88%) felt that learning could take place without a sense of classroom community, but usually qualified that observation with "...not maximize learning..." One student commented, "All I need is a book to learn, but if I really want to learn, challenge myself, make myself think, then I will vet my ideas to some colleagues I trust, they will show me whether I am as smart as

I thought I was.” A majority (76%) thought that it was the teacher who added to maximizing learning, and that even with a sense of classroom community, if the teacher’s actions did not support learning, then a sense of classroom community made no difference. For example, “The faculty member is more key than any sense of community, if they don’t let discussion happen, then we can’t learn from one another.” Another commented, “I have been in classes where the teacher doesn’t allow any discussion other than direct answers to questions, I may have liked my seminar mates in those instances, which is important for learning, but I didn’t learn much because the teacher kept us from it.”

Results from the fifth interview question asked is summarized in Table 20:

Table 20

*Results for “Please describe the impact that your teacher had on sense of classroom community”*

Themes	n (indiv)	n (grp)	% (indiv)
1. Extremely Important	16	5	94
2. Set the standard	16	5	94
3. Non-threatening	15	5	88
4. Encouraged frank discussion	13	5	76
5. Asked personal questions	13	5	76
6. Asked academic questions	11	4	64
7. Had current events discussions	9	3	52
8. Knew each student personally	4	2	23
9. Inhibited the sense of community	1	1	06

The answers to this interview question appeared to be replied to somewhat more vigorously than the others. Almost immediately, the majority of the focus group participants (94%) stated that the teacher was either “extremely important” or “very important” to sense of classroom community. As one student stated “The teacher is the

extremely important, the center of gravity and sets the standard from day one, if they are open and concerned about learning, then the seminar follows.” Another also commented “If the faculty member is very important, like if they don’t really encourage debate, then I can see the class not learning as much, in fact, in my focus study [elective], we learned a great deal because the faculty member encouraged debate.” It was especially evident during this portion of the focus group that the students had many themes that they felt were critical to ensuring that there was a sense of classroom community. For example “If I know that the teacher isn’t going to blast what I say, then it becomes easier for me to talk about things I might not if the teacher were, well, autocratic.” A large percentage (76%) felt that if the teacher asked personal questions, that sense of classroom community is increased “Each class period the teacher would go around the room and ask us about the course, how we were doing in our home seminars, how our weekend went, and what we were planning for the upcoming weekend, this got us to know each other much more than we would have otherwise.” In addition, 52% felt that current events discussions were definite contributors to sense of classroom community. One commented “Starting each class with a current events discussion, going around the room asking people’s opinions, definitely got the class in synch and feeling good, and warmed up our brains for further learning.” But, only 23% felt that if the teacher got to know the students personally, that it aided in developing a sense of classroom community. One student commented “The faculty member took extra long breaks and really got to know each of us, maybe because it was only a class of eight and she could do that, but I think it made a difference in our community.” But, another immediately retorted, “That may have helped, but I don’t think it makes much of a difference, because they may know

you, but if they don't encourage good discussion or new ideas or anything like that, then them knowing me doesn't make it a good class." One faculty member had an experience where the faculty member inhibited the sense of classroom community. That student reported "From day one it was clear that what this professor said was right and that it shouldn't be challenged. An IO [international officer] contradicted my faculty member on the first day, and he was given the once over and made to feel like a fool, I don't think the class ever recovered and it was mostly a one-way conversation after that." Another chimed in that "That shows the extreme importance to setting the classroom environment that the faculty member has, by design, the faculty member is in charge, and the leader usually sets the climate."

Results from the final interview question are summarized in Table 21:

Table 21

*Results for "Please describe the impact that your fellow students had on sense of classroom community"*

Themes	n (indiv)	n (grp)	% (indiv)
1. Sharing knowledge and experiences	17	5	100
2. Not putting down ideas	15	5	88
3. Willing to ask questions	12	4	70
4. Not very important	4	2	23

The participants in the focus group looked around before they answered this question. Every one of them immediately mentioned that students sharing knowledge and experiences were critical to developing a sense of classroom community. One commented, "The most I learn is from other students, especially in this environment, if they didn't openly share their experiences, then we would not learn as much." Another stated vehemently "I have learned more from my fellow students than I have from my

focus study leader.” The theme of generating discussions was promulgated (100%) as a noteworthy aspect of building a sense of community through the incorporation of the top three themes noted: sharing knowledge, not putting down ideas, and willing to ask questions. One focus group participant stated “I believe it is the discussions that your fellow students generate by asking questions or sharing experiences that makes this class, or any class, more conducive to learning and community.” It was offered by 23% of the participants in the focus group that the fellow students had little effect upon sense of classroom community. One offered “I think that it is the teacher and not the students who sets or allows this sense of community to emerge.” Another stated “I believe that this was answered in the previous question, the fellow students follow the lead of the faculty member, so while they participate in the classroom community, they really aren’t that important to making it happen.” Finally, someone summed it up by saying, “if it is a community, then each of us has to contribute because if we didn’t, then it really isn’t a community, so each person has a role, I just don’t think that the fellow students set the tone as much as the faculty member.”

