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EFFECTS OF A TANGIBLE GOAL ON STUDENTS' PERCEPTIONS
AND OFF-TASK BEHAVIORS

by

Geoffrey Artie Reynolds

A Dissertation Submitted to the Faculty of the

SCHOOL OF MUSIC AND DANCE

In Partial Fulfillment of the Requirements
For the Degree of

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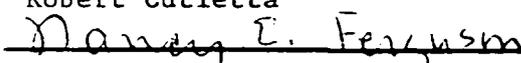
As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Geoffrey Artie Reynolds entitled Effects of a Tangible Goal on Students' Perceptions and Off-Task Behaviors.

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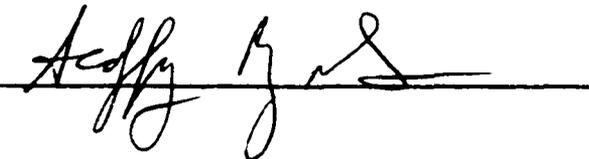
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SIGNED:

A handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to read "Aeddy G. ...".

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ABSTRACT

The purpose of this investigation was to determine the effects of a tangible goal on students' on-task behavior and the perception of their classroom climate. The tangible goal examined was an audio CD recording of students' classroom musical activities. Also examined were the interactions of time of test, grade, group, and gender. The My Class Inventory was used to measure students' perceptions of their learning environment.

Two hundred and fifty one students from twelve intact classes in two elementary and two middle schools were chosen for the study. The intact classes were randomly assigned to one of the two treatment groups for a four-week experiment. The study utilized a pretest/posttest two group quasi-experimental design to answer six research questions. Four-way ANOVAs with repeated measures were conducted to measure mean differences and interactions. Group and time of test were the principal variables of this study. Only significant interactions containing both principal variables were deemed applicable to this study.

Results of the study found significant differences between experimental and comparison groups of off-task behavior scores. Also significant interactions were found for Friction and Difficulty scores of the My Class Inventory between the experimental and comparison groups and between grade levels. Gender did not significantly interact with the principal variables of the study.

Chapter I

Introduction and Background of the Problem

Perhaps the most important element associated with students who enjoy school or specific classes across grade levels is related to the classroom climate established by the teacher. Research on classroom climate began around 1936 when Lewin (1936) became aware that both the environment and its interaction with personal characteristics of the individual were strong determinants of human behavior. Since then researchers on children's perceptions of classroom environments have identified relationships between students' perceptions of their learning environment and their academic outcomes (Walberg, 1976).

Creating a positive learning environment does not happen by chance; the responsibility falls on the teacher to establish a positive social climate. This positive environment is one where: 1) the learning atmosphere supports diversity, 2) teachers and students express mutual respect, 3) all expect the intellectual best of each other, 4) the classroom provides encouragement and support, and 5) open dialogue is the primary means of verbal exchange (Schmuck & Schmuck, 1968; Shapiro, 1993).

Classroom climate, as defined by Haertel, Walberg, and Haertel (1981) is ...The socio-psychological dimensions of classroom life, including cooperation among teachers and students, common interests and values, the pursuit of common goals, a clear academic focus, well-organized and well-planned lessons, explicit learning objectives, an appropriate level of task difficulty for students, and an appropriate instructional pace.

Ormrod (1995) explains that “when the class environment is associated with punishment, humiliation, failure, or frustration, the curriculum can become a source of excessive anxiety.” (p. 42). The ideal learning environment is one where students experience more success than failure. This does not suggest that students should not experience failure, however. Failure is a natural part of learning, and students need feedback about the gaps in their understanding as well as the concepts they have grasped and mastered (Ormrod, 1995). Assumptions from several studies indicate that students who work in positive environments express more amiable attitudes toward school than students in more negative classroom climates (Kohn, 1996; Raviv, Raviv, & Reisel, 1990; Shapiro, 1993; Slavin, 1981; Wang, Haertel, & Walberg, 1994).

Vacha (1977) describes four aspects that foster or are prerequisites to a positive social climate. These aspects are values, expectations, leadership, and cohesion. Through values, students learn who they are and what their place in the world is (Raths, 1966). When given opportunities to work together, individuals create expectations for themselves and others. Each individual’s expectations evolve and combine to become the group’s expectations. Having a group expectation places the responsibility of attaining the group’s goals on each member who learns to predict and adjust his/her actions to benefit the whole (Vacha, 1977). Teachers, because of their position, have considerable authority in the classroom, however an informal leadership structure exists in every classroom because of the influence that certain students have over the others. Cohesion is defined as the sum of group members’ feelings about their group as a whole. Stated more clearly, a cohesive classroom is one where a wide variety of individual

interests and needs are satisfied. Once values, leadership, and expectations are established, a cohesive social climate can manifest. Through the democratic leadership structure, a cohesive environment will exist (Schmuck & Schmuck, 1968; Shapiro, 1993).

