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The University of San Francisco

THE EFFECT OF PROFESSIONAL DEVELOPMENT OF NONVERBAL COMMUNICATION BEHAVIORS OF PARTICPANTS' RECOGNITION AND UNDERSTANDING OF THESE BEHAVIORS

A Dissertation Presented to
The Faculty
of the School of Education
Learning and Instruction Department

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

by

Peggy Koshland-Crane
San Francisco, California
May 2008

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

Peggy Koshland-Crane	6/20/08
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Dissertation Committee

Dr. Patricia Busk	5/6/08
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Dr. Yvonne Bui	5/6/08

Dr. Virginia Shimabukuro	5/6/08

Dedication

To my father, Richard Koshland, who always believed in me, praised me, and who looked over me as I achieved this goal

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CHAPTER I

STATEMENT OF THE PROBLEM

In the field of education, the challenge is for educators to integrate academic, cognitive, emotional, and social competence in the classroom in order to benefit the whole child. The relationship between emotions and the ability to think and learn is explained through brain studies that have been conducted since the 1990s (Goleman, 2006). In addition, the results of brain research, such as the discovery of the presence of neural wiring in the brain between the thinking and emotional centers, have direct consequences for generating school climates that enhance students' ability to learn. If a move is made toward the inclusion of emotion in educational settings, problems will become easier to deal with (Sylwester, 1995). Educators are constantly interacting with students' emotions and need to be trained in the best approaches to employ when communicating with students. Students learn and their achievement improves when teachers attend to both emotions and academics.

Nonverbal and verbal communication dynamics affect the social, emotional, and academic environment. When students, teachers, and school leaders become more aware socially, the best climate for learning will take place (Goleman, 2006). A teacher responding to one student has 20 to 30 students watching and learning the lesson (Goleman, 2006). This interaction may or may not produce a positive model for student learning. A student's reaction to a situation may take place because he or she was reminded of a prior experience by a teacher's gestures, voice, or tone (Jensen, 1998). If teachers are skilled in nonverbal communication behaviors, they are more likely to produce positive models and the students will benefit.

A major component of how one expresses emotions is through nonverbal communication behaviors. Nonverbal communication behaviors, including gestures and other expressions, have stronger meaning than verbal expressions (Greenspan, 1997). As of December 2006, The State of California Commission on Teacher Credentialing (2006a) required all education specialist programs to include amendments that addressed nonverbal communication behaviors in teacher development for English-language learners. Up to this point, however, there is no formal training in California on nonverbal communication behaviors. Formal training for administrators and teachers to promote recognition of nonverbal communication behaviors in their students and his or her nonverbal communication behaviors and how to apply skills such as the ability to identify and understand emotions is needed.

Training in nonverbal communication behaviors impacts teachers' interpersonal-skills development in a classroom setting and affects both community building and classroom management. Being aware of the nonverbal communication that students demonstrate, educators can uncover indicators as to what is going on with the interpersonal communication between teacher and student. Goldin-Meadow (2004) maintained that teachers need to be able to read students' gestures immediately and react to their students' gestures because of the meanings nonverbal behaviors represent. Teachers must not only give attention to the social and emotional skills of their students but also be aware of and apply their own emotional intelligence (Elias, Hunter, & Kress, 2001). Elias et al. also stated that educators' knowledge and understanding of nonverbal communication helps to build community and bonds relationships between students and teachers.

There is a belief by many teachers that actions such as using active-listening techniques and displaying body language and facial expressions that complement verbal messages are irrelevant to managing students successfully. Students' cooperation with teachers is determined by the way teachers respond nonverbally and verbally (Brown, 2005). Additionally, Nowicki and Duke (1996) stated that misinterpretations can take place if nonverbal communication behaviors are misconstrued either by sending messages or by misinterpreting those sent. Misinterpretations also may cause management difficulties when European American teachers assume that students who are culturally and ethnically diverse will respond suitably to their communication style. A number of African American and Hispanic American students prefer a discussion format that is more open than raising their hands and responding one at a time (Gay, 2000). Serious misunderstandings can occur if nonverbal signals are misinterpreted (LI Hui, 2007). In addition, teachers are in danger of being insensitive to their students' nonverbal communication behaviors related to culture without properly understanding the various cultures of students. Training teachers in nonverbal communication behaviors will make them sensitive to how multicultural students learn best.

The latest research in neurological and cognitive areas covers the relationships to education and learning. In an interview with Pool (1997a), Renata Nummela Caine recognized the teachers who use traditional approaches really well and acknowledged that it is not that their work is wrong, but the times are changing. With new information from the neurosciences and biology and technology, our knowledge base is changing. Teachers should try to understand how a human brain learns and acquaint themselves with the latest research. Additionally, Goleman stressed how educators need to

understand and teach differently because the emotional brain uses different areas of the brain than the cognitive centers that have been discovered in research (Pool, 1997b). The role of emotional communication initially was conveyed through print or spoken word until the discovery of photography and the beginning of film and silent movies (Restak, 2003). Images, supported by sound, replace words, numbers, and other codes humans used traditionally to communicate (Barber, 1995). Barber emphasized how images are the principle means by which knowledge is communicated. In a study by the Institute of Neurological Disorders and Stroke (NINDS), viewing violent or aggressive images was sufficient to activate the prefrontal cortex, and the specific area known as the orbitofrontal cortex is in direct contact with the emotional centers of the brain (Restak, 2003). Emotional centers of the brain encode images that can be replayed to evoke specific responses. These images shape how nonverbal behaviors communicate one's emotions both verbally and nonverbally.

Understanding emotional development in children is crucial in order to promote growth in their emotional lives (Greenberg & Snell, 1997). Rarely is a person trained to consider emotion as an essential ability to inquire and make use of how to help children attain their potential. Experts do not instruct teachers how to resolve questions they may have, such as "This child in my class cries all the time, but I am uncertain as to whether it is an anxious, fearful cry or a cry of sadness, or some combination. I think I should figure this out before I make any plans" (Haviland-Jones, Gebelt, & Stapley, 1997, p. 234). People are aware of emotions and their complexity at different levels. Little instruction is taking place for educators about the emotional development that occurs as children mature in order for teachers to provide children with positive emotional support

(Haviland-Jones et al., 1997). Providing training in nonverbal communication behaviors can help teachers create a climate that reduces stress and increases learning.

In order to promote healthy environments for both personnel and students at schools, more focus is being put on social and emotional development both in and out of the classroom. A number of school settings, including before- and after-school programs, are emphasizing the personal development of their personnel in order to promote a more positive emotional climate. In a qualitative research study, Kugelmass and Ross-Bernstein (2000) explored teacher-child relationships in a university-based childcare center. Through tapes and interviews, the researchers studied interactions between the teacher and the students. Results showed that, although the teacher's knowledge about development theories was evident, her interactions were based on the students' needs. Nonverbal and verbal interactions played a crucial role in how the teacher related to each child in the classroom. The teacher was not aware consciously of how her social and emotional skills played a role in positive interactions with each student.

The increased attention and emphasis on the role nonverbal communication behaviors has on academic learning and social development has indicated the necessity of providing educators with training in nonverbal communication behaviors. A significant outcome of training is the recognition and interpretation of nonverbal communication behaviors that increases affective communication in an academic setting. Without affective communication, including nonverbal communication behaviors, social and academic development may be hindered as well as interpersonal and intrapersonal skills. More research needs to focus on the effects of training on recognizing and interpreting

nonverbal communication behaviors and how knowledge of nonverbal communication behaviors affects communication between teachers and students.

Purpose of the Study

The purpose of the current study was to investigate the effect of training in nonverbal communication behaviors on participants' self-assessment of nonverbal communication behaviors. In this study, participants completed a pre- and postself-report measure of nonverbal communications behaviors inventory.

The dependent variable was the nonverbal communications scores that were measured by a Nonverbal Communication Behaviors Assessment Survey. The treatment variable for the study consisted of training in nonverbal communication behaviors. The intent of the training in nonverbal communication behaviors was to improve participants' knowledge and understanding of behaviors that would increase their own interactions with students in order to increase interpersonal skills in the classroom. Additionally, the study proposed to investigate whether participants' ages and years of teaching experience were related to their understanding of nonverbal communication behaviors.

A mixed methodology pretest –posttest design was used to collect data from participants for this research. From this study, an increased understanding of the role nonverbal communication behaviors has in an academic setting would lead to improvements in the training of educators and their ability to provide higher quality of instruction both academically and socially to their students (Goleman, 2006).

Educational Significance

Nonverbal communication behaviors continue to have an effect in the workforce and in education with regard to community building and individuals developing positive

and effective relationships in personal and professional lives. The multicultural classrooms of the 21st century reflect a need for more recognition and understanding of nonverbal communication behaviors by educators in order to develop interpersonal skills and provide effective learning environments. This includes facial expressions, vocal expressions, proxemics, and gestures related to various cultures. The State of California Commission on Teacher Credentialing (2006b) includes in its program elements for teacher development for English-language learners the ability of each teacher to understand how cultural, experiential, cognitive, and pedagogical factors affect a students' learning. The California Standards for the Teaching Professions adopted in 1997 include the ability of a teacher to apply what he or she knows about physical, social, and emotional development to plan instruction and make modifications and adaptations for each child. This study implemented and evaluated a training program in nonverbal communication behaviors that addresses the State of California Commission on Teacher Credentialing programs and the California Standards for the Teaching Profession. In addition, this study addressed California's commitment to multiculturalism and diversity in the classroom.

The study contributed to the literature supporting the importance of including nonverbal communication behaviors training for participants. Participants' awareness of the social and academic benefits of recognizing and interpreting nonverbal communications was amplified. The interactions between the participants and the trainer, the effect size of the knowledge domain, and the discussions all underscored that gains were made with respect to recognizing and interpreting nonverbal communications.

Background and Need

The majority of communication is conveyed through nonverbal behaviors. Mehrabian's (1981) research indicated that 7% of communication is sent through spoken words, 38% is sent through voice tone, and 55% happens through body language. Nowicki and Duke (1992) and Duke, Nowicki, and Martin (1996) identified six areas of nonverbal communication: (a) paralanguage, (b) facial expressions, (c) postures and gestures, (d) interpersonal distance (space) and touch, (e) rhythm and time, and (f) objectics (style and dress). Given the above statistics, one can conclude that it is important for teachers trying to reach specific instructional goals of their learners to identify nonverbal behaviors of other persons and to convey accurately meaning through nonverbal behaviors (Elksnin & Elksnin, 2003). Teachers can become trainers of emotions by helping learners understand nonverbal behaviors to increase their emotional intelligence. An example is using paralanguage, specifically tone of voice, to teach students to identify emotions by hearing different tones of voice. An individual ought to understand his or her emotions in order to have self-control and anger management. Learners will have success in reading social situations correctly and making appropriate responses by understanding the emotions of others. Attention to nonverbal communication behaviors helps learners step back from a situation and consider the emotional implications. When learners address nonverbal emotions, attention is then directed to learning.

Considering the importance of learning to understand emotion and nonverbal communication behaviors, there is value in assessing administrators' and teachers' understanding and interpretation of nonverbal communication behaviors and offering

training to emphasize these skills and how these skills can be addressed (Ciarrochi, Forgas, & Mayer, 2001). Assessment and training will emphasize the role nonverbal communication behaviors play in interpersonal skills and learning. One particular study (Kelly, Singer, Hicks, & Goldin-Meadow, 2002) showed positive growth for students in a specific academic area when teachers were given training in the interpretation and understanding of nonverbal behaviors. Participants benefited from training and were able to gain more information from a child's gesture in order to increase a child's understanding and learning of a concept. Nowicki and Duke (1992) discussed how a person views nonverbal language in others as a reliable indication of how they feel. A majority of the time, when verbal and nonverbal communications are presented together, what is being conveyed nonverbally is what is believed. In a classroom setting, a teacher may say one thing, but his or her nonverbal behavior may be indicating something different. Once teachers learn to read social situations correctly and make appropriate responses, they begin to model emotional understanding for their students. According to Nowicki and Duke, nonverbal communication is read as a reflection of one's emotional state, it is also important to realize that, unlike verbal language, nonverbal communication is continuous. For example, Perry (2007) stated that early experiences of children involving violence, significant threat, or stress rewire the brain and produce behaviors that include overarousal, aggressiveness, and stronger focus on nonverbal clues. Furthermore, students in these circumstances do not feel rewarded by completing homework. Teachers need to understand why these students behave as they do by threatening others, displaying impulsive behaviors, and by interpreting nonverbals as aggressive behaviors. Teachers will benefit from training in emotional literacy skills to

understand how to read nonthreatening nonverbals in order to support students in developing appropriate emotional coping responses (Jensen, 1998). Developing appropriate responses will allow for more effective teaching to take place.

When teachers are aware of nonverbal communication (Miller, 2005), teachers are better recipients of students' messages and are able to send positive signals in order to strengthen students' learning and become more skilled at eluding negative signals that suppress students' learning. A teacher who is conscious of nonverbal cues such as smiles, frowns, and nodding heads becomes proficient at receiving students' messages. In addition, Miller discussed the importance of visual communication as in the eyes sending and receiving messages. Miller additionally stated that an individual benefits from awareness of cultural aspects (lack of eye contact) when observing visual cues. Body language (movements and gestures) is a form of communication. When teachers are in front of a class, using natural body movements enhances effective delivery of the lesson (Miller, 2005).

Body movements can reject or support a spoken word. Less than 40 minutes a day is spent by the average person in "actual verbal conversation with others" (p. 12). Even though verbal communication ends at some point, nonverbal communication is constant. Expressions of nonverbal communication behaviors are actions of the body including proxemics, postures, hand and arm gestures, facial expressions, tone of voice, and various movements of the body including the legs and feet (Mehrabian, 1981). If nonverbal communication messages are misinterpreted or if messages conveyed do not reveal one's true emotions, grave errors in interpreting emotions can occur (Nowicki & Duke, 1992). Teachers and students in a classroom who are aware of nonverbal communication

behaviors will experience fewer instances of these misinterpretations. Nonverbal emotional awareness enhances communication and fosters learning.

Proxemics is the area of nonverbal communication behaviors that involves how people communicate nonverbally through the use of territory and space (Hall, 1990). Knowledge and understanding of proxemics can help break down barriers that prevent good communication. Hall defined and explained specific distances: (a) public space is from 12 to 25 feet (audience and a speaker), (b) social space is from 4 to 10 feet (business associates), (c) personal space is from 2 to 4 feet (family members and friends), and (d) intimate space that ranges out to one foot (high likelihood of touching). In an educational setting, a teacher aware of proxemics would consider uncomfortable spaces in the classroom (Hall, 1990).

Edward T. Hall (1959) focused on the importance for North Americans understanding the nonverbal language of one another's culture. Hall pointed out that people are not consciously aware of patterns of behavior including time and spatial relationships (proxemics). Hall stated that "in addition to what we say with our verbal language, we are constantly communicating our real feelings in our silent language-the language of behavior" (p. 15). Hall focused on spatial patterns, how these patterns are part of the communication process and how spatial connections may be more important than the spoken word. In different cultures, proxemics has different meanings. For example, in Latin America people talk comfortably with each other while being very close, in the US that distance may be too intimate. Schools in the US are culturally diverse, and, as a consequence, educators need to be aware of the relevance of proxemics in the classroom in order to communicate effectively with all students.

Another major influence occurring in the classroom that affects student learning is nonverbal communication behaviors through facial expressions between an individual teacher and a student, as well as the teacher and groups of students and among the students themselves. Paul Ekman (2003) researched various cultures for over 40 years and presented his findings on the development of emotions, types of emotional triggers, how one can educate him- or herself about emotions, and how to read facial expressions. One of Ekman's discoveries pointed to the fact that people from different cultures both close and far away from industrialized nations revealed common nonverbal universal expressions for emotions such as sadness, happiness, and anger (Schubert, 2006). Nonverbal communication behaviors such as gestures and other body language are culture specific. Teachers who are aware of culture specific nonverbal behaviors will create a learning environment that supports diversity.