#### *Summary of Qualitative Research*

The results reported in Tables 16-21 were used to address research questions three and four, which asked students - What teacher actions do military urban graduate students perceive to be important for developing a sense of classroom community, and What classroom interactions do military urban graduate students perceive to be important for developing a sense of classroom community? There appeared numerous themes across the six separate questions asked within the qualitative research portion that enriched the quantitative data. The most significant aspect of the quantitative data was that a few

themes were consistently developed throughout the interview. In particular four major themes appeared. Those themes were: a) The classroom environment had to be non-threatening, b) that most of the learning generated from participation of the class, c) the teacher was absolutely monumental to whether there was a sense of classroom community, and d) that generating good discussion, and thus interaction, among the class was critical to developing the sense of classroom community required for learning.

## Chapter V

### *Analysis of Results, Implications, and Recommendations*

#### *Analysis of Results*

This chapter discusses and analyzes the results of this causal comparative study that have addressed the research questions introduced in Chapter I. The chapter also speaks to the implications of those results, and makes recommendations for either further studies or for the conduct of further studies that will add to the body of knowledge concerning sense of classroom community.

#### *Research Question One Analysis*

The results of the administration of the CCS indicate that there was a sense of classroom community present among the research population. Research question 1 was “Is there a difference in sense of classroom community between military urban graduate students based on the instructional style of the instructor and duration of class time?” There was no statistical significance noted regarding the interaction of the independent variables, but statistical significance was noted regarding the main effect of both independent variables (instructional style and duration of class time) and the learning component of sense of classroom community. In order to determine which of the ten instructional styles significantly affected the learning component of sense of classroom community, a post hoc was conducted. The post hoc that was conducted demonstrated evidence that the instructional styles that were significantly different were the social/conceptual style from the conceptual style, and the social/conceptual style from the various (guest lecturer) styles. In order to investigate further why these particular instructional styles might have a greater or lesser affect on the learning component of

sense of classroom community, the definitions of these noted instructional styles were used. From the ISI typology descriptions and definitions, the social conceptual style is described as “Likes to create opportunities for student interaction...prefers to plan lessons involving...discussion formats.” On the contrary, the conceptual style is described as “Likes to work with highly organized language materials...Instructional methods emphasizing lecture will prove most satisfying...likely to be less satisfied with instruction that focuses on inducing learning from everyday real world experience.” Additionally, since most guest lecturers for a class did not have the opportunity to build a relationship with the students, these classes tended to not have the robust interaction among students. Because of this lack of robust interaction, the researcher concludes that the classes that had guest speakers as a significant portion of the weekly teaching plan were not able to develop as strong a sense of classroom community.

Interaction among students is theorized to be an absolutely critical component of sense of classroom community (Rovai et al 2000; Rovai 2002). The implications of this will be discussed further in the implications and recommendations portion of this chapter. The results of the qualitative research portion of the study fully support the statistical findings that certain instructional styles that generate more student-to-student interaction will generate a greater sense of classroom community. Major themes that were evident when students were asked to identify why there was an increased sense of community in their class were that a) class discussion was abundant, b) students were the center of the class, and c) learning took place through discussion. These major themes from the qualitative data support and reconfirm the theory of sense of classroom community put forward by Rovai et al (2000) in which interaction is considered a critical component of

sense of classroom community. Additionally, Marshall's (1985) research lead to the conclusion that learning is facilitated when interaction among students is high, and the results of the both the qualitative and statistical data from this study supports that conclusion.

#### *Research Question Two Analysis*

Research question two was "Is there a difference in the sense of classroom community between military urban graduate students based upon their membership in a subculture?" There was no statistical significance demonstrated in the quantitative data analyses. The qualitative data were not disaggregated by subculture because the protocol of this study promised complete anonymity to the focus group members in order to ensure open, frank, and honest answers to interview questions. Close analysis of the qualitative data showed that there was no theme that presented itself within that data that might lead one to even the faintest conclusion that despite the strong differences in values, assumptions, and behaviors among the Services, being a member of a strong subculture had an impact on sense of classroom community. Schaps and Lewis (1997) found that sense of classroom community is more about the classroom environment than it is about the environment outside of the classroom. What this means to this study is that despite significant cultural differences among the students, once the students are in the classroom, the focus is on learning instead of on cultural differences. In addition, the themes gleaned from the qualitative data were concerned with the interaction among the students with no mention of the different subculture group memberships. This attention to student interaction as the primary variable affecting sense of classroom community

supports the statistical data that demonstrated that membership in a subculture does not affect sense of classroom community.

However, in a closer analysis of the subculture issue, the researcher determined that there existed a dynamic that occurred within the research college that could also explain the lack of rejection of the null hypotheses associated with research question number two. Despite substantial documentation in the literature of the significant differences between the cultures of the Services, there has been a legislated requirement within the Department of Defense to break down the cultural barriers of the Services. In fact, a portion of the mission of the research college is "...to instill a primary commitment to joint, multinational, and interagency teamwork, attitudes and perspectives" (p. 2) (Joint Forces Staff College Annual Report to Stakeholders, 2004). So the lack of statistical data that reflects divisiveness between the Service cultures might in actuality represent the success of the research institution in achieving its mission beyond what the researcher and the research college administrators had supposed. Also, the data for this research was collected the year after the September 11<sup>th</sup> attacks on the world trade center in New York. While this event did not occur during the collection of data, it might serve as a history threat in regards to research question two.