Kohn (1996) states that “the ideal environment would support children’s desire to find out about things.” Kohn compares the “look” of a “doing to” class to a “working with” class. What an observer would see in a “doing to” class is the teacher focusing on students’ behaviors in order to elicit compliance, compliance manifesting as punishments and rewards. In this style of teaching, the teacher is usually front and center. Juxtaposed is the “working with” environment. Here the focus is on students’ underlying motives in order to nurture positive values and a love of learning. The preferred methods include the creation of a caring community and a genuinely engaging curriculum. In this style of teaching, locating the teacher might take a few moments because s/he typically will be working closely with the students.

During adolescence, children develop the ability to rationalize and think abstractly, the distinction between sexual characteristics and gender identity rapidly increase, and they begin to develop divergent interests. According to Kirkpatrick (1968), profound physical and mental changes mark the years of early adolescence. During this time the adolescent is interested in doing things that serve a useful purpose, in contrast to the early years where the mere doing is sufficient. School subjects are interesting if the adolescent sees that they have future value. Once the adolescent’s interest in a subject is piqued, that student might pursue it with more determination and singleness of purpose than would be exhibited by an adult (Singleton & Anderson, 1969). Glenn, McBride, and

Wilson (1970), in their description of junior high and senior high school students, report that young adolescents can perform academically as well as students in high school. Members of this age group tend to enjoy tasks that require quick thinking and cleverness. Such tasks are of interest because they provide exercise for the developing of abstract thinking skills. Abstract thought is one of the significant changes marking the dawning of adolescence. Those following this premise can understand why busy work, either intentional or not, fails to motivate these students.

Besides the rapid physical and chemical changes that occur at the onset and throughout puberty, adolescence is a stage where students are most sensitive to education due to their curiosity and eagerness to find causes for natural phenomena and social conditions (Singleton & Anderson, 1969). This age group enjoys activities that demand quick thinking and foster the developing powers of abstract thought (Singleton & Anderson, 1969; Glenn, McBride, & Wilson, 1970). Once interest is aroused in a subject, adolescents will strive to learn and experience all that is available and related to this topic (Singleton & Anderson, 1969).

Gender differences also begin to increase during adolescence. One area of difference identified is interest. Interest includes the intensity of curiosity in subjects and activities exposed to during school, social interests, and extra-curricular interests. Researchers have studied student interest because of its connection to the setting of goals and have examined and identified differences between the amount of interest students' display toward music activities and technology. With gender inequity being an ongoing topic of concern among educators and the public at large, researchers have focused and

continue to focus their energy on isolating the effects of gender on academic and social activities.

Gender activity preference and especially gender inequities in the fields of music and technology have received much attention among the research community. Female students in general display more positive attitudes toward general music activities than do their male classmates. A majority of research agrees that among music activities, girls' interest in music and especially general music activities is greater than that of boys. This difference increases as students advance in grade (Boswell, 1991; Boyle, Hosterman, & Noyes, 1981; Mizener, 1993; Siebenaler, 1998).

Male students on the other hand appear to be more interested in activities and courses that include the use of technology, whereas their female counterparts exhibit a decline in interest where technology is involved (Bush 1996; Conant 1988; Holton 1991). According to Comber, Hargreaves, and Colley (1993) when students are young their interest and perception of success using electronic technology is equal. Unfortunately, in coeducational schools, girls' confidence in using these tools begins to decline with advancing grade, whereas confidence among boys remains stable or increases.

With all of the recent advances in electronic technology such as CDs (Compact discs), DVDs (Digital videodisc), AI (Artificial Intelligence), and VR (Virtual Reality) it is no surprise that adolescents would be attracted to various forms of electronic technology and highly motivated by it. Research indicates that middle school students respond well to technology and like it. Several studies have indicated that students become excited and have increased motivation and higher outcomes when measured both

quantitatively and qualitatively when working with electronic technology. This excitement and interest has positive effects on students' behavior, and increases their likelihood of attaining personal and classroom goals (Ellis, 1997; Jonassen, 1996; Rogers, 1997; Rosenthal, 1998).

Perhaps, because of the awakening of varied interest students at the middle school level begin to understand how to set short- and long-term goals. The goals set, coupled with the amount of interest and perceived value will determine the zeal with which that individual pursues accomplishing these personal goals. Sociologists and psychologists have studied the types and reasons why individuals set goals as well as influencing variables affecting goal setting.