Until the late 1990s, the importance of gestures to nonverbal communication and in an educational setting was not a well-researched field. Wachsmuth (2006) discussed how in the 1990s researchers took a different view of gestures and their importance to communication as a separate entity from verbal communication. A review of the literature revealed that even with knowing how gestures are vital to human communication and development, there has been little research in the education field (Roth, 2003). Goldin-Meadow's (2000) theory focused on the importance of gestures in communication and child development. Goldin-Meadow's essential elements include how gesture possibly contributes to change through two mechanisms. The first mechanism is indirectly, by communicating unspoken aspects of the learner's cognitive state to likely agents of change (parents, teachers, siblings, and friends). The second

mechanism is directly, by offering a learner a simpler way to express and explore ideas that may be difficult to think through in a verbal format allowing for an easier acquisition of knowledge. Goldin-Meadow (2000) continued that hand gestures can transmit information that is not conveyed anywhere in speech. Research is showing that gesture not only reflects understanding but also shapes it and that gesture plays a role in the learning process. Teachers who understand the meanings behind gestures when presenting a lesson may be able to interpret whether or not a student comprehends a concept.

Nonverbal communication behaviors include body language that is important to the field of teaching in regard to child development (Wainwright, 1999). Teachers who know what their own body language communicates will enhance children's growth, particularly those of cultures other than the teachers'. Teachers' gestures, smiles, and other facial expressions; respect for personal space; timing; and attentiveness have an impact on how students think about themselves and others. Mehrabian (1981) reported that he was told "that teachers who habitually gesture get better emotional and academic results with their students" (p. 103). Teachers' affirmative and positive gestures help students' self-esteem and promote cooperation between individuals themselves and learning. Without being aware of nonverbal communication behaviors, teachers can exclude some students while focusing more on others with just their looks. This exclusion may create a split between those students who perform at a high level in the classroom and those who do not. Mehrabian also pointed out that if teachers awareness of their body language and facial expressions and changed some behaviors, some students may perform at a higher level. These students may be "affected by the emotional ties in a

work situation" (p. 104). The challenge is for the educational community to provide more training for teachers who in turn may provide ongoing additional support for students.

As children transition into school, nonverbal communication behaviors do not diminish in importance. Greenspan (1997) proposed specific principles that are necessary for teachers to learn in order for their students to be successful learners. The first principle is that for teaching to be effective it must be inline with the child's own developmental level. Each teacher must know and understand each child's development and which skills he or she has mastered. Teachers need to reflect upon their own and others' ideas and they must observe and assess abilities such as reading nonverbal signals. The nonverbal communication that a student demonstrates is a clear indicator as to what is going on with the interpersonal communication between the teacher and the student.

As a result of the social interactions that occur on a regular basis with peers and adults, educational settings are critical places for children to learn emotional skills and abilities. The entire educational community may create a climate for learning or has the opportunity to do so that includes extracurricular activities and classroom instruction (Matthew, Zeidner, & Roberts, 2002). The home is where emotional skills begin, and not all children learn how to handle emotions in a positive manner at home. Children who lack emotional skills may need not only support from psychotherapists but also some remedial learning in the schools through teacher-child interactions and through the standard curriculum. Children's ability to be competent emotionally may be affected positively and negatively by the community and the school environment in which they survive. Furthermore, children's management of and ability to communicate emotion are

impacted by teachers "directly, by teaching and coaching and indirectly, by observational learning or by controlling children's exposure to different situations" (Matthews et al., 2002, p. 41). Teachers' communications with administration, staff, and their peers are the models for their students to exhibit desirable emotions in the classroom. Denham and Grout (1993) stated that children may internalize certain emotional states if exposed to adult figures, particularly teachers and community leaders, who express anger and anxiety on a regular basis. These emotional states may be relived in a number of situations by providing opportunities for learning and understanding nonverbal communication behaviors.

Children's development may be hampered if the division between emotions and intelligence excludes "developmental levels and individual differences" (Greenspan, 1997, p. 211). The majority of schools ignore developmental milestones, and children who need additional development in emotional skills receive interventions that necessarily do not fit their needs. Educational communities need to pay attention to the ability of students to produce ideas that are emotionally based as well as being able to organize and sequence ideas. An aspect of emotional skills is the ability to assess and read nonverbal cues. Greenspan discussed the importance of teaching at each child's developmental level. Greenspan suggests that the basis for learning should focus on "affect and interaction" (p. 224) instead of only academic skills.

Teachers' understanding of nonverbal communication impacts interpersonal skills in a classroom setting that affects both community building and classroom management. Goldin-Meadow (2004) maintained that teachers need to be able to read students' gestures immediately and react to their students' gestures. Elias et al. (2001) stated that

teachers must not only give attention to the social and emotional skills of their students but also be aware of and apply their own emotional intelligence. Elias et al. also stated that knowledge and understanding of nonverbal communication helps to build community and bonds relationships between students and teachers, therefore, strengthening the academic and social climate in schools. When teachers accurately can recognize and interpret nonverbal messages from students, they are better able to identify whether or not learning is occurring. An instructor who is aware of and can interpret his or her students' body language can determine whether students need additional information or move on to the next concept.

Theoretical Rationale

Research on emotional intelligence has increased since 1995. Although EI was popularized by Goleman (1995), Salovey and Mayer (1990) are credited with the development and conceptualization of the theory of EI as an intelligence. How people relate to one another and to cultural institutions, artifacts, ideas, and rules of behavior is the essence of emotional information. It is how one survives and relates to his or her surroundings (Mayer, Salovey, Caruso, & Sitarenios, 2001). The emotional intelligence model starts with the thought that one's emotions hold information about the different relationships in one's life (Mayer et al., 2001). Any perceived relationship, whether real or not, carries emotions that change as the relationship changes. The concept of emotional intelligence as stated by Mayer and Salovey (1997) is as follows: "Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to

regulate emotions to promote emotional and intellectual growth" (p. 10). The four branches of emotion shown in Figure 1 advance from a basic to more complex psychological processes. Development through each branch begins in infancy and progresses as one matures. Branches 1, 3, and 4 entail reasoning about emotion, whereas Branch 2 includes using emotion to improve reasoning (Mayer et al., 2001).

The first branch deals with the identification of emotions and emotional content in faces and pictures and with the ability to identify one's own emotions. Infants and young children are able to identify different states of emotions within themselves and others and are able to distinguish between the different states. As an example, an infant is able to discriminate between facial expressions and react to a parent's facial expression such as a mother smiling and the infant smiling back. At this level, perceiving emotions represents the most fundamental characteristic of EI because understanding and processing of all other emotional information is subsequently possible (Salovey & Grewal, 2005).

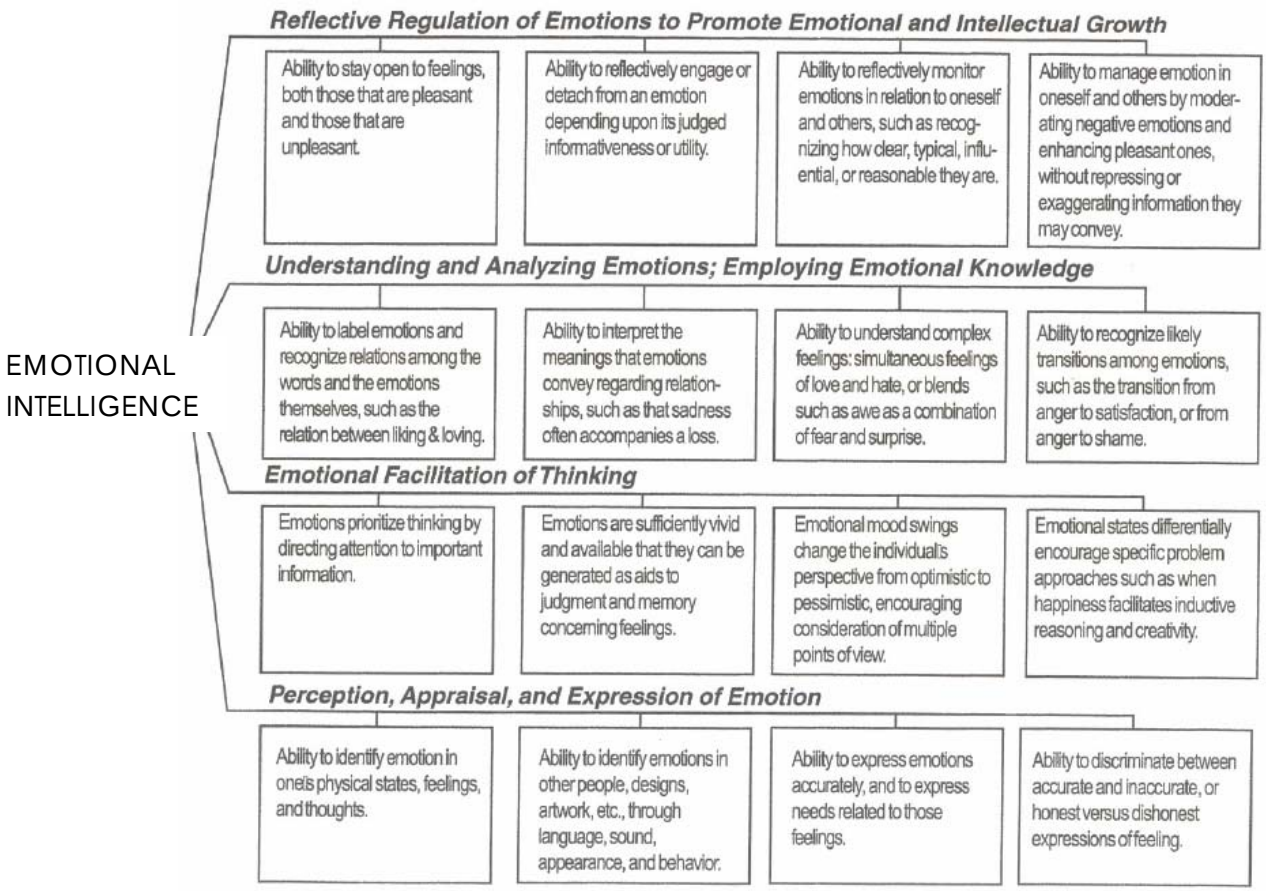

Figure 1. Four branches of emotion (Mayer & Salovey, 1997). From "What is emotional intelligence?" by J. D. Mayer and P. Salovey, 1997 (p. 37). In P. Salovey & D. Sluyter (Eds.) *Emotional development and emotional intelligence*. New York: Dude Publishing. Copyright 2007. Reprinted with permission by Perseus Books Group in the format Trade Book via Copyright Clearance Center.

At the second branch, as children develop they are able to connect their feelings to both inanimate and animate objects. Cognitive activities such as thinking and problem solving are utilized. Children's moods affect how they tackle a task at hand. Creativity and innovative thinking can be stimulated by happiness, whereas sadness can produce a more methodical and careful approach to a task. If people are emotionally intelligent, they are able to profit from their different moods (Salovey & Grewal, 2005).

The third branch, understanding emotions, reflects an individual's ability to recognize and express feelings and to articulate desires around those emotions.

Understanding emotions also includes the ability to recognize subtle differences among emotions such as happy and ecstatic and the ability to identify and express how emotions progress over time.

The highest branch, managing emotions, recognizes an individual's ability to be aware of the difference between real and false expressions of emotion and to manage emotions for personal and interpersonal growth. Also included is the ability to manage others' emotions. A person who is emotionally intelligent is able to channel both positive and negative emotions and to direct his or her emotions to attain specific goals.

Improving teachers' awareness of EI including nonverbal communication behaviors is paramount to productive interactions with their students. The four branches of emotion relate to intrapersonal and interpersonal skills by emphasizing the need for knowledge to recognize nonverbal communication behaviors, embracing positive attitudes, and using behaviors that are suitable. In the current study, participants' recognition and understanding of students' emotions as demonstrated by nonverbal communication behaviors were assessed in order to provide a baseline for training that would increase affective communication in the classroom.

The theoretical rationale for this study is based on research regarding nonverbal communication behaviors and emotional intelligence (EI) with a particular focus on nonverbal communication behaviors. Research in social neuroscience has discovered that when individuals interact with one another mirror neurons adjust feelings and actions to replicate that person (Goleman, 2006). As an example, if an individual observes another person displaying an expression of happiness, anger, or hurt, mirror neurons stimulate circuits in the brain for happiness, anger, or hurt. In a classroom, a teacher quieting a

noisy group of children may give them a stern glance, and, in turn, the students deduce the teacher's annoyance and change their behavior. Teachers' knowledge, behaviors, and attitudes of nonverbal communication behaviors affect their interactions with students.

Goleman (2006) stated that in education for both adults and children, one must include five components of emotional intelligence: (a) self-awareness that is the foundation for self-confidence, (b) handling emotions generally that is how one handles their emotions when they are upset and is the basis of emotional intelligence, (c) motivation that is heading toward one's goals, (d) empathy that is taking into consideration another person's feelings not only by words but also by facial expressions and tone of voice, and (e) social skills (Pool, 1997b).

In the academic arena, Cherniss (1998) stressed the need for educational leaders to have people skills and build working relationships with numerous others in the educational environment. Educational leaders must be negotiators, networkers, mediators, and mentors; therefore, leaders need to be emotionally intelligent. Cherniss listed self-confidence as the most important trait for being an effective leader followed by the ability to adapt emotions to different environments, motivation, and persistence. The researcher also stressed the importance of well-designed training programs that are able to enhance achievement motivation. In order for training programs to be effective, safe learning environments must exist. Participants also must be in charge of the learning process, want to change, and believe they can. Modeling skills, practicing skills in realistic situations, and providing feedback are essential for effective training. In conclusion, Cherniss stated that providing social and emotional learning for school leaders is as important as providing students with opportunities for social and emotional learning.

Research-based training and technical-assistance approaches for principals, superintendents, teachers, and parents must be established in order to promote high-quality implementation of new improvements in schools for students' social and emotional development (Greenberg et al., 2003). Teachers are welcoming the idea of being able to place a focus on the affective and emotional aspects of their students rather than mechanically presenting test-driven educational lessons (Ecclestone, 2004). Ecclestone further discussed how neuroscience and beliefs about emotional intelligence have gained scientific credibility in educational circles. As an example, in 1990, the popular press referenced self-esteem 103 times, whereas in 2000 it was referenced 3,328 times (Ecclestone, 2004). The current study underscores the integration of the knowledge of emotional intelligences into the classroom. Focusing on the affective and emotional aspects of students will heighten teachers' awareness of considering emotional intelligences in their curriculum.

Social and emotional development has been an important component in training early-childhood practitioners as noted by Kremenitzer (2005). She also pointed out that these practitioners could be a model for all teachers because of the extensive background and training they receive in social and emotional development. Kremenitzer acknowledged the importance of teachers understanding and knowing their own social and emotional skills within a classroom setting. Additionally, Kremenitzer focused on Mayer and Salovey's (1997) four branches of emotion and pointed out that the branches include questions related to emotions and nonverbal behaviors such as (a) Am I good at identifying how my students are feeling?, (b) Am I good at identifying emotional swings in myself and others?, (c) Am I able to notice when my students are angry, sad,

bored, and so on?, (d) What can I begin to do to increase my perception of emotions?, and (e) Am I good at understanding what causes children to feel and behave in a certain way? (p. 4). Knowing the answers to these questions, teachers can begin to reflect upon their EI and their ability to apply EI successfully and harmoniously interact with their students. In the current study, the previous questions were used as a basis to develop the Nonverbal Communication Behaviors Assessment Inventory. Although Kremenitzer and Mayer and Salovey focused on social and emotional development, nonverbal communication behaviors are also strong manifestations of emotional states.

Although the majority of professionals agree that it is important to base practices on relevant theory, there is a lack of connections between research and professional practice (Zins, Travis, & Freppon, 1997). Every day educators are faced with an assortment of challenges that they must reflect, make judgments, and act upon. These decisions appear to be more "reactive than reflective…and more routinized than conscious" (Zins et al., 1997, p. 258). There needs to be more focus on helping educators receive and develop nonverbal affective communication skills from recent research regarding best practices in education.

Research Questions

The current study investigated the following research questions:

1. To what extent does training in nonverbal communication lead to increased knowledge on the part of participants as measured by the total score on the Nonverbal Communication Behaviors Classroom Assessment Inventory?

2. To what extent does training in nonverbal communication lead to changing behaviors on the part of participants as measured by the total score on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
3. To what extent does training in nonverbal communication lead to changing attitudes on the part of participants as measured by the total score on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
4. To what extent do participants' ages correlate to recognizing and interpreting nonverbal communication behaviors as measured by the total score on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
5. To what extent do participants' years of teaching correlate to recognizing and interpreting nonverbal communication behaviors as measured by the total score on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
6. What are the teachers' reactions to the benefits or lack of benefits of the nonverbal training as measure by a researcher-designed qualitative survey and the discussion groups?