Since 1986, officers of the different Services have been required by congressional legislation to attend professional military education institutions are to some degree required to learn about teamwork among the Services. However, the considerable differences and rivalry among the Services appears to be overcome by the desire of the students to want to be able to take advantage of the strengths of the other services in order to win the global war on terrorism. In 2005 the research college transformed its

entire curriculum based in part on the changing attitudes and experiences of the student body as a result of the attack on the world trade center. Before the world trade center attacks, the college had to “sell” the student body on the advantages of working in an integrated fashion. However, since the attacks on the world trade center, the student body appears to be more willing to working together than before the attacks. Despite this potential history threat to research question two, the quantitative analyses of the CCS pre-test data shows that there was no significant sense of classroom community at the start of the research project among the population.

#### *Analysis of the Results of Rival Hypotheses*

The rival hypotheses that were tested were developed because the independent variable within each hypothesis was identified during the literature review as a potentially confounding variable. The only rival hypothesis that was of a statistically significant stature was the following: There is no difference in the learning or connectedness components of sense of classroom community of military urban graduate students based on gender. The pooled means (with standard deviations in parenthesis) for total sense of classroom community (table 13 in chapter 4 reports disaggregated statistics by learning and connectedness sense of classroom community components) for males and females on the pre-test was 52.62 (7.60) and 48.80 (9.58) respectively. The pooled means for the post-test for males and females were 56.06 (8.08) and 56.90 (8.93) respectively. A t-test was conducted on the post-test scores only between males and females, and there was found to be no significant difference between the post-test scores only. This leads the researcher to conclude that the gain shown by the females from the pre-test to the post-test was the catalyst for the statistical significance that was noted when testing the

original hypothesis with a MANOVA. The much lower total sense of classroom community for the females on the pre-test is most likely the result of the patriarchic culture of the military. The patriarchic culture tends to marginalize females, so females who begin any endeavor in the military will be more likely to be more guarded than their male counterparts until trust, which is an important element in sense of classroom community, can be established (Rovai et al, 2000).

#### *Research Question Three Analysis*

Research question three was, "How do military urban graduate students describe sense of classroom community and its importance in their learning?" This is a compound question and the researcher will address each part. The first part of the question, (How do military urban graduate students describe sense of classroom community), generated themes that fully supported previous research that was found in the literature review. Themes that described sense of classroom community like being on a team, or relying upon others to enhance the educational experience, confirm the theories of Sarason (1974), McMillan and Chavis (1986), Rovai et al (2000), and Rovai (2002). However, in regard to the problem statement of this research concerning the effect of instructional style and class time on sense of classroom community, neither of these things was mentioned as foci of the responses. Not until the question of "Please describe the impact that your teacher had on sense of classroom community" was asked, did the discussion turn to the teacher as the centerpiece in either describing sense of classroom community or determining its components. This observation is critical for two reasons. First, it demonstrates that sense of classroom community is indeed community focused. In other words, sense of community, although internalized individually, is not generated by the

actions of any one individual, it is the result of an entire series of interactions. Each definition of sense of community contains the parameter that it is in some manner a “community” (and not an individual) that interacts, trusts one another, and builds a history. Sense of classroom community is described as an aggregate variable. This concept is important insofar as it reaffirms the idea of a “collective” element to sense of classroom community. The second critical aspect is that it appeared that the instructional style of the teacher in the classroom was transparent to the students, unless the style of the teacher was to abbreviate student-to-student interaction. Although the quantitative statistics from research question one showed that instructional style mattered in the development of sense of classroom community, within the qualitative data there were few references to teaching styles that diminished sense of classroom community. Also, while there were many positive references made to the climate of the classroom, no focus group member made specific mention of instructional style per se. What the focus group members talked about was the instructor either encouraging student-to-student interaction, or discouraging it. What the lack of reference by focus group members to instructional style means, is that within the classroom, it is the environment that matters most. However, a critical aspect of the classroom environment is that the instructor directly affects the environment. The inference that can be made from the qualitative data is that the instructor must nurture interaction, which has been determined to be critical in the development of sense of classroom community by theorists, practitioners, and focus group members. However, once the interaction is nurtured, it is the interaction that becomes the catalyst for sense of classroom community, not the actions of the teacher.

Another way of explaining the above phenomenon is to compare it to the “fire triangle” that is taught in basic firefighting courses. A fire requires that three components coexist at some point in order to make a fire – fuel, oxygen, and a spark. However, once the spark has accomplished its task, it is forgotten about as the fuel is consumed and the fire rages. The instructional style can be compared to the spark in the fire triangle, sense of classroom community requires that the instructional style enable the interaction that is a critical component for sense of classroom community, but once it begins, the spark is forgotten.