Goals are a central component in motivation theory (Ormrod, 1995). Bandura (1989) says that goal setting is a critical part of self-regulated behavior. It is the internal goal to succeed that motivates individuals. Social scientists describe two forms of goal setting: learning goals and performance goals. Learning goal desire to achieve competence by acquiring additional knowledge or mastering new skills. Individuals, when setting these goals, tend to demonstrate more effective learning and higher performance. In contrast, a performance goal is a behavior where the desire to look good and receive favorable judgments from others or not look bad and not receive unfavorable judgments is the primary driving behavior. Of the two, learning goals are a more desired behavior to foster in students. Students who set learning goals seek challenging tasks, demonstrate persistence especially when confronted with their mistakes and are driven to increase their knowledge base of the topic.

Researchers and sociologists agree that goal-directed instruction contains reinforcing value. Teaching strategies based on goal-directed outcomes can positively influence students' perceived value and expectations for success, thus increasing their intrinsic motivation. When students are intrinsically motivated they demonstrate greater on-task behaviors and participate in the creation of a more positive learning environment (Baron & Byrne, 1987).

Often when one thinks of technology an image of a computer is the first picture that comes to mind. Mamlok (1994), a middle school general music teacher, touts the advantages of incorporating technology in general music. Researchers have also examined the benefits of including technology in general music (Bush, 1996; Rosenthal, 1998). However, technology comes in a myriad of forms both the personal computer and non-central processing unit (CPU) machines. Therefore, several articles have posited the effectiveness of non-CPU machines, some of which include synthesizers, audio recorders, VCRs, and more recently, CDs and Laser discs (Comber, Hargreaves, & Colley, 1993; Ellis, 1997; Griswold, 1988; Jacobsen, 1986; Rogers, 1997; Wyman, 1966). These findings support the use of such electronic devices in aiding music instruction.

Rosenthal (1998) investigated the potential benefits and usefulness of electronic technology as a creative tool for children participating in middle school general music. This study implies that students demonstrated a high level of involvement in projects, exhibited nearly continuous on-task behavior, and verbalized enthusiasm for their projects.

To address some of these diverse student interests (i.e., music, and technology education), middle schools offer elective courses that will provide more intense experiences in various disciplines. The purpose behind doing so is to create opportunities for students to explore their interests, attain some of their academic goals, and provide guiding steps toward career decision making.

Many of these elective classes are in the fine arts and industrial arts, one of which is general music. General music is a class that offers broad experiences with musical performance, the structure of music, multicultural music, and the role music plays in our lives.

Because electives are classes which students choose to take, the number of students enrolling in each will determine course offerings. Research on enrollment trends indicate that as students advance in grade the number electing to enroll in general music declines. Paradoxically, psychologists and sociologists agree that individuals spend more time listening to music during adolescence than any other time period in their lives (Davis, 1985). The amount of time that adolescents spend listening to music is approximately the same as the time spent in the classroom from kindergarten through high school (Zillmann & Gan, 1997). Hence, adolescents spend more time listening to music than do other age groups. Yet adolescents are not flocking to general music classes, they are fleeing from it. One possible explanation for this avoidance of general music might be that students do not find it relevant to their musical interests and their lives.

Two studies, conducted in 1970 and 1980, collected data regarding students' preferences for various types of general music activities. The researchers behind these studies were Boyle, Hosterman, and Noyes. Both studies were conducted using samples comprised of seventh- and eighth-grade general music students from four public school districts in Centre County, Pennsylvania. Using a Musical Interest Inventory, they identified the preferred activities of seventh and eighth-grade students at each year respectively. Once they ranked the general music activities of each target year they compared the two ranks to identify any changes in student preference between decades. Since then, replications and variations on their research have been conducted each succeeding decade to determine if students' attitudes change along with the times and to identify any consistencies of activity activity preference throughout the decades (Boyle, Hosterman, & Noyes, 1980; Thompson, 1991; Johnson, 1994). The goal of these studies has been to track activity preference across decades to identify any trends and changes in the most and least liked activities expressed by students.

Results show that among both samples the strongest preferences were for activities involving rock music, including playing the guitar, playing drums, and making tape recordings. Despite the similarities among these sample groups, the overall interest ratings for the 1980 students were slightly lower when compared to the students from the 1970 investigation.

Building on the research of Boyle, Hosterman, and Noyes, Thompson (1991) duplicated their study but included a component where students were asked to indicate their preference for specific musical selections. His findings support those of earlier

research; activities dealing with popular music were ranked highest. Only slight differences were found across other general music activities. In Boyle, et al., singing rock music was ranked first among students' activity preferences in 1970; however, in the Thompson study listening to rock was ranked first among students.