Definition of Terms

The following key terms were utilized throughout this study and consequently are defined below. There are many ways to define these terms but, for the purposes of this study, the stated definitions will apply.

Body Language: The ability to communicate with another person using an unspoken language as revealed by facial expression, proxemics, and kinesics (Wainwright, 1999,

pp. 2-3) as measured by the total score on the Nonverbal Behaviors Classroom Assessment Survey.

Cultural Awareness: A person's ability to understand various behaviors through facial expressions, proxemics, and kinesics from different cultures (Ekman, 2003; Hall, 1990; Mehrabian, 1981) as measured by the total score on the Nonverbal Behaviors Classroom Assessment Survey.

Emotional Intelligence: The ability to reason about and understand emotions in order to enhance the thought process. "It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer et al., 2004, p. 197).

Facial Expressions: The ability to read the face in motion in order to gain a better understanding of what others are communicating (Wainwright, 1999, p. 21) as measured by the total score on the Nonverbal Behaviors Classroom Assessment Survey.

Kinesics: The gestures and body movements that indicate communication as measured by an individual's nonverbal behaviors such as position of the head or touching the nose (Wainwright, 1999, p. 48) as measured by the total score on the Nonverbal Behaviors Classroom Assessment Survey.

Nonverbal Communication Behaviors: Nonverbal communication behaviors are defined as speech including vocal tones, rate, and inflection, facial expressions, hand and arm gestures, postures, and positions and various movements of the body or the legs and feet such as tilting of the head or hand wringing (Mehrabian, 1981). In the current study,

nonverbal behaviors are defined as kinesics, proxemics, culture, facial expressions, and body language.

Paralinguistic or vocal phenomena: Paralinguistic or vocal phenomena are defined as how people communicate through speech using the expressive quality of the voice, rate, duration, volume, inflection, and pitch. In addition, these characteristics of speech are dictated by expressions of feeling and attitudes rather than by correct grammar (Mehrabian, 1981) as measured by the total score on the Nonverbal Behaviors Classroom Assessment Survey.

Proxemics: Proxemics are defined as how people communicate through territory and space such as the distance an individual keeps between themselves and another (Hall, 1990) as measured by the total score on the Nonverbal Behaviors Classroom Assessment Survey.

Summary

Research in nonverbal communication behaviors encompasses body language, kinesics, paralinguistics, cultural awareness, proxemics, and facial expressions. The theory of nonverbal communication behaviors has been discussed by philosophers and researchers over many centuries. More researchers began and have continued to study the role nonverbal communication behaviors have on people's ability to relate to themselves and other individuals and be successful in and out of an academic setting. Ciarrochi, Forgas, and Mayer (2001) claimed that one aspect of emotional intelligence is people's skills at measuring emotions by giving people cues and asking them to pose an immediate expression. They continued to establish the fact that emotionally intelligent people express emotions that judges can identify easily using photographs. These emotions are

known as nonverbal communication behaviors. The primary purpose of this study was to investigate the effect that training in nonverbal communication behaviors including facial expressions, gestures, proxemics, vocal phenomena, and kinesics has on participants' recognition and interpretation of these behaviors.

The research studies presented in Chapter II, Review of the Literature, include populations from diverse age groups and different educational settings. The research that follows measures aspects of nonverbal communication behaviors according to their operational definitions. Chapter III contains descriptions of the study design and implementation. Chapter IV provides the study results, the limitations, summary of results, discussion of treatment and correlation results, implications for practice, and implications for research follow in Chapter V.

CHAPTER II
REVIEW OF THE LITERATURE

The following literature review critically analyzed the research on nonverbal communication behaviors. There is currently an expectation by researchers that studies will continue to stress the importance of incorporating nonverbal communication behaviors into curriculum-based instruction. The research presented highlights the role nonverbal communication behaviors play in the academic area as reported by school staff, administrators, teachers, and leaders of child-centered activities and the relationship of nonverbal communication behaviors, including gestures, facial expressions, and other types of body language, to social and academic learning. Studies by researchers, such as Goldin-Meadow (2004), Baringer and McCroskey (1995), and Miley and Gonsalves (2003), demonstrate the value of understanding and learning nonverbal communication behaviors. The studies in this review also illustrate where participants focus when self-reporting emotions and how participants rate nonverbal communication behaviors. The primary purpose of this study was to investigate the effect that training in nonverbal communication behaviors including facial expressions, gestures, proxemics, vocal phenomena, and kinesics has on participants' recognition and interpretation of these behaviors.

The first section reviews research on the importance of emotion to instruction and students' perceptions of instructors' habits during teaching. The second section presents research on recognizing facial expressions. The focal points of the third and fourth sections are the importance of nonverbal cues and gestures during instruction.

Emotion and Instruction

In order to investigate the relationship that emotions have in classrooms, several researchers including Astleitner (2001) and Poulou (2005) have examined the value that adults and students place on the role of emotions in these settings. Since 2001, several studies have been published that promote the need for emotional intelligence skills and leadership. Astleitner (2001) researched the effectiveness of designing instruction that incorporates emotions into classroom instruction and does not require considerable additional resources to make it that way. The purpose of the empirical study was to investigate the effectiveness of the FEASP-approach (fear, envy, anger, sympathy, and pleasure) in daily instruction. The FEASP-approach is an instructional-design model incorporating emotions into classroom instruction. The following questions were researched and answered in order to validate the FEASP-approach for designing this type of instruction: (a) Do instructional designers, including teachers and students, find emotions are important in daily instruction?, (b) What emotions in instruction do teachers and students view as the most important?, (c) Within the FEASP-approach are the projected instructional strategies related to the corresponding emotions?, (d) In daily instruction, are the FEASP-strategies being used?, (e) During instruction, is there a relationship between the experience of specific emotions during instruction and the FEASP-strategies?, and (f) What is the reliability and validity of the scales developed for measuring FEASP-strategies and emotions?

Participants of the study (Astleitner, 2001) included 163 Austrian school teachers (67% female, 33% male) and 53 Austrian university students (85% female, 15% male). The average age of the school teachers was 40, with 34% working at primary schools, 18% at secondary schools, 25% at high schools, and approximately 6% at other schools,

such as those for handicapped students. The average age of the students was 25 years, with 31 students enrolled in a course in statistics and 22 students enrolled in a course in instructional systems design at a department of educational research. Teachers and students completed the questionnaire that included the following areas: (a) general importance of emotions during instruction, (b) different types of emotions, (c) FEASP-strategies, and (d) FEASP-emotions. Both students, during a class session, and teachers, who were given 2 weeks to complete and return the questionnaire in a stamped envelope, completed the questionnaire in the middle of a semester.

In order to answer the first question of how important emotions are to the process of daily instruction, students and teachers were asked to choose one of seven statements. Both students and teachers chose emotions as especially important for instructional settings, although the teachers (n = 163, 40%) chose this statement as their number one response and the students as their number two response (n = 53, 60%). Teachers (38.8%) chose the statement about emotions being as important as cognitive and motivational processes as their number two response, and students (60%) chose the statement as their number one response. Knowing that emotions are important in instruction for students and teachers, the researcher wanted to discover the relevance of different types of FEASP emotions to instruction. Teachers in the study related emotions to FEASP-type emotions 86.7% (n = 120). For example, anxiety, dread, fright, terror, anguish, shyness, aversion, timidity, alarm, excitement, and danger were related to fear. Although some of the terms identified by the teachers were not emotions, they were classified and reclassified as emotions by the teachers in order to be treated as emotions seen by the teachers. Over 40% of the students (n = 53) selected fear and pleasure as the most important types of

emotions in instruction. Although researchers did not relate certain terms connected with emotions, students chose motivation, self-confidence, stress, cognitive variables, and sorrow as most important. In order to strengthen instruction in the classroom, there is value for educators to consider these student choices as viable concerns in the classroom.

There are instructional strategies related to each FEASP-emotion. For example, ensure success in learning and accept mistakes as opportunities for learning are instructional strategies for the primary emotion of Fear. In order to validate if FEASP-emotions were related to FEASP-strategies during daily instruction, teachers were asked to take the 20 FEASP-strategies and assign one of the five types of FEASP-emotions to each. When the results of the assignment were related to specific aspects from instructional practice, teachers assigned 60% of the FEASP-strategies to the suggested FEASP-emotions. The researcher stated that there is a good probability that when teachers personally experience the FEASP-strategies and their effect on the FEASP-emotions, a higher percentage of the relationship between strategies and emotions would result and that the above result is evidence toward the construct validity of the FEASP-approach within instructional settings.

FEASP-strategies were used within daily instruction 21% to 92% (n = 163) of the time by teachers who participated in the study. According to the students (n = 53), they experienced the application of the FEASP-strategies 2% to 73% of the time. According to Astleitner (2001), FEASP-strategies revealed an adequate ecological validity and are useable for educational practice. Correlations were used to obtain the association between FEASP-strategies and FEASP-emotions by asking students how often FEASP-strategies were used during instruction and how strong were the FEASP-emotions they

experienced. There were statistically significant correlations between the sympathy- and pleasure-related strategies and corresponding emotions (r = .60; r = .47). In the anger module, correlations were not found between strategies and emotions (r = .18). The more frequently the FEASP-strategies dealing with anger were used, the more students experienced anger. This result was not consistent with the assumptions of the FEASP-approach.

The results of this study indicate that, based on the FEASP-approach, there is a relationship between instructional strategies and related emotions during instruction, and they are related as perceived by teachers and students in the manner intended by the FEASP-approach. In this study, nonverbal communication correlated with emotions and influenced the capacity to learn or retain knowledge. Additionally, the focus was on participants recognizing and interpreting nonverbal communication behaviors such as anger, pleasure, and fear. Astleitner (2001) reported specific limitations to the study, such as the low number of participants (mostly female), the lack of multidimensional comparison of FEASP-effects, the need for more comprehensive attempts to measure the validity of the measurements, and the lack of Aptitude-Treatment-Interaction (ATI) analysis. The results of the study support further research focusing on the FEASP-model, which should include teacher training in applying the FEASP-approach, followed by teachers using the FEASP-strategies systematically within quasi-experimental or experimental-controlled settings.

In order to revalidate Astleitner's 2001 study, Sztejnberg, Hurek, and Astleitner (2006) examined the importance of FEASP emotions in relation to daily instruction. The researchers investigated the reliability of these emotions and gender differences. Their

sample of participants consisted of 654 high-school students and 147 high-school teachers in Southwestern Poland. The students were from 28 classes from 14 secondary schools. Fifty-two percent of the students were males, and the school teachers were comprised of 73% females and 27% males. The study was conducted by research assistants in conjunction with their bachelor-degree program. The research assistants met privately with teachers and asked them to participate in the study.

Students and teachers completed a questionnaire that included the following areas: general importance of emotions during discussion, different types of emotions, and FEASP-emotions. Cronbach's coefficient alpha for the FEASP-emotions was high reliability (.77 to .85). Teachers were given the questionnaire and asked to complete and return it within one week, and students were asked to complete the questionnaire during a 25-minute class period. The results of the study revealed that teachers and students believed emotions were significant during instruction. Slightly more than 57% of teachers and 40% of students responded that "emotions are important as cognitive and motivational processes" (Sztejnberg et al., 2006, p. 64). Specifically related to the FEASP-emotions, teachers and students rated fear, anger, and pleasure (31.7% teachers, 47.5% students) as important emotions and sympathy and envy (.7% teachers, 1.8% students) as having little importance. These statistics provide further evidence that specific emotions do indeed affect student learning. Fear, anger, and pleasure are primary emotions that are identified with nonverbal communication behaviors.

Sztejnberg et al. (2006) concluded that the results of their study confirmed those of a previous study by Astleitner in 2001 on the importance of FEASP-emotions and associated measurements. The researchers also deduced that these studies are a precursor

to further research in the educational setting using the FEASP-approach. The FEASP-emotions directly relate to the current study and the recognition and knowledge of nonverbal communication behaviors that influence the ability to learn or retain information.

Poulou (2005) studied teachers' perceptions of the most essential skills students needed to avoid the presence of emotional and behavioral problems. The participants in the study consisted of 427 elementary teachers from Athens, Greece and the surrounding areas. Approximately 60% of the teachers were female with 31.8% having taught 16 to 20 years, 19.1% having taught 6 to10 years, 24.5% having taught 1 to 5 years, and the rest having taught over 20 years. The grade level the teachers taught ranged between first and sixth grade. The teachers completed a survey of 17 basic emotional, social, and cognitive skills developed by Grant in 1992 and were asked to rate the degree of significance for each item.

The teachers ranked the three most important skills that were in the emotional-skills category: (a) "recognize and identify emotions" (56.7%), (b) "expression of emotions" (53.9%), and (c) "assessment of emotional intensity" (44.8%). In the cognitive-skills category, "dialogue with oneself" was ranked 13th by 10.3% of the teachers with 35.6% of the teachers rating it as 9th, 11th, 12th, and 13th, respectively. "Perception and interpretation of social signs" was ranked 17th by 17.8% of the teachers; however, 41.4% of the teachers' rankings ranged among the 14th and 17th ranks. In the category of "behavioral skills-effective communication," the teachers ranked verbal and nonverbal skills as being the least important. Approximately 17% of the teachers' ranked nonverbal skills in the 16th rank and 19.4% ranked verbal skills in the 17th rank.

The results of this research provided evidence indicating areas of importance of emotional and nonverbal skills as perceived by teachers. Under the category of "Social Skills," verbal and nonverbal skills were ranked as the lowest two skills out of the 17. Of all the 17 skills, emotional skills stood out among the rest. Poulou (2005) stressed the importance of teachers' roles in preventing emotional and behavioral problems in schools and the importance of including teachers when developing emotional and behavioral programs. Limitations to the study included the fact that the researcher did not report the reliability and validity for the tool used. Additionally, the teachers' ratings were not put into an exact order of importance due to the fact that different items received the same rank. An additional limitation was that the teachers were not of mixed ethnicity. Hence, the results could not be generalized to teachers outside of Greece. The research, however, reveals that an emphasis should be placed on the importance of nonverbal skills in academic settings. In the Poulou study, participants included first-through sixth-grade teachers and the participants did not receive training. The participants in the current study who were in a classroom worked in elementary and high school settings and received training on nonverbal communication behaviors that would address the emotional skills ranked as important.

To provide feedback to faculty regarding their teaching habits, Miley and Gonsalves (2003) replicated the first part of a study by Rallis (1994) that researched students' perceptions of teachers' annoying habits. Participants included 118 undergraduate students enrolled in Abnormal Psychology and Health Psychology classes at The Richard Stockton College of New Jersey (RSU), 85 students enrolled in Human Development and Family Studies classes at Pennsylvania State University (PSU), and

671 students enrolled in psychology courses at the University of Wisconsin (UW). Students from each university were given one index card on which to respond to one of the following questions: (a) What are the five most annoying habits of your teachers?, (b) Please describe at least one thing about previous professors that you find inhibited your learning, was annoying, or was frustrating, and (c) Please write down two or three major pet peeves about your professors' teaching.

Participants at RSU rated "talking in a monotone voice" (n=115, 23%) as the most annoying habit that at times included "being too wooden and long winded." Second was "talking too fast" (n=115, 20%) followed by "being disorganized" (n=115, 19%). Participants both at PSU and UW rated "being disorganized" (n=85, 16%, n=700, 17%, respectively) followed by "talking too fast" (n=85, 15%, n=700, 14%, respectively) as the top two annoyances. The second part of the study focused on whether or not students' responses differed according to their prospective majors. Participants included 144 students from the Social and Behavioral Sciences (SOBL), the Natural and Mathematical Sciences (NAMS), and the Arts and Humanities (ARHU) divisions at RSU. The most annoying behavior of professors in two of the three majors was belittling a student (n=31, 22%). In addition, personal characteristics of the professor such as talking too fast (n=13, 9%), and speaking in a monotone (n=14, 10%) rated among the top five annoyances in two of the divisions.

According to the Miley and Gonsalves (2003), faculty disorganization in class presentations and course goals were the top two annoyances in combined data from all three schools. Talking too fast, speaking in a monotone voice, and belittling students were the other top habits that annoyed participants the most. The researchers pointed out

that they did not know if the missions and purposes, such as where the emphasis for teaching and research was placed, impacted different student expectations. Furthermore, the data from the divisions of the small undergraduate universities participating in the study did not show statistically significant differences.