The second part of research question three asked how military urban graduate students described the importance of sense of classroom community to their learning. One of the major themes drawn from the qualitative data was how important students determined that interaction was to their learning. Although the students were directly asked to detail if they felt that achieving a sense of community in the classroom was necessary to maximize learning, the focus group participants focused on the interaction within the classroom as central to maximizing learning. Also, interaction is generated through the use of the social/conceptual style of instruction, and the statistics demonstrated that the social/conceptual style of instruction generated a statistically significant greater amount of sense of classroom community than the two other styles that did not generate a lot of student discussion or interaction.

#### *Research Question Four Analysis*

Research question four was, “What classroom interactions do military urban graduate students perceive to be important for developing a sense of classroom community?” While the answer to this question is determined by the qualitative data

collected, the quantitative data also adds insight into the answer to the research question. The quantitative data suggested that the social/conceptual instructional style promoted a greater sense of classroom community than did either a conceptual or guest speaker approach did. Thus, the type of activities indicative of the social/conceptual style of instruction (class discussion, using real world examples, etc) as opposed to other styles of instruction, are the types of interactions that students perceive to be important for developing a sense of classroom community.

As for the qualitative data, there were many different classroom interactions, both student-teacher interactions as well as student-student interactions, that were noted in the data. However, the analyses of the qualitative data failed to note thematically any specific actions of the teacher that precipitated these interactions. For instance, the students did not remark upon any concrete instructor style actions such as "...stands directly in front of the class...was organized or asked direct questions." Instead, the comments on facets of the instructor style that aided sense of classroom community were focused more on the environment that the teacher developed in the classroom.

Comments on such actions as encouraging debate, establishing personal rapport, and supporting all ideas were the focus of instructor actions that enhanced sense of classroom community. So, it follows that what determines sense of classroom community is more the social environment that is created in the classroom rather than specific actions taken by the instructor to deliver knowledge.

#### *Implications for Adult Educators*

There were four very important findings of this research that have implications for adult educators. Those four findings were: that instructional style has an effect on sense

of classroom community, that belonging to a strong culture or subculture does not appear to inhibit sense of classroom community, that instructional style is more closely related to setting the classroom climate than it is to how knowledge is delivered, and finally, that interaction among students is critical to the success of the adult learning classroom.

First, both the qualitative and quantitative data support that instructional style does make a difference when determining sense of classroom community in a graduate student classroom. Increasingly, adults are entering or re-entering academia because increased education is presumed to be a valuable tool for adults to improve their economic and social well being (Lillard and Tan, 1992). As such, a more significant portion of the resources of academia will be focused on serving the needs of the adult education population. Unlike young adolescents who may attend school for the purposes of getting a general education, most adults come to the classroom expecting that they will learn something that they will be able to use to get them ahead in the real world. Since the CCS is a self-report instrument, it follows that the learning component of the CCS is an indicator of the satisfaction of any person who takes it. In this research, it is reasonable to draw the conclusion that those instructional styles that were deemed as generating a higher sense of classroom community were also generating a higher level of self-reported satisfaction with the overall educational experience. What this means is that administrators who are responsible for adult education must not only be cognizant of the style of instruction within their programs and ensure that it meets the needs of their student population, but they must ensure that proper resources are available to their faculty in order to develop the knowledge and experience necessary to instruct appropriately.

Second, in support of the efforts of the Department of Defense in attempting to minimize cultural differences between the Services, an analyses of the data supported the researcher in concluding that membership in a strong subculture does not have an effect on sense of classroom community. This researcher agrees with Schaps and Lewis (1997) who surmised that sense of classroom community is more dependent on the activities that happen within a classroom and that variables outside of the classroom have negligible effect on sense of classroom community. The implications for administrators of adult education are that the administrators should focus resources on what is happening in the classroom, and not focus resources on attempting to compensate for or control factors outside of the classroom.

However, the legislated policy forcing members of the Services to attend Service-integrated educational institutions that has been in place in the Department of Defense since 1986 cannot be ignored when analyzing the quantitative and qualitative data. The clear implication for urban educators is that policy can be used as a tool to minimize cultural differences. While the secondary school integration policies instituted during the 1970s are a clear indicator of policy being used as a catalyst for cultural integration, on the adult level integration policies do not have to be so autocratic. Minority scholarships, post-education employment incentives, and efforts aimed at educating students from all cultural backgrounds to the benefits of multiculturalism are all potential actions that might be non-obtrusively implemented in order to generate the integration of cultures and minimize cultural differences in an urban adult educational environment.

Third, the data supported the conclusion that instructional style is more about setting a classroom climate that facilitates learning than it is about delivering knowledge

to the students. The body of research on instructional/teaching styles tends to focus on the manner of delivering concepts or knowledge to the students as the definition of instructional style rather than on the behaviors of the instructor that create the classroom climate. It is axiomatic for Knowles (1980) that the role of the instructor is to provide opportunities for individuals to learn, and the learner then is responsible for and owns the task of learning itself. So, the implication for administrators of adult education is that they need to regard how the instructors provide opportunities for learning, instead of focusing on how the instructors in fact deliver the material.