Continuing to the 1990s, the next study involving middle school general music activity preference was a dissertation conducted by Johnson (1994). Her study incorporated a slightly different focus group, urban middle school general music students. She reported that among this group the activity most frequently experienced was listening, rap being the genre most frequently heard in class.

Her study is unique in that the results she reported are different from those of previous studies. She concludes that among low-income and urban-minority middle school students the most preferred activity was creating activities, for example movement activities. Other favored activities were playing and listening. The activity least preferred was singing. These results varied somewhat by grade level.

Bowles (1998) applied this interest of music activity preference to the students at the elementary level. In her study, students stated which of 13 traditional music-classroom activities and eight music-program related activities they enjoyed. Results of this study showed that students preferred playing instruments above all others across grade levels. The next most preferred activities were singing and listening to music, which were very closely ranked. The remaining preferences identified were creative movement, performing in music programs, attending concerts and having performers visit

the class or the school. Activities disliked were participating in music contests and composing.

Other studies delve into activity preference more deeply by narrowing the variables to determine if activity preference changes as a result of maturity (Asmus, 1986; Bowman, 1990; Broquist, 1961; Covington, 1983; Greer, Dorrow, & Randall, 1974; LeBlanc, 1979, 1982; May, 1983; Nolin, 1971, 1973; Pogonowski, 1985; & Taebel & Coker, 1980). These studies tend to agree that student attitudes toward general music activities decline with advancing grade level. In addition, male attitudes tended to decline more rapidly than female attitudes.

Music teachers at the middle school level are faced with the ever-present challenge of creating activities that meet curricular requirements, match the intellectual ability of the adolescent to musical activities, and meet students' social needs. Needless to say, this can be a daunting task. For teachers of performing ensembles, meeting these objectives might be less demanding than for the general music instructor. Usually, students enrolling in a performing ensemble want to be there and choose to participate in those activities for either internal or external reasons. Typically, these students have positive perceptions of their music ability. Despite the fact that general music is an elective, students' behaviors along with trends of declining enrollment suggest that these students' do not really want to be there but are in general music for other reasons.

As in classes for performing ensembles, the principle objectives of general music education are to help students acquire knowledge, skills, and values necessary to continue music learning, performing, and to fill the role of consumers (Sink, 1992). These are

highly desired curricular outcomes; however, the challenge for general music teachers lies in getting the students to set musical goals. Before students see the need to set musical goals, they must first realize the inherent value these future behaviors have for them. Once they realize the value in music, they might be motivated to learn more about and desire more experiences with it while in class.

Meyers (1994), as well as others, believes that general music falls short of its potential. He states that “despite its major evolution from a singing program to a comprehensive music learning approach...general music [still] struggles”. Boardman (1990) attributes this to general music failing to develop and attain established and widely accepted goals over the past 50 years. She clarifies this statement saying that disparate skill work and activities fail to produce independent musicians—creative, critical thinkers, sensitive to the musical traditions of their heritage. Goodlad (1984) agrees with Meyer’s ideas about the state of general music. He found that many students believe music to be a relatively unimportant subject.

Need

Zillmann and Gan (1997) found that adolescents are highly attracted to music, spending copious amounts of time listening to their favorite songs. General music is an elective course offered at the middle school level, yet as students’ advance in grade the numbers electing to enroll in this course decreases. Why is it that a class providing experiences in the activity most engaged by adolescents suffers from declining enrollment? Since this is a national trend it seems logical to posit that students lose

interest and value in the activities typically offered. Research indicates that positive attitudes toward musical activities vary by intensity, grade level, and gender, and that they decrease as grade level increases. Male positive attitudes toward general music decrease faster than females.

Electronic technology in its myriad forms is very appealing to many adolescents. Technology has been used to motivate student interest in activities which they would normally consider uninteresting. Some discrepancies exist in studies on technology's effectiveness, however, the majority of results indicate that electronic technologies can be very effective in increasing students' knowledge base and interest, promoting higher order thinking skills, and increasing on-task behavior. Also, male students' interest in general music activities has been heightened by the addition of electronic media. Based on the works of Bandura and others, it is believed that students who are motivated tend to spend more time on-task. In the beginning of this chapter research on attentiveness (on-task behavior) and classroom climate was presented. These studies agree that positive learning environments exist when students spend high percentages of the class period on-task. When students work in positive environments they tend to enjoy class and school more, become more interested in the content and activities presented, perceive value in those activities, and form positive outcome expectations. These expected outcomes are goals. It seems logical to concede that students who enjoy activities related to a given subject, thereby setting goals, might be inspired enough to set learning goals. As educational theorists state, learning goals are goals that stem from intrinsic interests.