The data revealed that vocal phenomena played an important role in how students perceived professors' behaviors. Vocal phenomena are inherent in nonverbal communication and in teachers' and students' interactions. According to Duncan (1969), paralanguage is important for the credibility of a communicator. A receiver's impression of a communicator may be determined by the communicator's volume, rate, pitch, and pronunciation. Miley and Gonsalves' (2003) study may be generalized to those institutions having similar demographics and division. Further studies in all phases of academia and with diversity in populations and ages would improve upon educators' knowledge on how to impart information and the impact their nonverbal communications behaviors have on instruction and student learning. The current research study provides training in nonverbal communication behaviors in order to enhance communication skills between children and adults. Training in awareness of specific negative nonverbal communication behaviors was part of the intervention provided in this study.

Miley and Gonsalves' (2003) research supported the importance of teachers' self-recognizing students and their own internal nonverbal communication behaviors. The current study addresses these components. One focus of the training was on self-reporting responses to nonverbal communication presentations that included facial expressions. The following section presents information in the role facial expressions play in interpersonal and intrapersonal skills.

Facial Expressions

Nonverbal communication behaviors affect all relationships. These behaviors, such as making eye contact, moving one's body, and establishing distance between oneself and others, all work together to send messages (Goldin-Meadow, 2004). Researchers have concentrated on the relationship between adult and student communication with a focus on nonverbal behaviors. Hurley's (2004) experience was with only one student, but the importance of the positive effects nonverbal behaviors had is apparent and would benefit students if be replicated by educators. The success of Hurley's work with one of her fourth-grade students in reading was clear. After interacting with the student and not seeing any progress, an incident led Hurley to take this student to the principal's office. The principal set ground rules for the young girl and spoke with her about reading and life. The little girl reacted to the principal's conversation, and she blossomed. The girl also commented on Hurley's own nonverbal behaviors by telling her that Hurley was smiling, excited, proud, and happy when looking at her. This small incident stresses that the power nonverbal communication behaviors can have on a person. Participants in the current research study received training in different aspects of nonverbal communication behaviors and how these behaviors impact children's responses.

Rotenberg et al. (2003) researched whether adult nonverbal cues contributed to the development of rapport between adults and preschool children. Smiling and gaze were chosen as the nonverbal cues because of their ability to "promote secure attachment in children" (p. 23). Shyness of each child also was assessed. Participants included 68 children (41 females and 22 males) from three US preschools located in Tempe, Arizona.

Eighty-five percent of the children were European American, and 15% were of a minority background (mostly Hispanic American). The children ranged in age from 3 years, 6 months to 5 years, 5 months.

Parents provided consent for the children to participate in the study, and the mothers, with the children's teachers and an on-site observer, rated each child's shyness. The children were rated on the following areas: (a) "warms up easily to new people," (b) "likes to talk about himself/herself to new people," and (c) "is sociable with people he/she doesn't know well" (Rotenberg et al., 2003, p. 23). The testers were two European American adult females who had been given extensive training in the exhibition of smiling and gaze cues.

The testing consisted of four parts. In the first part (Familiarity Phase), the testers were present in two or three class sessions without any interactions with the children. In the Rapport Building Phase, the testers displayed nonverbal cues that were assigned randomly. The participant was approached by the tester on the outside play area or in the classroom. Six of the children refused to go with the tester to the testing room. The tester read the participant a story and exhibited the combination of nonverbal cues assigned.

In the Interview Phase, the tester asked the participant two types of questions engaged by Keller, Ford, and Meacham (1978) to bring forth "self-disclosure or self-concept in preschool children" (p. 24). The Postinterview phase consisted of the preschool teacher or an assistant interviewing each child in the play period right after the Interview Phase. The teacher or assistant asked the children questions about the tester who played with them.

The regression analysis of the Rapport building phase revealed that the tester's

gaze increased with children's shyness (F [1, 38] = 14.78, η^2 = .28). The effect size pointed to large practical significance for educators. When the testers exhibited high rates of gaze, the shy children attached less trustworthiness to the testers, whereas the less shy children exhibited the reverse pattern. In addition, in the high-smiling circumstances, the participants displayed less frequent nervous behavior (F [1, 37] = 4.12). The test value was statistically significant, and the η^2 of .10 for the rate of the testers' gaze pointed to moderate practical significance for educators, and the high-smiling circumstances. In the Interview Phase, there was no statistically significant difference between the smiling condition, gaze condition, and shyness or the participants' gaze or nervous behavior. The frequency of participants' smiles was negatively statistically significant when connected to their shyness (F [1, 37] = 3.22) with a moderate η^2 of .08. The participants also displayed a decrease in their smiling and disclosure as they exhibited more shyness, (F [1, 47] = 5.90).The η^2 of .11 pointed to a moderate practical significance for educational purposes. As the participants' age increased, their disclosure decreased.

The results of the regression analyses on the Postinterview phase indicated that there was a statistically significant interaction between trustworthiness and shyness in the high-gaze and low-gaze conditions (F [1, 38] = 5.47). The η^2 of .02 signified small practical importance. In addition, when smiling was displayed at a higher rate than a low frequency, the participants attributed greater likeability to the testers.

In conclusion, children were more willing to disclose information to the testers when they perceived more trustworthiness and likeability. The findings also revealed that one of the signs of openness was shown through the nonverbal sign of gaze. One of the results showed that smiling was correlated positively to both gaze and nervous behavior.

Rotenberg et al. (2003) pointed out that researchers have shown that smiling is not always associated with happiness. Results demonstrated that nonverbal cues exhibited by the testers provoked negative responses by shy children. It is important for educators to understand the various interpretations for nonverbal communication behaviors. Understanding these various interpretations was incorporated into the current study.

The rapport between a child and an adult affects a child's development. The results of the Rotenberg et al. (2003) study shed light on how nonverbal cues impact a child's reactions to an adult and thereby affect the rapport between the two. As the researchers pointed out, other types of nonverbal cues could be investigated to discover their impact on the rapport between a child and an adult. Similar research could investigate the role ethnicity plays in interactions between adults and children. Furthermore, researchers could evaluate the effect nonverbal cues have between adults and children at different age levels and in other geographical locations. After receiving training in the current research study, participants independently interacted with adults and children outside of the controlled environment of the research study. In the current research study, teachers' knowledge and understanding of nonverbal communication behaviors before and after training were analyzed with a dependent–sample *t* test using the total scores on the Nonverbal Communication Behaviors Assessment Inventory. Additionally, the correlation ratio between teachers' ages and teachers' years of classroom teaching and attitudes and understanding of nonverbal communication behaviors were calculated to investigate whether there were connections between teachers' ages and years of classroom teaching and their attitudes and understanding.

Phelps, Doherty-Sneddon, and Warnock (2006) conducted experiments in order to

examine the role that gaze aversion (GA) had as a behavior, the degree to which GAs use may facilitate performance, and the degree to which spontaneous engagement in GA develops during the first year of formal education in 5-year-olds. In Experiment 1, 20 five-year-old children were recruited from a primary school in England to be trained to increase the time they spent looking away from a questioner's face at the same time thinking about answers to verbal-reasoning and arithmetic. Additionally, the researchers wanted to determine if any increase would result in an improvement to response accuracy. Six boys and 4 girls were selected randomly for the control group, and 6 boys and 4 girls were in an experimental group. Children were asked 24 verbal and 24 arithmetic questions. The questions were divided equally between easy and hard. Each student was asked the questions individually while seated across from the questioner, whose locus of gaze remained the same throughout the testing, at a distance of approximately 1.5 feet. The participants in the experimental group were given sample questions and instructions as to when to avert their gaze from the questioner.

A mixed-design analysis of variance (ANOVA) was used to analyze the proportion of time spent averting gaze while thinking about a response to a question. Group was the between-groups variable, and question type and question difficulty were the within-groups variable. There was a main effect of question difficulty on use of gaze aversion ($F (1, 18) = 9.31$, η^2 of .34). The effect size signifies a large practical importance for educators. More GA occurred when participants responded to moderately difficult questions than easy questions (easy = 39.20%, moderately difficult = 48.03%), and children in the experimental group used GA more than the control group (experimental group = 52.50%, control group = 34.73%). The experimental group used statistically

significantly more GA when responding to both easy ($F (1, 18) = 20.82$, $\eta^2 = .54$) and moderately difficult questions ($F (1, 18) = 10.95$, $\eta^2 = .38$). The experimental group statistically significantly increased their GA when responding to increasing difficult arithmetic questions ($F (1, 18) = 11.37$, $\eta^2 = .39$). The two groups exhibited little statistical difference. Additionally, the experimental group (72.58%) had statistically significantly more questions correct than the control group (55.93%). The effects sizes pointed to moderate practical significance for educators.

The result of Experiment 1 revealed that 5-year-old children can be encouraged to increase their use of GA when thinking about responses to verbal reasoning and arithmetic questions. As a result of GA, 5-year-olds are able to perform better when presented with moderately difficult verbal reasoning and arithmetic questions. A follow-up experiment compared children from a previous study by Doherty-Sneddon, Bruce, Bonner, Longbotham, and Doyle (2002) with those in the control group from Experiment 1 to examine the difference of GA with children ending their primary year.

Three cohorts of 5-year-old children were used, the first being the control group from Experiment 1 (10 children who had just entered their first formal year of education), a new sample of 10 children were tested in February, and a third cohort of 10 children whom the researchers had prior data were tested in June of their first year of formal education. The procedures were the same as in Experiment 1. A mixed-design ANOVA was used to analyze the data. The results revealed a statistically significant main effect for question difficulty ($F (1, 27) = 8.49$, $\eta^2 = .24$) with higher GA for more difficult questions (easy = 50.74%, hard = 58.15%). Independent-sample *t* tests showed that children at the start of their primary year had statistically significantly lower levels of GA

in relation to children in both the middle of their primary year (t (18) = 2.09, d = 1.32) and children at the end of their primary year (t (18) = 3.01, d= 1.90). The results of the study indicate that GA increases as 5-year-olds progressed through their first year of formal education. Limitations to this study included the small number of participants, lack of demographic information, and prior knowledge of the students. There is a need to replicate this type of study because giving students' response time impacts cognitive skills development. Additionally, the research supports the current study's focus on the importance of nonverbal communication behaviors in education to enhance social, emotional, and academic learning.

Different educational settings including colleges and universities are beginning to introduce and teach students and adults to understand the importance of emotional skills and nonverbal communication behaviors to their well-being. Schwebel and Schwebel (2002) conducted an active-learning exercise to teach students aspects of nonverbal communication. Eight undergraduate ethnically diverse psychology classes (15 to 55 students in each class) at two universities participated in the study. Qualitative responses from 43 students stressed the impact eye contact had on their interactions with the person with whom they were interacting. A number of students stated that "the exercise forced them to experience what it was like to communicate without important facets of nonverbal communication" (p. 90). Further research could replicate this study using students at all age levels in a variety of educational settings and include various other nonverbal behaviors, given that the majority of communication occurs through nonverbal behaviors. It is important that teachers understand the educational implications of student eye contact with them, as various cultures interpret eye contact differently. The current

study's training had a focus on recognizing and understanding eye contact in regard to emotions and various cultures. A qualitative study in the current research study had participants report on their perceptions of the training and the importance of nonverbal communication behaviors. Rotenberg et al. (2003), Phelps et al. (2006), and Schwebel and Schwebel's (2002) research connected the importance of nonverbal communication behaviors to interactions of students of all ages in academic settings. Ekman's (2003) research on facial expressions is supported by existing literature in the following section.

Nonverbal Behaviors

Learning outcomes for students are more positive when teacher nonverbal immediacy is present in the classroom (Baringer & McCroskey, 2000). Mehrabian (1969) defined immediacy behaviors as those communication behaviors that "enhance closeness to and nonverbal interaction with another" (p. 302). The immediacy principle states that "people are drawn toward persons and things they like, evaluate highly, and prefer; and they avoid or move away from things they dislike, evaluate negatively, or do not prefer" (Mehrabian, 1981, p. 1). The purpose of the Baringer and McCroskey study was to broaden research conducted by Rosoff (1978) investigating the effects of positive feedback on teacher's perceptions of students. Baringer and McCroskey's hypotheses were as follows: (a) student immediacy will be correlated positively with credibility scores, (b) student immediacy will be correlated positively with attraction scores, (c) student immediacy will be correlated positively with affect scores, (d) student immediacy behaviors will be correlated positively with teachers' motivation scores, and (e) student immediacy will be correlated positively with projected success scores.

One hundred and twenty-nine professors and graduate teaching assistants

throughout 35 branches of learning from a large mid-Atlantic university participated in the study. Participants were volunteers who were teaching courses with 35 or fewer students. The volunteers completed a questionnaire and were asked to keep in mind a student who they selected randomly. Students were pre-assigned numbers, and the research form contained the numbers 1 through 35. Each participant was told to answer to the next student on the class roll if the randomly selected student had withdrawn from the class, did not attend the class, or if the participant could not remember whom the student was.

The measures included a 10-item instrument used to assess teacher perceptions of student immediacy, an 18-item instrument used to assess teacher perceptions of student immediacy, a 12-item bipolar scale to assess interpersonal attraction, 6 bipolar scales used to assess affect toward the student, the Student Motivation Scale (Richmond, 1990) that is a 6-item version used to assess teacher motivation, and 2 bipolar scales (those used in the Rosoff study, 1978) used to assess teachers' projection of achievement of the students. All five hypotheses were tested by calculating correlations, and means and standard deviations were calculated for each scale and each item. All five hypotheses were supported by the results: (a) student immediacy was correlated positively with participants' perceptions of the students' credibility (competence $r = .50$, good-will $r = .54$, trustworthiness $r = .53$), (b) student immediacy was correlated positively with participants' perceptions of the students' interpersonal attractiveness (social attraction, r = .44, task attraction $r = .52$), (c) student immediacy was correlated positively with participants' general affect for or evaluation of the student ($r = .55$), (d) student immediacy was correlated positively with teachers' motivation to teach the student ($r =$

.58), and (e) student immediacy was correlated positively with participants' projections of future achievement on the part of the student (success in the current class, $r = .50$; success in the future, $r = .47$). All correlations were moderate indicating that teachers were influenced by students' behaviors.

Prior research by Rosoff (1978) and the Baringer and McCroskey (2000) study provided information that teachers are more inclined to teach students whom they perceived as more immediate and that these students are seen more positively in other ways by the teachers. Baringer and McCroskey proposed that students who want to be sensed as being more positive should display immediate behaviors toward teachers, such as head nodding, establishing eye contact, sitting closer, and being talkative. The behaviors under consideration are nonverbal communication behaviors that students may display in an academic setting. Teachers' knowledge of these behaviors and their meanings is paramount to the success of a student. The researchers pointed out that a limitation to this study was that it was not an experiment and, therefore, causation could not be inferred. It would be valuable to replicate this study using students with different educational experiences. The current study included training that focused on the relationship between participants' perceptions of nonverbal communication behaviors including the understanding of how different cultures influence the behaviors and how participants' perceptions of students impact social, emotional, and academic growth. Participants' knowledge of, and attitudes and behaviors toward students' nonverbal communication behaviors were measured in the current study both before and after the training.

Specific nonverbal communication behaviors make an impression on relationships

between students and adults. Helweg-Larsen, Cunningham, Carrico, and Pergram (2004) studied female and male college students and head nodding in relation to subordinate and equal status. They observed 189 college students, with an average age of 20 years, in a classroom setting where they interacted on a peer-to-peer basis and on a professor-to-student basis. Fifty-six percent of the participants were female, and 92% were European American. Observations were made in 15 classes, seven of which were taught by female professors, and eight, by male professors. An undergraduate research assistant conducted the observations in classes that ranged in size from 5 to 15 students. The results were statistically significant in that more women nodded than men (F [1, 444] =15.09) although the η^2 of .03 is indicative of small practical difference based upon gender. Additionally, it was statistically significant that students nodded more to their professors than to their peers (F [1, 444] = 35.07) with η^2 of .07 of moderate practical importance. There were no statistically significant differences among men and women listening to their professor, but women nodded more to their peers when they spoke (F [1, 233] =19.85), which had some practical significance with a η^2 of .08.