Finally, the most noteworthy finding of this research that has implications for adult educators is the significant role that student-to-student interaction had in the development of sense of classroom community. This finding fully supports Rovai et al. (2000) and Rovai (2002) who suppose that interaction is a critical component of sense of classroom community. For the purpose of creating the best possible learning environment for adult urban graduate students, adult educators should examine ways to increase interaction among their students. This finding fully supports Knowles(1980) who determined that cooperative learning was an essential element for growth of knowledge. Although this research did in fact focus on instructional styles, what was found out was that it was the impact that the instructional style had on the classroom environment, (being able to create an environment conducive to interaction and cooperation), that mattered.

Dewey's (1940) assertion that education should closely resemble real life is fully supported by the emphasis the students in this study placed on interaction in the classroom. If the cliché holds true that experience is the best teacher, then the classroom

is just a means to gain experience. Through interaction in the adult classroom (where students generally have real life experiences to share in the classroom environment), a student is better able to grasp the complexities he or she will face in the real world application of the classroom subject if the differing opinions, experiences, and perspectives of the students are shared. Also, student-to-student interaction allows for making conceptual connections and, when a student hears another student speak to an experience within the classroom, it adds a modicum of relevance to the topic that is being discussed.

Vygotsky supposed that language and interaction were the primary conduits for adults to internalize concepts (Bruner, 1962). In the adult world, for the most part, a person's success is dependent on their ability to solve problems. With significant student-to-student interaction in the classroom, the student now has the benefit of hearing and perhaps internalizing many more perspectives and opinions on how to approach problems. Being able to benefit from someone else's experiences supports Vygotsky's theory of the zone of proximal development (ZPD). The ZPD theory proposes that there are levels of cognizance that humans cannot reach alone, but that with some help, they will be able to move into the next zone of learning or complication. If too little help is provided, the human becomes frustrated; if too much help is provided, he or she does not internalize the learning. It logically follows that significant classroom interaction should increase an adult's ability to move into the next zone of learning or performance. This performance increase will validate the usefulness of adult education in creating a better life for its participants.

The findings of this study have many implications for administrators of adult education. In the review of the literature, there was a considerable reference to adult education and the move towards distance education and the economic pressures of having increased class size. First, the distance-learning environment will be addressed. Rovai (2002), in a study of sense of classroom community between traditional and asynchronous learning courses found that variability of community in the distance education courses was higher than in traditional courses. This finding suggests that community in asynchronous learning courses is more sensitive to course design and pedagogy than traditional courses. A rationale to support this finding is that the discussion environment in a traditional course is more natural than in an asynchronous learning course, where interaction is via e-mail or discussion boards that the instructor must create and facilitate. The positive relationship between classroom community and the number of e-learning system interactions posted by subjects in Rovai's study provided evidence to confirm the notion that interactivity is an important component of community building even during asynchronous learning courses. Adult educators must institute some faculty education that teaches instructors how to maximize interaction in a distance-learning environment.

Second, economics have driven many administrators of adult education to increase class sizes. The average community college class size is 21 and in California that number increases to 27 (Burstein, 1996). When measures of knowledge-based achievement are used to determine the effects that class size has on education, there appears to be no difference. However, when measures of transfer of knowledge to new situation, problem solving, retention of knowledge, critical thinking, or attitude change

are used, small classroom discussions are the preferred method of instruction (Kennedy & Siegfried, 1997). The findings of this study, which primarily focus on student-to-student interaction as the catalyst for sense of classroom community, support Kennedy and Siegfried. Administrators of adult education should keep in mind the higher cognitive thinking skills achieved by students when the instructor sets the proper classroom environment thus promulgating a high sense of classroom community fueled by the dynamic interaction of small classroom discussions.

#### *Directions for Further Research*

Future studies could attempt to control the limitations of this study and improve on the results of the research. A study in which the researcher could ascertain the teaching styles of instructors and have them teach the same content would control the limitation of varying topics and at the same time provide equal sized groups for statistical purposes. The pre-test would account for any variance in starting point of sense of classroom community for the groups tested. This design is very feasible at a university that might have different sections of the same course being taught at differing times.

Future research could also be conducted using the same instructor for different course content. For example, would an instructor whose instructional style was a catalyst for a high sense of classroom community when teaching subject A, elicit the same high sense of classroom community for subject B? Most important would be that qualitative as well as quantitative data be collected for this research. That would be able to expand upon the findings in this study and provide clarity to the effect of instructional styles upon sense of classroom community.

Finally, a future study should be conducted that can determine the effect that classroom interaction among students has upon sense of classroom community. A major finding of this research was that classroom interaction was absolutely critical to a sense of classroom community. It may have proven so critical to the sense of classroom community that the interaction could become the primary component of sense of classroom community instead of only one of the components of sense of community.