Once learning goals are set and achieved, it seems plausible for these learning goals to mature into a lifelong interest in content related to that academic subject.

To date no studies have examined the effects of a goal, recording in-class musical performances on an audio CD, on on-task behavior and classroom climate. It seems plausible to assume that if presented with a motivating goal, recording in-class music activities, student interests might be enhanced thus resulting in more on-task behaviors that will then elicit more positive perceptions of classroom climate.

What would the academic and social effects be if students were told that they would receive an audio CD of their music activities performed in class? Would their attitudes toward general music activities change? Would an audio CD motivate students who otherwise would exhibit disinterest? Can an audio CD motivate students to focus on goals thus improving their on-task behaviors? Would an audio CD affect students' perception of classroom climate?

Purpose

The purpose of this research is to determine the effects of a tangible goal on students' on-task behavior and perception of their classroom climate. Specifically, the researcher asked the following questions:

Research Questions

Specifically, this study will address the following research questions:

- 1) What effect will a tangible goal have on boys' and girls' of different grade levels perception of cohesiveness?
- 2) What effect will a tangible goal have on boys' and girls' of different grade levels perception of friction?
- 3) What effect will a tangible goal have on boys' and girls' of different grade levels perception of difficulty?
- 4) What effect will a tangible goal have on boys' and girls' of different grade levels perception of satisfaction?
- 5) What effect will a tangible goal have on boys' and girls' of different grade levels perception of competitiveness?
- 6) What effects will a tangible goal have on the duration of boys and girls of different grade levels off-task behaviors?

Null Hypotheses

The following statements serve as the hypotheses for this experimental study:

- 1) There will be no significant difference between the Cohesiveness scores among boys and girls and grade-level of students receiving a tangible goal and those not receiving a tangible goal.
 - 1a) There will be no interaction between Cohesiveness scores among treatment groups, time of test, and gender.
 - 1b) There will be no interaction between Cohesiveness scores among treatment groups, time of test, and grade level.

- 2) There will be no significant difference between the Friction scores among boys and girls and grade-level of students receiving a tangible goal and those not receiving a tangible goal.
 - 2a) There will be no interaction between Friction scores among treatment groups, time of test, and gender.
 - 2b) There will be no interaction between Friction scores among treatment groups, time of test, and grade level.
- 3) There will be no significant difference between the Difficulty scores among boys and girls and grade-level of students receiving a tangible goal and those not receiving a tangible goal.
 - 3a) There will be no interaction between Difficulty scores among treatment groups, time of test, and gender.
 - 3b) There will be no interaction between Difficulty scores among treatment groups, time of test, and grade level.
- 4) There will be no significant difference between the Satisfaction scores among boys and girls and grade-level of students receiving a tangible goal and those not receiving a tangible goal.
 - 4a) There will be no interaction between Satisfaction scores among treatment groups, time of test, and gender.
 - 4b) There will be no interaction between Satisfaction scores among treatment groups, time of test, and grade level.

- 5) There will be no significant difference between the Competitiveness scores among boys and girls and grade-level of students receiving a tangible goal and those not receiving a tangible goal.
 - 5a) There will be no interaction between Competitiveness scores among treatment groups, time of test, and gender.
 - 5b) There will be no interaction between Competitiveness scores among treatment groups, time of test, and grade level.
- 6) There will be no significant difference in the duration of off-task behaviors among boys and girls receiving a tangible goal and boys and girls not receiving a tangible goal.
 - 6a) There will be no interaction in the duration of off-task behaviors among treatment groups, time of test, and gender.
 - 6b) There will be no interaction in the duration of off-task behaviors among treatment groups, time of test, and grade level.

Overview of Remaining Chapters

The remainder of this document will be divided into four chapters. Chapter two, review of literature, will review the available research related to the variables of this study. Chapter three, methodology, will describe the sample group, dependent and independent variables isolated in this study, measuring instruments and procedures, statistical design, and procedures of implementation. Chapter four, results, will present the results of the data analysis. The fifth chapter, discussion, will present conclusions

drawn from the data analysis, implications of this study for future research as well as implications for the music education profession.

Chapter II

Review of Literature

The review of related literature is presented under the following headings: class climate; the middle school learner; off-task behavior; goals; technology; and course electives and preferences. The following component discussed in Chapter 1, gender, was not given a subheading in this chapter because it is most often a variable under the umbrella of a larger area of interest. Instead gender will be discussed where appropriate under the included subheadings.