Observing nonverbal behavior in a classroom setting is important because pertinent information may be communicated to enhance academic learning. The study by Helweg-Larsen et al. (2004) disclosed information that revealed that the status of a professor may override other factors such as gender of the professor or students. The researchers stated that the limitation of this study was the similarity in age and ethnicity of the participants. Studying students who are from different socioeconomic status (SES) and cultures would enhance the results. It is also difficult to look at head nodding alone without taking into consideration other facial expressions that are indicative of interest,

culture, and other feelings. As a consequence, researchers who study nonverbal communication behaviors may benefit by not focusing on one specific behavior. The setting of the current study was on a university campus and included participants from courses in the School of Education and Leadership. During the training, participants made observations while viewing specific aspects of nonverbal communication behaviors. The participants were more diverse in age, years of education, and years of classroom teaching experience than those in the Helweg-Larsen et al. study.

In a study regarding nonverbal cues and attachment styles, Cooley (2005) investigated the accuracy of adults' interpretation of nonverbal cues. Cooley studied 59 single, female college students (73% European American, 20% African American, and 7% other) at a small liberal-arts college in the Southeast. Forty-one percent of the students were involved in a serious relationship, 14% were casually dating, and 46% were not in any romantic relationship. Each participant responded to four subtests (facial expressions and voice) of the Diagnostic Analysis of Nonverbal Accuracy-2 (DANVA-2; Nowicki & Duke, 2006). Each student also classified her own attachment style. The students were divided into two groups: 36 were placed in the positive group and 23 were placed in the negative group. The two groups did not show statistical significance when decoding the facial expressions (d = .37), child faces (d = .22), or child voices (d= *.41*). The effect sizes for decoding facial expressions were small indicating that teachers' knowledge and awareness of children's facial expressions required enhancement. The two groups differed statistically when decoding adult voices (d = .61) and on the DANVA-2 with the total overall score (d = .67). The effect sizes indicated moderate practical significance for educators. The results revealed that those participants in the

positive group were more precise in deciphering adult voices and in their total DANVA-2 score.

The current study analyzed participants' ability to assess their own knowledge of nonverbal communication behaviors. As in the Cooley study, participants were more assured and confident when recognizing and understanding nonverbal communication skills. It was deemed that participants in the current study would resemble participants in Cooley's positive group. Low to moderate effects sizes in the research by Helweg-Larsen et al.(2004) suggest that current practices do not address adequately the significance of recognizing and understanding facial expressions and head nodding and teachers' perceptions of these nonverbal cues.

Gestures

Gestures play a prominent role in determining whether or not a child understands what is being taught. In addition, a child's thoughts can be interpreted by the gestures he or she makes. Goldin-Meadow and Sandhofer (1999) researched the extent to which adults, when presented with real situations, accurately read children's gestures and whether the understanding of speech was influenced by the accompanying gestures. Adult participants were undergraduate students at the University of Chicago and Indiana University. The participants from the University of Chicago consisted of 9 females and 8 males ranging in age from 18 to 26 years. This group of students observed children ranging in age from 5 to 8 on videotape only. The second group of participants from Indiana University observed the children on videotape and in a "live" setting one week later. None of the participants had prior knowledge of sign language or gesture coding. The participants observed six tasks and were asked to complete a checklist for each task.

The results of this study indicated that the adults more often chose explanations that were conveyed in gesture than explanations not conveyed at all in the two video situations and the live situations (44% vs. 13%, 32% vs. 10%, and 37% vs. 7%, respectively). When examining the effect of the interpretation of gesture accompanied by speech, the results revealed that adults in group one were able to detect accurately speech in 5.8 out of the 6 explanations that accompanied a matching gesture and comparison; they identified 5.1 out of the 6 explanations related to a mismatching gesture ($d = 1.52$; group 2 had similar results).

An analysis of the results for the naturalistic task revealed that the ratio of spoken explanations identified on the checklists differed statistically, depending on the type of gesture that accompanied it (F [2, 15] = 6.84 for transformed data). The η^2 was .48 signifying a very large practical importance for educators. More often than not, the adults checked an explanation that happened in speech that was accompanied by a matching gesture (88%) rather than when the speech was accompanied by a mismatching gesture (70%). There was not a statistically significant difference when adults accurately identified spoken explanations alone than when they were accompanied by a matching gesture. There was a statistically significant difference when adults were asked to identify spoken explanations by themselves (82%) than when accompanied with a mismatching gesture (70%).

The findings of the study by Goldin-Meadow and Sandhofer (1999) indicated that "ordinary listeners" (p. 71) were able to read a child's gesture when it did not reveal the same information as that child's speech. In turn, listeners were able to interpret children's unspoken gestures. The findings also revealed that gesture can affect speech; however, it

also was found that gesture may deter the recognition of speech. If gestures communicate a different message than that of the speech, a listener's ability to recognize a spoken message is diminished.

According to Goldin-Meadow and Sandhofer (1999), the list that was given to the 17 adults may have contributed to them choosing specific responses. They also pointed out that further research is needed in less structured conditions. Further research should include students in the higher grades to observe not only their gesture and speech but also examine if there is a difference in the amounts of gestures that occur. Participants in both the current research study and the Goldin-Meadow and Sandhofer (1999) study attended classes on a university campus in order to study gestures. Participants in the latter study were presented with video of students. In the current research study, participants were involved in exercises presented by the researcher pertaining to the importance of gestures to learning.

To further study the role of gestures in communication, Kelly, Singer, Hicks, and Goldin-Meadow (2002) conducted 3 experiments in order to establish whether adults were able to gather information from children's gestures after being given instruction in decoding gestures. In the first experiment, 63 college undergraduates (40 women and 23 men) were placed in groups of 3 to 5 participants and told that they would be watching videotapes of four children giving correct explanations and four giving incorrect explanations of their answers to a sequence of Piagetian conservation problems. The participants were administered a pretest assessing their ability to identify information expressed in the children's gesture and speech. Participants watched a stimulus tape and answered questions about what they heard and saw in the vignette. For example, one

question relating to speech responses asked, “Did the child indicate the height of the containers” (p. 6). Another question relating strictly to gestures asked, “Did the child indicate the width of the containers” (p. 6). After the pretest, participants were assigned randomly to one of four instructional methods (no instruction, hint, general instruction, and specific instruction) involving how to interpret information gathered from hand gestures. Postinstruction sessions included showing participants the vignettes in another order and asking them the same questions as in the pretest. Participants were asked to respond to the questions using any new information they had processed.

The researchers (Kelly et al., 2002) hypothesized that instruction causes people to be more aware of the information included in gesture. The results of a split-plot ANOVA indicated that specific training in interpreting information gathered from hand gestures statistically significantly increased adults’ ability to understand children’s hand gestures (F [1,59] = 78.03). The η^2 of .57 signifies the results have a very strong practical significance for further research in this area.

In experiment 2, a second set of participants, 28 undergraduates (11 women and 9 men), were evaluated as to their ability to gain information from children’s speech and gestures when watching them solve mathematical problems. Participants were administered a pretest and then assigned randomly to an instructional method (no instruction or specific instruction). During the pretest, participants viewed a taped vignette and then responded to a questionnaire about what they saw and heard on the vignette. After instruction, participants were shown the stimulus tape and responded to the same questions as on the pretest using the new information they had been taught. In this experiment, there were no statistically significant effects.

The third experiment was administered exactly as experiment 2 except for using free call (the experimenter wrote the problem on the blackboard that the child had solved on the videotape and the participant described the strategies used). Twenty college undergraduates (12 women and 8 men) participated in the study and were assigned randomly to either the no-instruction group (n = 10) or the specific-instruction group (n = 10). In contrast to experiment 2, after training participants were able to identify strategies that the children expressed in gesture at a statistically significantly higher rate (F [1, 18] = 24.69). The practical importance of .58 signified considerable importance for research in studying child behavior.

Kelly et al. (2002) concluded that the lack of statistical significance in the second experiment as compared with the third experiment was due to the way adults' interpretations of the child's gestures were measured. For the participants, using their own words produced greater results than choosing responses on the questionnaire. Seventy-five percent of the time participants used speech to interpret the child's gestures rather than their own gestures. The results of these experiments reveal that adults can benefit from training in gestures both for sensitivity to children's gestures in conservation and mathematical tasks. Training an adult to focus on gesture significantly increased his or her ability to gain information from a child's gesture and generalize the instruction to unfamiliar stimuli. These findings indicate the importance of instructing teachers to pay attention to children's gestures. The current study used a pre- and posttest survey to analyze participants' recognition of nonverbal communication behaviors. Participants were varied in their work experiences and ages.

Research on the importance of interpreting gestures in learning is stressed by

Goldin-Meadow and Sandhofer (1999) and Kelly et al. (2002). Adult training in recognizing and understanding gestures impacted interpretation of students' learning in an academic setting. Further research in a variety of academic settings with students of all ages will reinforce the important role gestures play in learning.

Summary

Research is bringing to light the effect of understanding and training in nonverbal communication behaviors has when adults are communicating with children. Any environment where children are included should involve programs where nonverbal communication behaviors are an integral part of training. It is essential for an adult to understand how one communicates their own nonverbal communication behaviors and how to interpret nonverbal communication behaviors and interact with children.

The role of professionals in the field of education is to provide students with the highest level of social, emotional, and academic growth. The impact nonverbal communication behaviors have on an individual's social, emotional, and academic growth in an educational environment has elevated the need to research the best methods for approaching changes in school settings. These changes include improving the rapport among students, administrators, staff, and teachers. There is an expectation that dramatic changes in educational reform or intervention programs will not happen immediately, but even slight changes can improve an educational settings' climate (Lopes & Salovey, 2004).

The literature that has been reviewed supports the need for educators' learning, understanding, and applying knowledge about nonverbal communication behaviors. Although some effects and eta squared that were calculated were small, the possible

reasons for the results need to be evaluated. These include self-report inventories used in many of the studies, personal bias, the size of the samples, and lack of diversity including SES, geographical location, ethnicity, gender, and age.

Mehrabian's (1981) research indicated that 7% of communication is sent through spoken words, 38% is sent through voice tone, and 55% happens through body language. The importance of nonverbal communication behaviors in producing positive learning outcomes for students was revealed through several studies. Recent studies on nonverbal communication are important because they offer an understanding of why people behave they way they do (Sielski, 1979). Research since 1995 has incorporated the importance of nonverbal communication behaviors. Students expressing positive nonverbal communication behaviors in the classroom are more inclined to be taught by teachers and be seen as more positive than other students (Baringer & McCroskey, 2000). Additional studies stress the importance of adults' interactions with students of different age levels using nonverbal cues and gestures (Goldin-Meadow & Sandhofer, 1999, Kelly et al., 2002; Rotenberg et al., 2003).

The role nonverbal communication behaviors play in the field of education has increased with research since 1998. It is imperative to train educators not only in imparting academic knowledge but also in understanding and applying his or her nonverbal communication behaviors in order to enable and encourage children to grow socially, emotionally, and academically. The current study built upon the literature and extended the knowledge base for participants' learning and understanding his or her nonverbal communication behaviors and those of students.

CHAPTER III

METHODOLOGY

The primary purpose of this study was to investigate the effect that training in nonverbal communication behaviors had on teachers' understanding and knowledge of these behaviors. This study focused on the importance of providing educators with training in nonverbal communication behaviors in order to promote effective communication within an academic setting. Teachers were administered a nonverbal communication behaviors assessment inventory. Teachers were given training in nonverbal communication behaviors and re-administered the inventory. This chapter includes the research design of the study, information, and demographics about the participants, human subjects' consideration, procedures, qualifications of the researcher, treatment, instrumentation, and data analysis.

Research Design

This study was a mixed methodology, pretest-posttest design, used to assess the impact of training on participants. Participants were administered the Nonverbal Communication Behaviors Assessment Inventory and given training on nonverbal communication behaviors. The training was followed by the posttest and participants were administered an open-ended questionnaire to determine the effectiveness of the training. Participants were divided into discussion groups in order to discuss the open-ended questionnaire and the usefulness and effectiveness of the training. The inventory was developed by the researcher.

The independent variable was training in nonverbal communication behaviors, and the dependent variable was the strength of the association between their ages and

years of teaching experience. The data analysis from the nonverbal communication behavior survey was used to assess the effect training in nonverbal communication behaviors had on increasing participants understanding of nonverbal communication behaviors. Participants were administered the pre- and posttest nonverbal communication behavior inventory and participated in the training during the Spring 2008 semester. Correlation ratios were obtained between teachers' ages and years of teaching classroom teaching in relation to their knowledge and understanding of nonverbal communication behaviors.

Participants

Thirty students from three graduate courses participated in the study. Participants were taken from a convenience sample of students enrolled at a private 4-year university in Northern California. A majority of the participants were female, were credentialed teachers, and ranged in age from 20 to 40 years old (Table 1). A total of approximately 438 graduate students are in the School of Education and Leadership. As of Spring 2007, graduate students responded to a survey including questions on ethnicity included 7% Asian and Asian American, 3% African American, 9% Hispanic and Latino American, less than 1% American Indian, 1% Pacific Islander, 3% Other, and 63% European American.

Table 1

Demographics of Participants by Levels

Demographics by Level	f	%
Experience		
Not in a classroom	5	16.67
Student Teacher	0	0.00
Intern	1	3.33
Credential Teacher	20	66.67
Other	4	13.33
Type of Program		
General Education	18	60.00
Special Education	12	40.00
Age		
20-29	12	40.00
30-39	6	20.00
40-49	6	20.00
50-59	3	10.00
Other	3	10.00
Gender		
Male	3	90.00
Female	27	10.00
Years in a Classroom Teaching		
Less than one year	6	20.00
1-2 years	4	13.33
3-5 years	10	33.33
6-10 years	7	23.33
Over 10 years	3	10.00

Human Subjects Considerations

Protection of human subjects in this study complied with the standards set by the American Psychological Association (2002) and the Institutional Review Boards of two universities. Permission from the university instructors and the Dean of the School of Education and Leadership used in this study was obtained in writing. The review boards of the University of San Francisco and the institution where the study took place were

contacted and approval was obtained for the research. Instructors in the School of Education of a private, religiously affiliated 4-year university in Northern California were presented with information and asked to have their Spring 2008 classes participate in a study the researcher was conducting on nonverbal communication behaviors. Written permission from the instructors and from the Dean of the School of Education and Leadership were obtained (see Appendix A). Potential respondents were informed by the researcher and by cover letter that their participation was voluntary, that all information would be kept confidential and in a secure location, and that information would be reported in aggregate number (see Appendix B).

Procedures

The instructors of the classes participating in the study were asked to permit the researcher to present the information for the study to the students in their classes. The instructors were asked to allow the researcher to administer pre- and posttests of the nonverbal communication behaviors inventory and allow 6 hours during the semester to train the participants on nonverbal communication behaviors. The inventory included questions on demographics. After the training, the researcher requested participants to supply written responses to a qualitative survey consisting of 5 open-ended questions pertaining to the training and participate in discussion-groups. The researcher evaluated the responses to the qualitative survey from each participant and the discussion groups. Confidentiality was maintained for all participants who only had access to their own surveys and information. Students who consented to participate were asked to complete the Nonverbal Communication Behaviors Classroom Assessment Inventory (see Appendix E for the Nonverbal Communication Behaviors Classroom Assessment

Inventory administered by the researcher and Appendix F for the Qualitative Survey). All students were requested to complete the Qualitative Survey. The researcher collected the Nonverbal Communication Behaviors Classroom Assessment Inventory, the qualitative survey, and the written comments from the discussion groups.

Students participating in the study completed the pre-Nonverbal Communication Behaviors Classroom Assessment Inventory in their classes during the beginning of the Spring 2008 semester. Six hours of training was allocated over 4 class sessions for the participants in nonverbal communication behaviors. The participants were administered the post-inventory, the qualitative survey, and met in discussion groups. All students received the training whether or not they chose to participate in the study. Instructions were read by the researcher regarding completing the survey. The pre- and postsurveys and the qualitative survey were collected by the researcher.

Qualifications of the Researcher

The researcher who designed and implemented the training for nonverbal behaviors has a lifetime teaching credential from New York State. She has an AA degree in Early Childhood Education, a BS in Elementary Education, and an MS in Elementary Education with a Reading Specialist Certificate. The researcher has worked in a clinic setting and owned and directed a clinic working with students who had mild to severe disabilities. She also was an instructor in the San Mateo Community College District teaching reading development courses and special-education courses for participants and directors of early-childhood programs. Along with a colleague, the researcher wrote the Literacy Assessment Program for Project Read San Francisco. Presently, the researcher is director of the Academic Success Center, the Program for Academic Support and Success

(PASS), and the Tutorial Center of a private 4-year university in Northern California. She is also a part-time faculty member of the School of Education and Leadership teaching courses in the Reading Certificate and Credential program and the Special Education program. The researcher also works closely with researchers in the field of nonverbal behaviors and emotional intelligence. She has been trained in educational assessment and has been a consultant, trainer, and tutor for literacy programs, study-skills programs, and children and adults with special needs.