Figure 2 illustrates that concept:

### Sense of Classroom Community Proposed Model

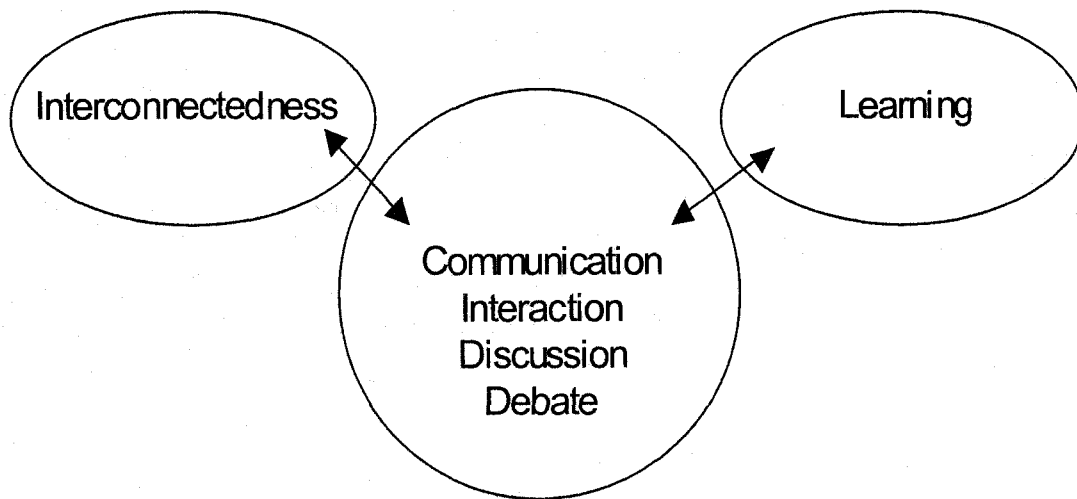


Figure 2

None of the components of sense of classroom community can occur if there is not interaction as the centerpiece. Note how the components do not intersect with one another, but are generated from the interaction. Just as the diagram displays, sense of classroom community requires both interconnectedness and learning as components. Administrators concerned with the education of adult urban students need to study the

effects that are generated from classroom interaction. Wirth (1938) postulated that mistrust was a byproduct of the urban environment. Adult urban educators must conduct policy and classroom research to unveil ways to ensure that interaction is optimized in the adult urban classroom. More collaborative assignments, open debate in the classroom, and a pedagogical philosophy that centers around student-to-student interaction and real world application of theories and concepts instead of dogmatic lecture are some of the elements that need to be researched in the adult urban classroom.

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APPENDIX A  
CLASSROOM COMMUNITY SCALE

**Please complete all items. Your cooperation is greatly appreciated!**

REMEMBER...YOUR RESPONSES IN ANSWERING THIS QUESTIONNAIRE  
SHOULD ONLY APPLY TO THIS FOCUS STUDY...NOT TO HOW YOU FEEL  
ABOUT THE OVERALL JFSC COURSE OR ANY OTHER COURSE YOU ARE  
TAKING!

**Student Number** \_\_\_\_\_

**Male**\_\_\_\_ **Female** \_\_\_\_\_

**Age** \_\_\_\_\_

**Army**\_\_\_\_ **Navy**\_\_\_\_ **Air Force**\_\_\_\_ **Marines**\_\_\_\_ **International Officer**\_\_\_\_ **Other** \_\_\_\_\_

**0-6**\_\_\_\_ **0-5**\_\_\_\_ **0-4**\_\_\_\_ **0-3**\_\_\_\_

**Race: Black/African-American**\_\_\_\_ **Asian/Pacific Islander**\_\_\_\_ **Hispanic**\_\_\_\_

**White**\_\_\_\_ **American Indian/Native Alaskan**\_\_\_\_ **Other**\_\_\_\_

**Living at JFSC? Yes**\_\_\_\_ **No**\_\_\_\_

**Is family with you? Yes**\_\_\_\_ **(if yes, how long in weeks**\_\_\_\_**) No**\_\_\_\_

Classroom Community Scale

**DIRECTIONS:** Below you will see a series of statements concerning a specific course or program you are presently taking or recently completed. Read each statement carefully and place an X in the parentheses to the right of the statement that comes closest to indicate how you feel about the course. You may use a pencil or pen. There are no correct or incorrect responses. If you neither agree nor disagree with a statement or are uncertain, place an X in the neutral (N) area. Do not spend too much time on any one statement, but give the response that seems to describe how you feel. *Please respond to all items*

Strongly Disagree (SD)  
Disagree (D)  
Neutral (N)  
Agree (A)  
Strongly Agree (SA)

- |  |                       |
|--|-----------------------|
| 1. I feel that students in this course care about each other | (SA) (A) (N)(D)(SD)   |
| 2. I feel that I am encouraged to ask questions              | (SA) (A) (N)(D)(SD)   |
| 3. I feel connected to others in this course                 | (SA) (A) (N) (D) (SD) |
| 4. I feel that it is hard to get help when I have a question | (SA) (A) (N) (D) (SD) |
| 5. I do not feel a spirit of community                       | (SA) (A) (N) (D) (SD) |
| 6. I feel that I receive timely feedback                     | (SA) (A) (N) (D) (SD) |
| 7. I feel that this course is like a family                  | (SA) (A) (N) (D) (SD) |
| 8. I feel uneasy exposing gaps in my understanding           | (SA) (A) (N) (D) (SD) |
| 9. I feel isolated in this course                            | (SA) (A) (N)(D) (SD)  |
| 10. I feel reluctant to speak openly                         | (SA) (A) (N) (D) (SD) |
| 11. I trust others in this course                            | (SA) (A) (N) (D) (SD) |
| 12. I feel that this course results in only modest learning  | (SA) (A) (N) (D) (SD) |
| 13. I feel that I can rely on others in this course          | (SA) (A) (N) (D) (SD) |
| 14. I feel that other students do not help me learn          | (SA) (A) (N) (D) (SD) |