The majority of the sources used for this document are located among the various music research and psychology journals. Published texts along with dissertations and papers presented at poster sessions were the other types of sources used to support the need for this study.

Classroom Climate

Several studies from the music and the general curriculum research journals have focused on student perceptions of their learning and overall school environment. Assumptions drawn from the research data generally agree regarding characteristics of a positive classroom climate. These characteristics include time teachers spend on a topic, quality of social interactions among teachers and their students, amount of student involvement in the learning process, and rule clarity. Research indicates that these facets of classroom norms are “intimately entwined with academic learning” (Pierce, 1994).

Gilbert, 1988, reviewed related research and theory in the area of classroom management. Results of the analysis indicate that music teachers spend considerably more time in recitation-type settings than do teachers of other subjects and are thus required to be more constantly alert and more authoritarian in their classroom management. He states that the amount of time spent in recitation-type settings might not suggest a need for change due to the nature of the discipline. "It is possible that the kind of learnings required in music education demand a recitation setting." (p. 170). Gilbert explains that this need for recitation-type teaching sessions would be a strong case for music to be regarded by educational systems as a "practical" subject and for the size of classes to be reduced.

Geffre (1987) investigated the actual (real) and preferred (ideal) classroom environment as perceived by junior high school general music students and their teachers. All subjects were administered two forms of the Classroom Environment Scale (CES) designed by Moos and Trickett (1974). Data from the CES found significant mean classroom perceptual differences among students and teachers, male and female students, male and female teachers, and tenured and non-tenured teachers.

Despite the efforts of movements such as comprehensive musicianship in 1965, general music at the middle school level suffers greatly. One survey conducted by Alexander and McEwin (1989) reported that only 31 percent of middle schools require music for seventh-graders. Music Educators National Conference in 1990 reported that nationally, only about half of all seventh- and eight-graders take a course in general

music Data on music education: A national review of statistics describing education in music and the other arts (1990).

In an investigation exploring teacher talk, Ingersoll (1991) sought to identify the relationship between teacher talk and classroom climate. In her study, 33 faculty from a Midwestern university participated in a study of one of each of their classes composed of 25 or fewer students. Teacher talk was measured using the Talk Assessment Survey (TAS). Significant correlations were found between the talk styles of support and feedback and the climate variables of involvement, innovation, and individualization. Another point of interest identified that faculty reported they used all types of talk in their interaction with their class, an actual count of types of talk revealed three talk styles were commonly used, information, feedback, and helpseek. Explanations provided for this occurred were that (a) the faculty thought of all interpersonal communication when they completed the TAS instead of only the classroom setting; (b) faculty do not perceive their communication in the same way as the researcher perceived it; and (c) the class that was studied represented a different type of class interaction than the teacher usually conducts.

Raviv, Raviv, and Reisel (1990) conducted a similar study exploring the differences in perspective of social climate in the classroom between teachers and students. This study compared teachers' and students' perceptions of the actual (real) and preferred classroom environment using the Classroom Environment Scale. Raviv, et al. surveyed 2,347 sixth-grade students from 43 nonreligious Tel-Aviv schools and their 78 teachers. In each school two classes were chosen randomly and randomly assigned to complete either the Ideal or Real questionnaire of the (CES). Their teachers were

instructed to complete both forms of the questionnaire. Results indicate that teachers and students differed most in their respective perceptions of the real classroom. Significant differences between teachers' and students' responses on the two forms were found on the CES subscales: Involvement, Affiliation, Teacher support, Order and Organization, Rule clarity, and Innovation. The significant interaction on the involvement subscale shows that the difference between the Ideal and Real forms is greater for students than for their teachers. The difference reported on the Affiliation subscale was on the Ideal form. Teachers' rated affiliation higher than their students did. When the Ideal and Real forms of the Teacher support subscale were compared between teachers and students it was observed that teachers reported higher Real scores while their students reported higher scores on the Ideal form. Student scores on the Order and organization subscales were much greater for the Ideal than the Real and much greater than that reported by their teachers. No significant difference was found between Ideal and Real forms for the teachers' Rule clarity subscale, whereas classes reported lower scores on the Real form than on the Ideal one. For both Ideal and Real forms, the teachers reported higher scores than did their students. A significant interaction was found between teachers' and students' responses on the Innovation subscale. On both forms, teachers reported higher scores than did their classes and for both groups the Ideal scores were greater than the Real scores. The interaction signified that the difference between Ideal and Real forms is greater for students than for teachers.