Treatment

The intervention for this study was training on nonverbal communication behaviors including behaviors pertaining to body language, proxemics, facial expressions, and voice tone and behaviors specific to cultures. In order to pilot the treatment, 30 participants from a course at a university were presented the training in Fall 2007. The instructor for the course and the participants, with the exception of one, found the training valuable. The participants found the information important and that it would be beneficial to use in their teaching.

Six hours was allocated for the training over four sessions and was interactive with the participants performing tasks related to nonverbal communication behaviors. For example, in one activity students were assigned randomly to small groups and given pictures of a young adult illustrating various emotions through facial expressions. The students were directed to decide collaboratively on the meanings behind the expressions and justify their responses. The training included the following dimensions as presented in Table 2.

Table 2

Dimensions of Training

Nonverbal Communication Behaviors	Researchers	Materials	Session
Earliest Forms of Communication Discussion of Nonverbal Communication Behaviors	Darwin, Giler (2002),Goleman (2006), Greenspan (1997), Hurley (2004), Pool (1997a & B),	Survey, PowerPoint providing background information and discussion, self-reflections	1
Facial Expressions	Ekman (2003)	Group work using Ekman's photographs, whole class discussion, self-reflections	2
Proxemics	Hall (1990), Jordan (2001), Norman Rockwell Photographs	PowerPoint providing information on proxemics, presentation of Rockwell's photographs and discussion around facial expressions and proxemics, self-reflections	3
Vocal Phenomena	Mehrabian	Surprise guest reader who uses a children's literature book. Oral reading followed by discussion surrounding habits of the reader, self-reflections	3
Body Language	Goldin-Meadow (2000, 2004), Kelly et al. (2002), Mehrabian (1981), Miller (2005), Nowicki & Duke (1996), Sielski, ,	PowerPoint's and discussions regarding body language, gestures, classroom instruction, and cultures, reflections	4

Instrumentation

Two instruments were used for the study: a researcher-designed nonverbal communication behaviors assessment inventory and a researcher-designed qualitative survey. Participants completed the researcher-designed nonverbal communication behaviors assessment inventory in their classes during the beginning of the Spring 2008 semester. Participants completed the qualitative survey and met in discussion groups after the training was presented.

Nonverbal Communication Behaviors Classroom Assessment Inventory

The first survey instrument was a researcher-designed questionnaire based on the research on nonverbal communication behaviors (Ekman, 2003; Mehrabian, 1981; Miller, 2005; Nowicki & Duke, 1992, 1996; Sielski, 1979) and was directed specifically to participants enrolled in a university program. The survey was designed to assess participants in their ability to read students' nonverbal communication behaviors in the classroom. The nonverbal communication abilities assessment was constructed with a verbal frequency scale using a 4-point range from (1) "strongly agree" to (4) "strongly disagree." Students were instructed to mark the degree to which they rated each item. Data were evaluated to assess participants' strengths in nonverbal communication behaviors. The survey contained 40 questions covering the subscales of attention, knowledge, and behaviors (see Appendix C).

Pilot

A pilot for the survey was administered in Fall 2007. Participants consisted of 46 aides, teacher assistants, student teachers, interns, and credentialed teachers enrolled in a credential program at a small private university in Northern California. Participants

ranged in age from 20 to over 60 years old and had from under one year to over 10 years of classroom teaching. The participants were enrolled in two sections at a private college in Northern California. All students agreed to participate and provided feedback on the instrument.

Participants in the pilot study were asked to complete the Nonverbal Communication Behaviors Classroom Assessment Inventory and provide written responses and discuss with the researcher questions relating to the survey. The students wrote responses to four questions: (a) did you find the questions relevant to you work in education? (b) were the questions clearly articulated?, (c) did the survey stimulate your interest in additional research in this field?, and (d) did you feel that any questions call attention to your own biases as an educator? Participants believed the questions were relevant to their work in education; however, one participant believed the questions were geared toward older children. One participant commented on the cultural questions and said, "the cultural questions were a little touchy because it is hard to recognize it as discrimination or biases." Another participant stated that the questions called attention to her biases as an educator and stated, "Yes, the questions pertaining to cultural difference (we take education classes in these matters)." Some participants had difficulty with some of the wording on particular questions. The question that posed the most difficulty was, "My initial reaction to a message delivered by a teenager where his/her mouth is partially or completely covered is to interpret it as surprise." Through discussion the participants believed they did not understand or were not aware of this behavior as a nonverbal communication. Several participants asked why there was not a column labeled "not sure." To different degrees, the participants believed the survey stimulated their interest

in this field. There was discussion among the participants themselves about how to incorporate nonverbal communication behaviors into their environments. Participants who worked with students in special educations were more verbal about the need to be consciously aware of these behaviors all the time. Participants commented that, "All educators should look at these questions" and "the topic is interesting and worthwhile."

In order to show evidence of validity, the researcher contacted and met with an expert, Anabel L Jensen Ph.D., a pioneer educator in emotional intelligence, in the field of EI and nonverbal behaviors. The expert reviewed the areas to be measured and read each item to assess its relevance in measuring nonverbal behaviors. The researcher utilized the comments of Anabel L Jensen, Ph.D. to word the questions and make any necessary additions and deletions.

For this study, the researcher evaluated the participants' responses to the knowledge, attitude, and behavior domains. Cronbach's coefficient alpha was used to measure internal consistency. The closer the coefficient is to 1.00, the greater the internal consistency of items being assessed in the instrument.

In the final study, the items were classified into 3 domains with a total of 34 items: knowledge (10 items, $\alpha = .64$, questions 3, 5, 8, 15, 21, 29, 31, 35, 36, 38), attitude (11 items, $\alpha = .53$, questions 2, 4, 7, 9, 12, 17, 19, 23, 27, 32, 39), and behavior (13 items, $\alpha = .64$, questions 6, 10, 11, 13, 18, 22, 24, 25, 28, 30, 33, 34, 37). Cronbach's coefficient alpha was used to measure internal consistency. After removal of 6 items on the questionnaire, Cronbach's coefficient alpha increased to .82 for 34 items. For this study, the researcher evaluated the participants' surveys as to his or her total knowledge

in each domain. Statistics were based on all cases with valid data for all variables used in the analysis.

Qualitative Survey and Discussion Groups

The second instrument was an open-ended researcher-designed questionnaire that asked participants to provide written responses to questions relating to the value and benefits of the training. Participants met in discussion groups to discuss the individual responses to the survey. The participants wrote responses to four questions: (a) did the training cover aspects of nonverbal communication behaviors that reinforced your recognition and interpretation of these behaviors?, (b) in what specific aspects of the training did you gain knowledge?, (c) would these nonverbal communication behaviors enhance communication between the whole educational community including students, educators, and parents?, and (d) which nonverbal communication behaviors would you prioritize, and why? Participants met in six different discussion groups for approximately 30 minutes to discuss their responses.

Restatement of Research Questions

The proposed study investigated the following research questions:

1. To what extent does training in nonverbal communication lead to increased knowledge on the part of participants as measured by the scores on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
2. To what extent does training in nonverbal communication lead to changing behaviors on the part of participants as measured by the scores on the Nonverbal Communication Behaviors Classroom Assessment Inventory?

3. To what extent does training in nonverbal communication lead to changing attitudes on the part of participants as measured by the scores on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
4. To what extent do participants' ages correlate to recognizing and interpreting nonverbal communication behaviors as measured by the demographics on the Nonverbal Communication Behaviors Classroom Assessment Inventory?
5. To what extent do participants' years of teaching correlate to recognizing and interpreting nonverbal communication behaviors as measured by the Nonverbal Communication Behaviors Classroom Assessment Inventory?
6. What are the teachers' reactions to the benefits or lack of benefits of the nonverbal communication behaviors training as measured by a researcher-designed qualitative survey and the discussion groups?

Data Analysis

Teachers' knowledge of nonverbal communication behaviors before and after training was analyzed with a dependent–sample *t* test using the total scores. Pre- and posttest scores meet the normal distribution assumption of the t test because the sample size is 30. The extent to which training in nonverbal communication led to increased knowledge of nonverbal communication behaviors was calculated using a dependent–sample *t* test to address the first research question using the total domain scores. The extent to which training in nonverbal communication led to changing behaviors of nonverbal communication behaviors was calculated using a dependent–sample *t* test to address the second research question using the total domain scores. The extent to which training in nonverbal communication led to increased attitudes of nonverbal

communication behaviors was calculated using a dependent–sample *t* test to address the third research question using the total domain scores.

Current research (Kremenitzer, 2005 & Goldin-Meadow, 2000 & 2004) points to the value of training in the recognition of nonverbal communication behaviors for early childhood practitioners and educators. For the purpose of this study, the researcher chose to corroborate whether or not the training had an impact on the participants. The correlation ratio between teachers' ages and teachers' years of classroom teaching and attitudes and understanding of nonverbal communication behaviors were calculated to address the fourth and fifth research questions using the total scores. A qualitative piece included teachers' written reactions to the benefits or lack of benefits of training in nonverbal communication behaviors training and discussion groups were used to address the sixth research question.

CHAPTER IV

RESULTS

The purpose of the proposed study was to investigate the effect of training in nonverbal communication behaviors on participants' self-assessment of nonverbal communication behaviors. The results of this study are presented in three sections: Survey Results, Discussion Group Results, and Summary. The quantitative results of the survey are presented and analyzed in terms of means, standard deviations, correlations, and t tests. The qualitative data were generated using questionnaires and interviews from discussion groups. The students who participated in the study were presented a pre- and posttest researcher-designed questionnaire on nonverbal communication behaviors, given interview questions, and met in discussion groups for the interview questions. Six hours of training was allocated for nonverbal communication behaviors.

Quantitative Results

Pre- and posttest results were analyzed using dependent-sample t tests to investigate whether training in nonverbal communication behaviors led to increased knowledge, behaviors, and attitudes on the part of participants. Individuals responded to the items on a 4-point scale ranging from 1 – strongly agree to 4 – strongly disagree. Pre- and posttest scores meet the normal distribution assumption of the t test because the sample size is 30. There are statistically significant mean differences between the pre- and posttest total scores ($t = -3.44$, $\eta^2 = .36$ and the pre- and posttest knowledge domain scores ($t = -2.31$, $\eta^2 = .18$) (Table 2). Both of these differences are pointed toward the agree scale and indicate a large measure of practical importance based on Cohen's (1992) criteria of .01 for small, .06 for medium, and .16 for large (p. 157). The attitude domain (t

= -3.71, η^2 = .35) had a statistically significant mean difference toward the agree scale. The reliability on the attitude scale was .53 compared with a reliability of .65 for both the knowledge and behavior domains. The number of items in the knowledge, attitude, and behavior domains are 11, 10, and 13, respectively.

Table 3

Means, Standard Deviations, and t-test Results for the Nonverbal Communication Behaviors Assessment Inventory

	Mean		Std. Deviation				
Domain	Pre	Post	Pre	Post	t	df	η^2
Knowledge	2.10	1.99	.25	.25	-2.31*	25	.18
Behavior	2.14	2.11	.28	.23	-0.76	25	.02
Attitude	2.38	2.22	.20	.24	-3.71*	26	.35
Total	2.19	2.07	.19	.21	-3.44*	21	.36

*Statistically significant at .05 level.

Prior to training, participants' self-assessment and perceptions of their awareness of nonverbal communication behaviors was average (M = 2.19) on the Nonverbal Communication Behaviors Assessment Inventory (Table 3). After training, the mean was 2.07, indicating participants' self-assessment and perceptions of their awareness increased.

To address the fourth research question that do participants' ages correlate with recognizing and interpreting nonverbal communication behaviors, the researcher computed correlation ratios (η) for participants' ages (Table 4) by their total scores on the Nonverbal Communication Behaviors Assessment Inventory and participants' years of classroom teaching (Table 5) by total scores on the Nonverbal Communication Behaviors Assessment Inventory.

Table 4

Correlation Ratio for Age and Total Pre- and Posttest Scores

Variable	Total Pre	Total Post
Age	.17	.34

Participants' ages and total scores on the Nonverbal Communication Behaviors Assessment Inventory changed from a small effect ($\eta = .17$) on the pre to a medium effect ($\eta = .34$) on the post.

Table 5

Correlation Ratio for Years of Classroom Teaching and Total Pre- and Posttest Scores

Variable	Total Pre	Total Post
Years of Classroom Teaching	.21	.31

Participants' years of classroom teaching experience and total scores on the Nonverbal Communication Behaviors Assessment Inventory changed from a small effect ($\eta = .21$) on the pre to a medium effect ($\eta = .31$) on the post (using Cohen's (1992) criteria). The preknowledge, prebehaviors, and preattitude domains had 30 participants. The number of participants for the postknowledge and postbehaviors were 26, and for the postattitude domain, the number of participants was 27.

Table 6

Correlation Ratio for Age and the Total Pre- and Posttest Scores on the Knowledge, Behaviors, and Attitudes Domains
Behaviors Assessment Inventory

Correlation Ratio	Pre-Knowledge	Post-Knowledge	Pre-Behaviors	Post-Behaviors	Pre-Attitude	Post-Attitude
Age	.25	.13	.13	.29	.13	.29

In the knowledge domain, the correlation ratio for age changed from a medium effect to a small effect (Table 6) with the behaviors and attitude domains changing from a small effect to a moderate effect before and after the training.

Table 7

Correlation Ratio for Years of Classroom Teaching and the Total Pre- and Posttest Scores on the Knowledge, Behaviors, and Attitudes Domains Behaviors Assessment Inventory

Correlation Ratio	Pre-Knowledge	Post-Knowledge	Pre-Behaviors	Post-Behaviors	Pre-Attitude	Post-Attitude
Years of Classroom Teaching	.13	.21	.42	.21	.29	.25

In the knowledge domain, years of classroom teaching changed from a small effect to a medium effect before and after training. Years of classroom teaching on attitude produced a medium effect before and after training. In the behavior domain, a large effect on years of classroom teaching was measured before training and after training produced a medium effect (Table 7).

Qualitative Survey and Discussion-Group Results

In order to assess teachers' reactions to the benefits or lack of benefits of the nonverbal communication behaviors training, participants met in groups of 4 to 7 after completing the qualitative survey. The participants in the 6 discussion groups discussed their responses to the following questions: (a) Did the training cover aspects of nonverbal communication behaviors that reinforced your learning and interpretation of these behaviors?, (b) In what specific aspects of the training did you gain knowledge?, (c) Would these nonverbal communication behaviors enhance communication between the whole educational community including students, educators, and parents?, (d) Which

nonverbal communication behaviors would you prioritize, and why, as analyzed by the results of the qualitative surveys and the discussion group results?

Did the training cover aspects of nonverbal communication behaviors that reinforced your learning and interpretation of these behaviors?

All participants, except for one, in the discussion groups indicated the training covered aspects of nonverbal communication behaviors that reinforced learning and interpretation of these behaviors and, for those participants who had training in the past; the training was a good refresher. Participants in discussion group 1 believed the training offered more clarification and new skills for reading body language and facial expressions. One participant stated, "Yes, I believe that I knew many of the things already, but I really learned new information as well. For example, I learned about cultural differences." Another participant acknowledged that she was "able to brush up on clarifying body language and facial expression. I was interested in people's individuals quirks, related to culture or not." In discussion group 2, one participant stated that the training gave her more confidence and "reassured me in the way I look at nonverbal communication. Of the four participants in discussion group 3, each one had the most teaching experience, all but one participant, stated that the training was a good refresher, especially noting differences between different cultures. Participants stated, "Yes – it's always important to be reminded of nonverbal communication between people, and the differences between cultures," and "I was interested with the cultural differences of nonverbal communication." The participant who did not indicate the training covered aspects that reinforced her learning did indicate, in a different question, that she gained knowledge in the cultural aspects of the training. One participant in discussion group 4 mentioned how other cultures do not encourage student

communication, but in fact, student communications are important for teachers to both observe and understand. Second participant stated that the training reiterated certain behaviors that "I do in the classroom and how they are interpreted by my students." All participants in discussion groups 5 and 6 believed that the training covered aspects of nonverbal communication behaviors that reinforced learning and that they would pay more attention to nonverbal communication. A participant stated, "Yes, it made me think a bit more about how I speak to or touch (hugs, high-fives, hand on the shoulder, etc.) of my students."