- |   |                       |
|---|-----------------------|
| 15. I feel that members of this course depend on me             | (SA) (A) (N) (D) (SD) |
| 16. I feel that I am given ample opportunities to learn         | (SA) (A) (N) (D) (SD) |
| 17. I feel uncertain about others in this course                | (SA) (A) (N) (D) (SD) |
| 18. I feel that my educational needs are not being met          | (SA) (A) (N) (D) (SD) |
| 19. I feel confident that others will support me                | (SA) (A) (N) (D) (SD) |
| 20. I feel that this course does not promote a desire to learn. | (SA) (A) (N) (D) (SD) |

**APPENDIX B**  
**RESEARCH WAIVER FOR STUDENTS**

## **SURVEY INFORMED CONSENT DOCUMENT**

### **OLD DOMINION UNIVERSITY**

**PROJECT TITLE:** Effect of instructional styles and duration of class time on the sense of classroom community of military urban graduate students.

### **INTRODUCTION**

The purposes of this form are to give you information that may affect your decision whether to say YES or NO to participation in this research, and to record the consent of those who say YES.

### **RESEARCHERS**

CDR William J. Davis, Jr. USN, JFSC military faculty, C-215, 443-6257

### **DESCRIPTION OF RESEARCH STUDY**

Several studies have been conducted looking into the subject of sense of classroom community. None of them have explained the effect of differing instructional styles and length of time in class on that sense of classroom community.

If you decide to participate, then you will join a study involving research of the above stated subject. If you say YES, then your participation will last for 12 weeks at the Joint Forces Staff College. This opportunity is being offered to all of the students and faculty at JFSC involved in focus studies.

The surveys will be administered at the start and end of both focus study slates (A and B).

Some participants (approx one out of 15) will be randomly selected to participate in a follow on focus group. Participation in this survey does not bind you to participate in the focus group if selected. Focus group participation (like survey participation) will be completely voluntary.

### **RISKS AND BENEFITS**

**RISKS:** There is a risk of breach of confidentiality in that the investigator is asking for your student number to obtain demographic information.

**BENEFITS:** There is no direct benefit to the participant, however, others may benefit by the knowledge gained from the data collected in this research.

### **COSTS AND PAYMENTS**

None

**NEW INFORMATION**

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

**CONFIDENTIALITY**

The researchers will take all necessary measures to keep private information, such as questionnaires, confidential. The researcher will remove all personal identifiers (to include student numbers) from any information once collected. The results of this study may be used in reports, presentations, and publications; but the researcher will not identify you. Of course, your records may be subpoenaed by court order or inspected by government bodies with oversight authority.

**WITHDRAWAL PRIVILEGE**

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study -- at any time. Your decision will not affect your relationship with JFSC, or otherwise cause a loss of benefits to which you might otherwise be entitled.

**VOLUNTARY CONSENT**

By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

CDR William J. Davis, Jr. 443-6257

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should call Dr. David Swain, the current IRB chair, at 757-683-6028, or the Old Dominion University Office of Research and Graduate Studies, at 757-683-3460.

And importantly, by signing below, you are telling the researcher YES, that you agree to participate in this study. The researcher should give you a copy of this form for your records.

Subject's Printed Name & Signature	Date
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**INVESTIGATOR'S STATEMENT**

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have

done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws, and promise compliance. I have answered the subject's questions and have encouraged him/her to ask additional questions at any time during the course of this study. I have witnessed the above signature(s) on this consent form.

<b>William J. Davis, Jr.</b> <b>Investigator's Printed Name &amp; Signature</b>	<b>Date</b>
--	-------------

APPENDIX C  
RESEARCH WAIVER FOR FACULTY

**FACULTY****SURVEY INFORMED CONSENT DOCUMENT****OLD DOMINION UNIVERSITY**

**PROJECT TITLE:** Effect of instructional styles and duration of class time on the sense of classroom community of military urban graduate students.

**INTRODUCTION**

The purposes of this form are to give you information that may affect your decision whether to say YES or NO to participation in this research, and to record the consent of those who say YES.

**RESEARCHERS**

CDR William J. Davis, Jr. USN, JFSC military faculty, C-215, 443-6257

**DESCRIPTION OF RESEARCH STUDY**

Several studies have been conducted looking into the subject of sense of classroom community. None of them have explained the effect of differing instructional styles and length of time in class on that sense of classroom community.

If you decide to participate, then you will join a study involving research of the above stated subject. If you say YES, then your participation will last for 12 weeks at the Joint Forces Staff College. This opportunity is being offered to all of the students and faculty at JFSC involved in focus studies.

**RISKS AND BENEFITS**

**RISKS:** There is a risk of breach of confidentiality in that the investigator is needs to consider your name and the course you are teaching in order to appropriately enter the data.

**BENEFITS:** There is no direct benefit to the participant, however, others may benefit by the knowledge gained from the data collected in this research.