Some studies have investigated the use of interventions on the classroom climate. Boyle (1988) examined the effects of video feedback as the only intervention on

classroom behavior and student perception of classroom climate in middle school-aged students with emotional disturbance (ED). He reported increases in on-task behavior, and decreases in disruptive behavior with emotionally disturbed students exposed to video feedback. Class perception of affiliation, or belonging to the group, also improved. This suggests that video feedback by itself may be a practical and effective classroom behavioral intervention strategy among emotionally disturbed students.

Wang et al. (1994) analyzed 50 years of research on what helps students learn. Specifically, they analyzed the content of 179 handbook chapters and reviews, 91 research syntheses, and surveyed 61 educational research studies. Results indicated that classroom management, metacognitive processes, cognitive processes, home environment/parental support, and student and teacher social interactions had the greatest influence on school learning. In addition to these findings, they also reported that direct influences have a greater impact on learning than indirect influences. They defined direct influences as the amount of time a teacher spends on a topic and the quality of the social interactions teacher have with their students. Indirect influences were defined as policies adopted by a school, district, or state, and organizational features such as site-based management.

Antosca (1997) investigated perceptions of classroom climate among middle school eighth graders. The purpose was to examine classroom climate and specifically to document teacher behaviors that seem to be associated with positive and negative climate in two classrooms each for five eighth grade subjects (language arts, mathematics, social studies, science and conversational foreign language). Analyses of the data revealed no

overall significantly negative climates, however, there were noted inconsistencies in the presence of positive classroom climate elements from one data source to the next.

Results supported teachers failing to be aware of or consciously attending to behaviors that affected climate in their classrooms and that allow for the creation of ideal climate profiles.

Weinstein (1989) examined the perceptions of classroom processes and student motivation. She identified three social areas affected by cognitive changes associated with maturation. The first area is the social reality perceived at each grade level. The second area concerns the expected congruence between teacher intent and the child's understanding. The third area affected by cognitive change is the various outcomes expected from the child's perceptions of self and others. Conclusions drawn suggest that motivation to learn was not the simple function of individual differences among learners, but that daily experiences with learning in the classroom and at school impacted the attitude students have toward school and their motivational level.

Middle School Learner

Research published since 1989 has identified essential features of adolescence that can be used to improve the middle school learning environment (Gerber, 1994). These promising features include the realization that early adolescence may be a more important period in human development than was previously believed and that parents and teachers should acknowledge the need for adolescents to make some decisions for themselves and provide just enough guidance to keep them from harm. Other features of

adolescence believed are 1) that peer group influences do not present the strong opposition to parental authority that was once thought, 2) that adult advocacy establishes expectations and sets the stage for future behavior, and 3) that confirmation of the highly malleable nature of early adolescence (Carnegie Council, 1989). Peterson and Epstein (1991) report a growing trend among scholars who believe that early adolescence may be a more important period in human development that was previously believed.

Jean Piaget is the child psychologist whose work is most synonymous to stage theory. Ormrod (1995) supports this statement saying "Piaget's work is probably so popular today because it is the single most global theory of intellectual development..." (p. 173). Piaget's (1959) developmental theory is divided into four distinct stages. His theory describes qualitative cognitive differences unique to each stage. Each stage lays the intellectual and social foundation needed to mature to the subsequent level. The stages, in order of development, are sensorimotor, preoperational, concrete, and formal. The child at the first level can only think about objects physically present before him or her. Sensorimotor awareness is evident from birth until approximately two years. Between the ages of two and seven most children are mentally functioning at the preoperational level. At this stage language is developed along with the ability to think of objects absent from view. The preoperational level is the beginning of true thought. Between the ages of seven and twelve most children are cognitively working in the concrete operational stage. The unique mental quality associated with this stage is logical thought, however only when objects and events are observable. Formal operational development continues from age twelve until the early twenties for most children. Once

individuals enter this mental stage they develop the ability to reason with abstract, hypothetical, and contrary-to fact processes (Ormrod, 1995). Siegler (1991) believes that Piaget might have overestimated the capabilities of adolescents and even adults.

Mental growth of children from birth through adolescence occurs in similar patterns as physical growth, beginning rapidly at the onset of puberty and gradually declining once adulthood is reached. From the beginning of adolescence intellectual growth is replaced by the gradual increase in understanding throughout life (Glenn, McBride, & Wilson, 1970). Along with understanding, there are several other changes in the thinking process during this time period. Increases in automaticity, abstract thought, encoding, reasoning, and better procedures for processing, storing and retrieving information (Clarke-Stewart & Friedman, 1987; Meece, 1997).

Automaticity plays an important role in the development of children's attentional processes. Automaticity is the "gradual elimination of attention in the processing of information" (La Berge, 1975, p. 58). Children around the age of 10 become better able to focus their attention on task-relevant information and learn to ignore irrelevant information. Psychologists term this process selective attention (Meece, 1997).