In what specific aspects of the training did you gain knowledge?

Participants in discussion group 1 stated that they gained knowledge in the areas of cultural differences and facial expressions. There was an overall stronger appreciation for student because of cultural differences and that all students need to be acknowledged because of their differences. One participants stated, "Cultural differences, personal space – that sometimes being close to a student to get him to focus, is not always the most efficient way – they see this as hostile." One participant had a fairly solid understanding of the information because processing verbal information is difficult, and therefore, focuses more on body language due to personal needs. The discussion of proxemics was valuable for the participants to understand, for example, how it may not always be efficient to stand over a student to keep him or her on track. Two of the five participants in discussion group 2 stated that knowing nonverbal communication behaviors of different cultures was most important, and, the other 3 participants stressed the importance of understanding the meanings behind facial expressions. In regard to culture, one participant reported on "the vast array of differences even within what might be

considered one lump culture." Another participant stated, "During the training, I learned the most about the different cultural aspects that come with communication." For one participant, "The facial expression study made me gain knowledge of peoples' feelings by their facial expressions without their body signals."

In discussion group 2, two participants indicated that recognizing cultural differences expanded their understanding of the meaning behind nonverbal communication behaviors. One participant stated, "During the training I learned the most about the different cultural aspects that come with communication." Another participant acknowledged, "I learned about the body language typical of different cultures…" One participant is paying more attention to facial expressions and stated, "The facial expression study made me gain knowledge of people's feelings by their facial expressions without their body signals." All participants want more opportunities to practice the knowledge gained. The participants wanted more lessons and clips and more information about subtleties that give anger away.

In discussion group 3, the participants were surprised at the fact that there was such a widespread lack of understanding of body language among teachers and teachers' inability to read cues. The group was impressed by the fact that people who are more social are more aware of body-language cues than other adults. Participants indicated that nonverbal communication is important in the classroom. They gained knowledge in being conscientious of gestures and behaviors and in the understanding of social norms of different cultures. One participant declared, "I enjoyed talking about how nonverbal communication is important in the classroom and what it means to the students."

The participants in discussion group 4 indicated that the information presented about different cultures heightened their awareness. One participant has started to give himself additional time before responding to a student when frustrated. Another participants gained knowledge watching her children's body language, and she is more aware of how he children's bodies are reflecting the difficulty of the educational setting. "I am more aware of my students' body language. I watch them more closely before I address them." A participant was more aware of proximity as a means of gaining compliance.

Participants in discussion group 6 gained knowledge in the area of proxemics and one participant was more aware of her proximity to students and has begun observing other teachers' proximity to his or her students. Because they are in special education, the participants indicated they were aware of nonverbal communication behaviors, but the training reinforced their current practices. They were more aware of proxemics. Participants stated, "Cultural differences…gestures…learned to watch my own facial expressions when it is unknown situations…made me more aware of what was already natural," and, "I learned the importance of using more gestures during lessons."

Would these nonverbal communication behaviors enhance communication between the whole educational community including students, educators, and parents?

All participants in discussion group 1 indicated that the nonverbal communication behaviors would enhance communication. This Focus Group discussed real-life experiences with their friends and how body language reveals true preferences rather than what is being heard. Participants acknowledged communication would be enhanced by stating, "I believe it would benefit our community because we have been dealing with too many racist and sexist behaviors on campus." Another participant believed, "Yes, I think

it would. Some aspects seem to be general knowledge, but to discern them and be shown more specific interpretations of nonverbal communication makes one more aware in their everyday life."

Discussion group 2 participants believed teachers need a whole course in body language and education in order to enhance communication. One participant acknowledged, "Nonverbal communication behaviors are given by every person, so being more knowledgeable would make communication, in all areas, more effective and allow less room for common misunderstandings." The participants would like to see videotaping of specific situations and discussions about family differences. They also were interested in understanding more body language at different ages and stages.

The group members of discussion group 3 indicated that some behaviors are misinterpreted and therefore, teachers may be led to overlook neurological issues. Participants stated, "Definitely, especially between students to students, teachers to students, teachers to parents, and parents to parents," "Yes, I think students need to be reminded how each person has their own 'personal space', and it needs to be valued and respected." The participants believed that talking about issues such as personal space with students allows for students in classrooms to take more notice of issues like this one. One example was a teacher who had a student who is a stutterer and his patterns of behavior are mostly nonverbal.

Participants in discussion group 4 stated that understanding nonverbal communication also fosters learning, sensitivity, and understanding of students' diverse backgrounds. Since nonverbal communication is 55% of all communication used in the classroom, it does enhance communication. One participant stated, "I think it is

something that people can benefit by learning about it. As I mentioned before, it is a great reminder," Additionally, another participant stated, "Yes, it will help in keeping in mind the cultural differences/nonverbal communications we all have which foster sensitivity and understanding to people's diverse backgrounds."

One participant in discussion group 5 worried that more spotlight on cultural differences would tend to divide the parent community. One participant expressed the need both for children to learn to look at others' expressions and for children to be able to articulate their feelings explicitly.

Recognizing and understanding cultural difference and body language enable people to understand each other more was the focus of the discussion in group 6. Being aware of and using appropriate language when communicating is important. Statements made by the participants were, "Yes, we should all take this course and reflect on it – not only educators," "Yes, cultural differences, body language…understand each other more…using appropriate language," and "It would bring a higher level of understanding to communication between all groups."

Which nonverbal communication behaviors would you prioritize, and why, as analyzed by the results of the qualitative surveys and the discussion group results?

Participants in discussion group 1 indicated they would prioritize body language, tone of voice, and proxemics when using and evaluating nonverbal communication behaviors by stating, "Body language, eye contact, hands crossed because this has the most information right away about one individual." "Tone – some people may not show outright how they're feeling, but you can hear clues in their voice. Space – personal space – this show how a person feels with others around them. Can really set the mood," "Facial and body language," and "I think we should focus on respecting others' cultures

and their ways of body language communication so that we aren't offensive to others." The trainees also discussed their preference for the qualitative survey rather than the assessment survey. Participants responded the second time completing the assessment was more confusing than the first because of the need to recognize and understand cultural differences. When reading the questions on the survey the second time, the participants believed that because of the differences in nonverbal communication behaviors in various cultures, they needed to give a broader response than what a question was asking.

Most critical to the participants in discussion group 2 were proxemics and cultural differences (specifics about individual cultures). One participant stated that the whole topic is critical and she has been using it in her job. A valuable insight is to ask when unsure rather than make a judgment. One participant stated, "Yes, because teachers can pick up on certain cues that students unknowingly do. This can be used by teachers in order for them to readjust."

The participants in discussion group 3 declared that general body, facial features, jockeying for position, and posturing were probably most important. They believed that recognizing these behaviors particularly was true with English Language learners where the lack of language puts more importance on facial expressions and gestures such as nodding of the head. Participants stated, "Definitely, especially between students to students, teachers to students, teachers to parents, and parents to parents" and "Yes, I think students need to be reminded how each person has their own 'personal space', and it needs to be valued and respected."

As a whole, the participants would prioritize learning about personal space so a good first impression would be established. They stated, “I think I would prioritize nonverbal communication where people are upset, anxious, or scared. It makes me feel uneasy, so I think I want to put the other person at ease,” and “Leaving personal space so that we could establish a good 1st impression – which hopefully will help in building positive relationships. Reading expression and responding to it. Eye contact and reading expressions are also important. Nonverbal communication where people are upset, anxious, or scared makes participants uneasy unless they are able to address these behaviors.”

Discussion group 5 participants believed that understanding proxemics is a high priority for teaching, especially for new teachers. One participant stated, “Distance – I think that too many times teachers (new/seasoned) cross a comfortable boundary and proximity with their students.” “Understanding is based on age, culture, and personality. Facial expression is important, too, as an overall component of emotional intelligence.”

The participants in discussion group 6 would prioritize recognizing facial expressions, especially sadness and hopelessness. Reading the eyes is also important. Participants commented by stating, “Facial expressions – easy to see what someone is feeling/thinking without speaking to them,” “The look, because my students have Aspergers syndrome and they have difficulties making eye contact. When they feel safe, they can make long eye contact with expressions. Respecting others personal space is also important,” “Sadness …hopelessness…facial expressions…eyes” and “Sadness…hopelessness…because I would want to process this with a student and encourage them out of it,” “Body language…shows comfort, anxieties, etc. Eyes…show

confusion, fear, excitement," and "Gestures along with verbal instructions…lots of visuals…look at the body language of your students…cultural influences."

Summary

The results presented in this section addressed the research questions that were the basis of the current study. The researcher-designed instrument revealed a statistically significant difference on the Nonverbal Communication Behaviors Assessment Inventory on the total pre- and posttest scores and in the knowledge domain. There was a statistically significant difference in the knowledge and attitude domains and the total score toward the agree scale. There was no statistically significant difference after training in the behavior domain. The total pre- and posttest scores produced a medium effect with age and years of classroom teaching. The pre- and posttest scores in the behaviors and attitude domains produced a medium effect with age. The pre-and posttest scores in the knowledge domain produced a medium effect with years of classroom teaching.

This chapter included research results for the discussion-groups. For each discussion group, the effectiveness of the training was addressed. Participants believed that facial expressions, body language, cultural differences, and proxemics were the most important aspects of the training. Overall, participants indicated that the training enhanced their recognition and understanding of nonverbal communication behaviors.

CHAPTER V

LIMITATIONS, SUMMARY OF RESULTS, DISCUSSION, AND IMPLICATIONS

This mixed methodology pretest–posttest study was designed to investigate the effectiveness of providing professional development to participants in nonverbal communication behaviors. The intent of this study was to learn if training in nonverbal communication behaviors increases participants' recognition and understanding of nonverbal communication behaviors. Participants' self-reported assessments in nonverbal communication behaviors, surveys, and discussion groups were used to analyze the effect of training. In the current study, nonverbal communication behaviors are defined as speech including vocal tones, rate, and inflection, facial expressions, hand and arm gestures, postures, and positions and various movements of the body or the legs and feet such as tilting of the head or hand wringing (Mehrabian, 1981).

Thirty participants initially participated in the study with 28 completing the postassessment, qualitative survey, and the focus-group questions. Two participants complete the qualitative survey, but were not present for the focus-group discussions. This chapter includes limitations of the study, discussion of the research questions, a summary of the results, practical implications, and implications for further research, and a summary.

Limitations

The findings of this study were limited in range by the size and nature of the sample. The participants from this study were drawn from three classrooms of participants in the graduate program in The School of Education and Leadership at a small, private, religiously affiliated university in Northern California; hence, the results

may not be generalizable to students in public settings. The results of this study should not be considered statistically generalizable to a greater population.

The Nonverbal Communication Behaviors Assessment Inventory had weak interitem correlations. The weak interaction correlations affected the reliability of the domains. Particularly the researcher was limited in her ability to measure the extent to which the training in nonverbal communications led to increased knowledge, behavior, and attitudes. Additionally, teachers' reactions to the benefits or lack of benefits of the nonverbal training were self-reported. Researchers are not able to know how truthfully respondents answer the questions.

The study was limited due to the length of the training. Six hours of training was allocated over 4 class meetings. Immediately following the training, participants were given the Inventory and Student Questionnaire. Educators received valuable information during the training; however, on-going training and modeling is essential to be most effective. Additionally, specific aspects of the nonverbal training (facial expressions) will be in-depth, whereas other aspects were not covered as thoroughly.

Summary of Results

Results for the first research question, to what extent does training in nonverbal communication behaviors lead to increased knowledge on the part of participants as measured by the total score on the Nonverbal Communication Behaviors Assessment Inventory, revealed a statistically significant change from pre- to posttest toward the agree scale. Results for the second research question, to what extent does training in nonverbal communication behaviors lead to changing behaviors on the part of participants as measured by the behavior domain score on the Nonverbal Communication

Behaviors Assessment Inventory revealed that there is not a statistically significant change between the pre- and posttest behavior subscale scores. Results from the third research question regarding changing attitudes revealed a statistically significant difference toward the agree scale. There were statistically significant results for the fourth and fifth research questions that investigated a possible correlation between age and the knowledge, behavior, and attitude domains and years of classroom teaching and the knowledge, behavior, and attitude domains. In the knowledge domain, ages and years of classroom teaching increased from a small to a medium effect. In the behavior domain, although there was an increase from a medium to a large effect for years of classroom teaching, it was not statistically significant.

The sixth research question examined participants' reaction to the nonverbal training. The qualitative survey completed by the interviewees and the discussion groups indicated the importance of professional development in the area of nonverbal communication behaviors. The participants recognized the areas of proxemics, cultural differences, and facial expressions as the most important. Professional development in nonverbal communication behaviors will enable teachers to promote the social, emotional, and academic development of students.

Discussion of Results

Nonverbal communication behaviors training had a large effect on behaviors of participants. Participants' reactions to nonverbal communication behaviors' training as presented in the discussion groups were positive. Although pre- and postresults did not show a statistically significant effect on and attitudes of participants, the time allocated

for the study did not allow for practical application in order to the participants to reflect on differences in knowledge and attitudes.

The present study strengthened Mehrabian's (1981) research that revealed that 38% of communication is sent through voice tone and 55% happens through body language that addressed the importance for recognizing and understanding nonverbal communication behaviors. The results of the data analyses reported an increase of behaviors on the part of participants after training presented on nonverbal communication behaviors. All participants in the discussion groups believed they gained knowledge from the training and they reinforced their learning and interpretation of those behaviors already recognized. One particular area where participants gained knowledge was with recognizing and understanding cultural differences. As Hall (1959) pointed out, proxemics has various meanings in different cultures. Several participants emphasized how invading students' personal space may not be the most efficient way to have them focus. Participants also mentioned how teachers need this information to strengthen communication with their students and parents. Facial expressions and cultural differences proved valuable in understanding social norms.

Wainwright stated (1999) that understanding body language is important when teaching, especially in relation to child development. The participants increased their ability to understand body language, especially student body language that expressed anxiety. Teachers need to be aware of what their own body language communicates because children, particularly those of cultures other than the teacher's, may interpret body language differently. Teachers' gestures, smiles, and other facial expressions,

respect for personal space, timing, and attentiveness have an impact on how students think about themselves and others.

One aspect of the training included an interactive session with an instructor from the university who entered each class unannounced and read a portion of a children's literature book to the participants. After reading several pages, the researcher stopped the instructor and asked for reactions from the participants. The instructor used a monotone voice, varied her rate of reading, and used gestures that interfered with the focus of the participants. The reactions of the participants supported Miley and Gonsalves (2003) and Goldin-Meadow's (2004) research on the importance of gestures and vocalics in communication. Although a few of the participants believed that this was a set-up, all participants were unsure of why the researcher would have someone read aloud and present negative behaviors. The discussions that followed focused on the negative effect nonverbal communications had on the interactions with the instructor and the participants. The discussions that followed with each group of participants included how nonverbal communication behaviors can interfere with focus and learning in an academic setting.

The National Center for Education (2005) reported an increase in specific learning disabilities from the 1976-1977 school year to the 2003-2004 school year. Participants at all levels, especially those working with special-education students, explained that understanding nonverbal communication behaviors plays a critical role in students' social, emotional, and academic progress. The interviewees' responses supported Giler (2002) who discussed how children with learning disabilities need

training in social skills as well as academic skills in order to be successful. Students and teachers who misinterpreted nonverbal cues impeded their progress.

Due to the lack of prior research about training participants in nonverbal communication behaviors, this study set out to examine the effectiveness of the relationship between nonverbal communication behaviors training and teachers' knowledge of these behaviors and the implications for student success in the classroom. Subsequently, the results that emerged surrounding this topic offer ample opportunities for deeper inquiry.

Through discussions during and after the training, preservice teachers expressed a strong motivation for more training and videos on nonverbal communication behaviors. The preservice teachers also revealed their ability to take information from the training and apply the information to their personal lives as well as their work environments. Special-education participants coalesced around the conclusion that teaching students with moderate to severe disabilities made them more conscious and sensitive to nonverbal communication behaviors and the training heightened awareness to these behaviors.