**COSTS AND PAYMENTS**

None

**NEW INFORMATION**

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

**CONFIDENTIALITY**

The researchers will take all necessary measures to keep private information, such as questionnaires, confidential. The researcher will remove all personal identifiers (to include student numbers) from any information once collected. The results of this study may be used in reports, presentations, and publications; but the researcher will not identify you. Of course, your records may be subpoenaed by court order or inspected by government bodies with oversight authority.

**WITHDRAWAL PRIVILEGE**

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study -- at any time. Your decision will not affect your relationship with JFSC, or otherwise cause a loss of benefits to which you might otherwise be entitled.

**VOLUNTARY CONSENT**

By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

CDR William J. Davis, Jr. 443-6257

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should call Dr. David Swain, the current IRB chair, at 757-683-6028, or the Old Dominion University Office of Research and Graduate Studies, at 757-683-3460.

And importantly, by signing below, you are telling the researcher YES, that you agree to participate in this study. The researcher should give you a copy of this form for your records.

<b>Subject's Printed Name &amp; Signature</b>	<b>Date</b>
---	-------------

**INVESTIGATOR'S STATEMENT**

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws, and promise compliance. I have answered the subject's questions and have encouraged

him/her to ask additional questions at any time during the course of this study. I have witnessed the above signature(s) on this consent form.

William J. Davis, Jr.

Investigator's Printed Name & Signature

Date

**APPENDIX D**  
**WAIVER FOR FOCUS GROUPS**

## **FOCUS GROUP INFORMED CONSENT DOCUMENT**

### **OLD DOMINION UNIVERSITY**

**PROJECT TITLE:** Effect of instructional styles and duration of class time on the sense of classroom community of military urban graduate students.

### **INTRODUCTION**

The purposes of this form are to give you information that may affect your decision whether to say YES or NO to participation in this research, and to record the consent of those who say YES.

### **RESEARCHERS**

CDR William J. Davis, Jr. USN, JFSC military faculty, C-215, 443-6257

### **DESCRIPTION OF RESEARCH STUDY**

Several studies have been conducted looking into the subject of sense of classroom community. None of them have explained the effect of differing instructional styles and length of time in class on that sense of classroom community.

The nature and activities of the Focus Group will consist of a 5-7 person (all participants randomly chosen from among students who took focus studies) round table discussion, focusing on answering questions concerning your feelings and observations about sense of classroom community. This discussion will last approximately 15-30 minutes. This discussion will be recorded for transcription purposes.

If you decide to participate, then you will join a study involving research of the above stated subject. If you say YES, then your participation will last for 12 weeks at the Joint Forces Staff College. This opportunity is being offered to all of the students and faculty at JFSC involved in focus studies.

### **RISKS AND BENEFITS**

**RISKS:** There is a risk that sensitive comments made in the focus group may be repeated outside the focus group by other participants. This risk will be minimized by the principal investigator asking participants to keep all comments confidential. In addition, the strict non-attribution policy of JFSC applies to this focus group research.

**BENEFITS:** There is no direct benefit to you, however, others may benefit by the knowledge gained from the data collected in this research.

**COSTS AND PAYMENTS**

None

**NEW INFORMATION**

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

**CONFIDENTIALITY**

The researchers will take all necessary measures to keep private information confidential. Names of focus group attendees will not be recorded in any manner. The results of this study may be used in reports, presentations, and publications; but the researcher will not identify you. Of course, your records may be subpoenaed by court order or inspected by government bodies with oversight authority.

**WITHDRAWAL PRIVILEGE**

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study -- at any time. Your decision will not affect your relationship with JFSC, or otherwise cause a loss of benefits to which you might otherwise be entitled.

**VOLUNTARY CONSENT**

By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

CDR William J. Davis, Jr. 443-6257

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should call Dr. David Swain, the current IRB chair, at 757-683-6028, or the Old Dominion University Office of Research and Graduate Studies, at 757-683-3460.

And importantly, by signing below, you are telling the researcher YES, that you agree to participate in this study. The researcher should give you a copy of this form for your records.

Subject's Printed Name & Signature	Date
------------------------------------	------

**INVESTIGATOR'S STATEMENT**

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws, and promise compliance. I have answered the subject's questions and have encouraged him/her to ask additional questions at any time during the course of this study. I have witnessed the above signature(s) on this consent form.

William J. Davis, Jr.

Investigator's Printed Name & Signature

Date

## VITA

William Joseph Davis, Jr. grew up in South Boston, Massachusetts. He spent 23 years of his life in pursuit of formal education and to that end he attended Boston Latin School, Harvard University (B.A.), Marine Corps University (M.M.S.), and Old Dominion University (C.A.S. and Ph.D.). In 1983 he was honored with a commission in the United States Navy and is currently proudly serving his 23<sup>rd</sup> year of duty. He spent 14 years of his service as an F-14 Tomcat radar intercept officer flying from aircraft carriers, the remaining years of service have been spent serving as faculty and curriculum coordinator for the Joint Forces Staff College, National Defense University. At Joint Forces Staff College, he teaches strategic and operational level national security planning. He has traveled to 27 countries and 5 continents. Bill is the proud father of Will (19) and Callie (15).