Some of the results of the current study support the effectiveness of providing training for participants. The Nonverbal Communication Behaviors Assessment Inventory's overall reliability was strong ($\alpha = .82$). The Student Questionnaires and discussion groups revealed the importance and necessity of providing participants with nonverbal communication behaviors training. Statements from participants include (a) "Teachers should have knowledge and get training in non-verbal, they way, they would have a successful classroom," (b) "It would bring a higher level of communication to all

groups," (c) "It will help in keeping in mind the cultural differences/nonverbal communication we all have which foster sensitivity and understanding to people's diverse backgrounds," and (d) "In addition to nonverbal communication, these educational communities need training on sensory regulation and its effect on a student' ability to learn."

Implications for Practice

Professional development for service teachers and coursework for preservice teachers in both general education and special education promotes the importance of recognizing and understanding nonverbal communication behaviors for effective communication in classrooms. Each teacher should have the ability to apply what he or she knows about physical, social, and emotional development to plan instruction and make modifications and adaptations for each child (California Commission on Teacher Credentialing & California Department of Education, 1997). Training could be given in credential programs and continue with professional development. Training could include seminars in each aspect of nonverbal communication behaviors. In addition, participants would benefit by experiencing the application of these behaviors in classrooms. Discussion groups are valuable in providing participants the ability to self-assess with their peers.

Providing training for preservice teachers in developing their recognition and understanding of nonverbal communication behaviors including proxemics, body language, gestures, vocalics, and cultural differences will enhance their interpersonal skills in a classroom setting. Educational psychology courses, English Language Learners courses, and special-education courses could emphasize nonverbal communications

behaviors and the impact recognizing these behaviors have on a child's development. Training can include learning about the importance of proxemics through exercises in which preservice teachers have the opportunity through student teaching and on-site visits to observe students, both in and out of the classroom, and record students' behaviors in these different settings. Without teachers having these skills, children may not fully develop academically and emotionally.

Gestures are nonverbal communication behaviors that can reveal whether or not a student understands a lesson. It is important for teachers to recognize gestures that students make as well as their own gestures. Kelly, Singer, Hicks, and Goldin-Meadow's (2002) research using students in different academic settings revealed the importance for recognizing the meanings behind gestures. Preservice should be presented the opportunities to sit in classrooms and observe videos of lessons in different academic venues before and after training in the meanings behind gestures. Recording observations and discussing what is observed will provide practical application of what was learned. Professional development for service teachers should offer service teachers the opportunity to acquire more knowledge about nonverbal communication behaviors along with feedback about use of nonverbal communication behaviors while delivering a lesson.

Ekman's (2003) research revealed the value of understanding facial expressions throughout the different cultures. Using Ekman's research and expanding the research using different cultures will train participants to gain a deeper understanding of different cultures and the meanings behind facial expressions and behaviors. Participants need time to observe students and other adults in a variety of settings. It is valuable to practice

reading expressions 15 minutes a day, to watch silent movies (without captions), and discuss in discussion groups what was observed. One lesson would involve participants walking on a campus observing a person for a few minutes, assessing what they are feeling at the time.

In order to prepare adequately participants in recognizing and understanding nonverbal communication behaviors, training should be presented and on-going over two semesters. Professional development needs to consist of inservices including research, practical application, and discussion groups. Assessment using a self-report survey will establish prior knowledge, behaviors, and attitudes toward nonverbal communication behaviors. Participants expressed a desire to have on-going training in nonverbal communication on-site. These participants believed that training would enhance teachers' ability to relate effectively to their students, parents, and other educators. The entire educational community would then benefit.

Implications for Research

At the present time, there is little research on the effects of training on interpreting and understanding nonverbal behaviors. The researcher recommends a future study that utilizes a nonverbal communication behaviors inventory with knowledge, behaviors, and attitudes subscales that have adequate reliability. These subscales would allow a future researcher to measure properly the relationship between participants' acquisition of knowledge, behaviors, and attitudes after receiving the nonverbal communication behaviors training.

There is a research opportunity regarding professional development in the area of nonverbal communication behaviors training. The current study could be replicated using

this inventory or another related to nonverbal communication behaviors. Training in nonverbal communication behaviors could be enhanced by supplementing each aspect of the behaviors with additional information, videos, and speakers. The training period should be extended over one academic year with the opportunity for students to apply what is learned in a teaching environment. Additionally, including participants from larger universities and various geographical locations would broaden the research base.

Nonverbal communication behaviors offer potential researchers a wealth of opportunities to investigate further the impact for recognizing and understanding these behaviors in special education settings. More attention in the area of nonverbal communication behaviors research needs to focus on populations like the hearing impaired, students with learning disabilities, pervasive developmental disorders, visually impaired, and mental-health impairments. In order for the educational community to meet its goals of adequately educating all populations, it would be beneficial for nonverbal communication behaviors to be given credence as a pertinent area of education including teacher preparation courses.

Summary

The purpose of the current study was to investigate if training in nonverbal communication behaviors increases participants' recognition and understanding of these behaviors using total scores from the Nonverbal Communication Assessment Behaviors Inventory. Additional research questions included whether or not there were differences between pre- and posttest scores on the knowledge, behavior, and attitudes domain, and if there was a correlation ratio with ages and years of classroom teaching with scores for each domain and the total score on the inventory.

The results of the qualitative survey and the discussion groups revealed that even those participants who had prior training benefited from the knowledge they received. There was only one participant who believed she did not learn anything from the training. During the trainings and focus-group discussions, the preservice teachers directed their conversations to interactions with both students and adults in and out of academic settings. The preservice teachers wanted additional information through more training including videos and interactive exercises. The teachers of students with moderate to severe disabilities use nonverbal communication behaviors on a daily basis. This group found the information valuable and discussed on a regular basis how they would tie the knowledge from the training with the assistive technology being used. Several of the service teachers were instructing students with reading disabilities and discussed the use of nonverbal communication behaviors and how to focus on these behaviors in small groups. One teacher in particular used knowledge she had gained to help a student have a more positive attitude.

The results indicated evidence that participants benefited from nonverbal communication behaviors training. The participants are in favor of more training for themselves as well as the whole community. It is imperative that teacher credential programs and school settings provide training, research, and on-going support for nonverbal communication behaviors training.

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APPENDIXES

Appendix A

Permission Letter

Peggy (Margaret) Koshland-Crane

Dear
I am conducting a study on nonverbal communication behaviors for participants. This research is toward the completion of my doctoral studies in the School of Education at the University of San Francisco. I am asking your consent for this study to be conducted in classes being held in The School of Education and Leadership at _____ University. Your permission to allow me to conduct the study will be of benefit to participants.
The research is on nonverbal communication behaviors. The surveys administered and training will benefit educators in understanding the role nonverbal communication behaviors play in educational settings.
Your signature below indicates that you give me permission to conduct my research on campus.

Signature Date

Appendix B

Permission Letter from Instructors

Peggy (Margaret) Koshland-Crane

Dear Dr.

This letter confirms that you have been provided with a brief description of my dissertation research concerning nonverbal communication behaviors. Your signature below indicates that you give your consent for me to announce this study to participants and request their volunteer participation. Participants who agree to be included in the study will give me permission to administer the pre- and post nonverbal communication behaviors survey and the qualitative survey. Participants will meet in discussion groups after the training.

All students will receive training in nonverbal communication behaviors. Training will be administered over 6 hours during the Spring 2008 semester and the date and time will be mutually agreed upon. The training will promote students understanding of nonverbal communication behaviors and the impact on teachers and students in a classroom setting. The training supports research done in the areas of nonverbal communication behaviors including cultural factors and individual needs that affect first and second language development. The State of California requires approved professional teacher preparation programs for individuals enrolling in education specialist programs to include training on nonverbal communication behaviors.

Student participation will be voluntary and results will be kept confidential and anonymous and in a locked storage cabinet.

After my research project has been complete in May 2008, I will send you a summary of my research findings and conclusions. Please feel free to contact me if you have any further questions about this study.

Sincerely,

Peggy Koshland-Crane

Your signature below indicates that you give me permission to conduct my research in your class.

Signature Date

Appendix C

Cover Letter to Students

Peggy (Margaret) Koshland-Crane

Dear Students of:

I am conducting a study on and nonverbal communication behaviors for participants. This research is toward the completion of my doctoral studies in the School of Education at the University of San Francisco. I am asking your participation in this study because of your enrollment in credential programs at _____ University. Your involvement in this study will help educators understand the role nonverbal communication behaviors play in educational settings.

Please read the attached Informed Consent Form that describes the purpose and background and procedures for the study. Part of this study asks for your permission for me to administer self-report surveys in nonverbal communication behaviors.

Participation in this study is voluntary. If you choose to participate, please sign the attached Informed Consent Form and place it in the envelope, which is being circulated. Please do not hesitate to call me if you have additional questions about the study at _____. I can also be reached by e-mail at _____. Approval for this study has been obtained from University of San Francisco and _____ University Institutional Review Boards. Thank you for your interest in and contribution to my research in nonverbal communication behaviors.

Sincerely,

Peggy Koshland-Crane, Doctoral Candidate

Appendix D

Student Consent Form

The Effect of Professional Development in Nonverbal Communication Behaviors on Participants' Recognition and Understanding of these Behaviors

Purpose and Background

Peggy Koshland-Crane, a doctoral student in the School of Education at the University of San Francisco, is conducting a study on nonverbal communication behaviors of participants. The researcher is interested in participants' self-reported knowledge of nonverbal communication behaviors. This study attempts to explore the participants' understanding and interpretation of nonverbal communication behaviors.

Procedures

If I agree to be a participant in this study, the following will happen:

1. I give permission for the researcher to administer the Nonverbal Communication Behaviors Classroom Assessment Inventory at the beginning and after training during the Spring 2008 semester.
2. I will complete the Nonverbal Communication Behaviors Classroom Assessment Inventory during class time at the beginning and after training during the Spring 2008 semester. I will complete the demographic portion of the survey and respond appropriately to the questions pertaining to nonverbal behaviors.
3. I will complete the Qualitative Survey after the training.
4. I will meet in Focus Group discussion with other participants in the study.

Risks and/or Discomforts

3. This is a self-report survey. I am free to decline to answer any questions I do not wish to answer.
4. Participation in research may mean a loss of confidentiality. Study records will be kept as confidential as possible. No individual identities will be used in any reports or publications resulting from the study. My decision to participate in the study will not have an effect on my status at the University.

Benefits

There is the opportunity for direct benefits to me from participating in this study. The anticipated benefits include training in nonverbal communication behaviors.

Costs/Financial Consideration

There will be no financial costs to me as a result of taking part in this study.

Reimbursement/Compensation

There is no reimbursement or compensation for participating in this study.

Questions

I have spoken with Peggy Koshland-Crane about this study and have had my questions answered. If I have further questions about the study, I may call her at _____.
If I have any questions or comments about participation in this study, I should first talk with the study researcher, Peggy Koshland-Crane. If for some reason I do not with to do this, I may contact the IRBPHS at the University of San Francisco, which is concerned with protection of volunteers in research projects. I may reach the IRBPHS office by calling 415-422-6091 and leaving a voicemail message, by e-mailing IRBPHS@usfca.edu, or by writing to the IRBPHS, Department of Counseling

Psychology, School of Education, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Consent

I have been given a copy of the "Research Subject's Bill of Rights," and I have been given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. I am free to decline to be in this study, or to withdraw from it at any point. My decision as to whether or not to participate in this study will have no influence on my present or future status as a student at _____.

.

My signature below indicates that I agree to participate in this study.

Subject's Signature_____ Date_____

Appendix E

Nonverbal Communication Behaviors Classroom Assessment Survey and Instructions to be Read by the Researcher

The Effect of Professional Development of Nonverbal Communication Behaviors of Participants' Recognition and Understanding of these Behaviors

Instructions to be Read by the Researcher

Hello and thank you for choosing to participate in the study. You are being asked to complete a Nonverbal Communication Behaviors Classroom Assessment Inventory.

The first part of the Inventory asks you to respond to questions relating to your experiences in the field of education. Please place a checkmark next to each item that pertains to you.

The second part of the Inventory consists of 40 items related to nonverbal communication behaviors.

Please read each item below that describes your ability to interpret students' body language. For each item, indicate the amount of experience and understanding you have of these behaviors from "always" to "never" by choosing a number and putting it in the space to the right of the item.

Nonverbal Communication Behaviors Classroom Assessment Inventory

Name _____ **Date** _____
Please circle the description in each category that best pertains to you

Experience Not in a classroom Student Teacher Intern Credential
Credentialed Teacher Other_____

Type of Program General Education Special Education

Age 20-29 30-39 40-49 50-59 60 and over

Gender Male Female

Years in a Classroom Teaching less than one year 1-2 years
3-5 years 6-10 years over 10 years

Please read each sentence and indicate by putting an X in the box the one that BEST DESCRIBES YOU. Remember to mark one box for each sentence. There are no right or wrong answers.

Strongly Agree	Agree	Disagree	Strongly Disagree	
				1. I use the tilt of a student's head to recognize when he or she is engaged.
				2. I am unsure as to what extent nonverbal communication behaviors play in the interaction between a teacher and each student.
				3. Paying attention to children's body language does not provide me with a signal for when to alter the lesson.
				4. I take cultural influences into consideration when paying attention to my students' reactions in the classroom.
				5. I recognize the widening of a student's pupils as a signal of some positive feeling.
				6. I invade a student's space when I want him or her to refocus on his or her work.
				7. I rarely acknowledge nonverbal communication responses from my students.
				9. I initially interpret fingers on the mouth as a need for reassurance.

Strongly Agree	Agree	Disagree	Strongly Disagree	
				10. I have perfected “the look” and use it with students.
				11. I rarely use sign language (i.e., thumbs up) in my classroom to send a student a silent signal of approval.
				12. My initial reaction to a message delivered by a teenager where his/her mouth is partially or completely covered is to interpret it as surprise.
				13. Reading the gestures of people is inconclusive.
				14. I use nonverbal communication behaviors to assess how my students are feeling.
				15. I teach my students how to interpret body language signals by watching silent movies.
				16. I interpret wide-open eyes as a sign of fear.
				17. When a student folds his or her arms across his/her chest, I do not know if he/she is sending me a positive signal.
				18. Depending on their culture, I alter my reaction when students do not look directly at me.
				19. I lack confidence in my understanding of specific cultural aspects of nonverbal communication.
				20. A small fold under the eye indicates a smile is real/genuine.
				21. I interpret a lack of expression to be a sign of sadness.
				22. When a student stares at me, I lack confidence in my interpretation of their feelings.
				23. I initially interpret the lowering of the head as guilt.
				24. I determine the level of anxiety by the amount of hand wringing.
				25. When I see a student’s eyes darting back and forth, I interpret this as a student becoming nervous/anxious.
				26. I recognize emotions such as happiness, anger, and sadness in my students by their tone of voice.

Strongly Agree	Agree	Disagree	Strongly Disagree	
				27. I am unable to place as much emphasis on body language as verbal communication in the classroom.
				28. I initially interpret head nodding as inattention.
				29. I rarely observe my students' body placement when they are working in groups.
				30. I interpret picking items up and putting them down as a sign of being prepared.
				31. Other than the face turning red, I am unable to recognize most of the signs when a student is embarrassed.
				32. Touching the nose is a signal that a student is falsifying information.
				33. I am unable to stop a student from feeling resentment when I see them crossing their arms, pouting, or grimacing.
				34. I interpret biting of the nails as a sign of worry.
				35. I am unable to tell by a student's body language when he or she is lying.
				36. I lack confidence in being able to tell by a student's body language when he or she appears anxious.
				37. I pay attention to the interjections my students use when speaking in order to determine whether or not they are fluent speakers.
				38. I understand the "silent no" look coming from one of my students.
				39. I believe in the theoretical basis of body language.
				40. I use data and information to add to the knowledge base I am building about students.

Appendix F

Qualitative Survey

The Impact of Training in Nonverbal Communication Behaviors of Participants and Their Perceptions of the Process

Student Questionnaire

Please provide answers to the questions below.
Thank you,
Peggy Koshland-Crane

1. Did the training cover aspects of nonverbal communication behaviors that reinforced your learning and interpretation of these behaviors?

2. In what specific aspects of the training did you gain knowledge?

3. Would these nonverbal communication behaviors enhance communication between the whole educational community including students, educators, and parents?

4. Which nonverbal communication behaviors would you prioritize, and why?