There are three strategies for encoding (remembering) information, rehearsal strategies, organizational strategies, and elaboration strategies. Rehearsal strategies are employed when verbatim recall is required (Siegler, 1991). Research suggests that children around 6 years old begin to develop and use this encoding method (Meece, 1997).

Organizational strategies involve grouping similar items together into a form easier to remember. This is a higher level of encoding than rehearsal strategy. Around the age of 10, individuals develop the cognitive ability to organize or chunk information.

Upon reaching adolescence, individuals develop the cognitive ability to perform elaboration strategies. This method of encoding involves adding to the presented information to make it more meaningful and easier to store. This is the highest level of encoding strategies (Meece, 1997). As children develop, they become aware of how they learn best and begin to understand that there are limits to what can be remembered. This thinking about knowing, or metacognition, begins to appear roughly after age ten (Flavell & Wellman, 1977).

Off-Task Behaviors

Research on how and in what ways people learn contend that attention is a critical factor in this process. Bandura (1986) reaffirms this stating that attention is necessary before an individual can successfully model the behavior of another, this is especially true for learning music. Researchers in the area of music education have examined the effects of attentiveness (on-/ off-task behavior) in various learning situations including the classroom environment and in private lessons. Their research focus primarily has been on the attending behaviors of students however, at times they have studied the effects of the instructor's behavior on the achievement of their students.

Forsythe (1975) investigated the extent to which attending behavior (on-task participation) of students in elementary music classes were based on the activities in

which they engage. Using a researcher created observation form, the observers were instructed to scan the class at 15-second intervals and count the number of students engaged in off-task behaviors for nearly an entire class period. Analysis revealed significantly different levels of off-task behavior relating to activity, teacher, and curriculum. The activities playing instruments and singing yielded low levels of off-task behavior while students showed higher off-task levels during periods of “getting ready” for activities and during periods in which teachers and students were interacting verbally. Student off-task levels did not correlate significantly with the amount of time spent on the various activities. The author concluded that these results suggest that attending behavior is, in part, a function of the nature of the activity in which students engage.

Greer, Randall, and Timberlake (1974) examined the effects of music listening as well as pennies as a reward to improve vocal pitch acuity and attending behaviors among sixth-grade students. In this study, subjects were randomly assigned to one of five treatment groups each consisting of 20 students. Treatments consisted of four different contingencies for student effort during daily instructional sessions. Group I received two minutes of listening to currently popular “rock music” as a contingency for each two minutes and 30 seconds in which they were judged to be attentive by a behavioral observer. Group II received two minutes of listening to recorded music selected from traditional recordings for class listening as a contingency for each two minutes and 30 seconds they were judged to be attentive by a behavioral observer. Group III received pennies as a contingency for every two minutes and 30 seconds they were judged to be attentive by a behavioral observer. Group IV returned to class after each instructional

session. They were subjected to the same instructional sessions as were Groups I-III. Group V received a pretest and a posttest but no training. Results revealed no significant differences in vocal intonation gain scores. A one-way analysis of variance performed on subjects' total attending scores revealed a significant difference. This test showed that differences between Groups I-IV were nonsignificant, while differences between Group IV and all other groups were significant indicating that contingency groups did attend more than did the nonreinforcement group.

Scott (1992) examined the effects of designated activities on attention and persevering behaviors of preschool children enrolled in individual Suzuki violin lessons. Also examined was the relationship between teacher reinforcement and student attending behavior. Eighty three- to five-year-old children studied were in five groups of 16. Group I children had studied Suzuki violin for at least five months, in private lessons only, with no group experience. Group II children had been involved with Suzuki group and private instruction for at least five months. Group III children had attended weekly 45-minute group creative movement classes for at least five months. Group IV children attended preschool, but they had never been involved in outside music or movement classes. Group V children primarily remained at home during the day; these children had never been involved in any organized preschool activity or class. Attention and perseverance behaviors were analyzed through observation of videotape recordings of subjects performing two tasks designed by the experiment. Both Suzuki groups scored higher on all attention task variables than did children in the other groups. Subject receiving both individual and group Suzuki violin instruction spent significantly more

time on the perseverance task than did all other subjects in the creative movement or preschool group. Scott concludes that receiving both individual and group Suzuki violin instruction demonstrated significantly more teacher approval than did the preschool or creative movement teachers.

Kostka (1984) investigated reinforcements, time use, and student attentiveness during piano lessons. Forty-eight private piano teachers voluntarily participated in this study. Two students per teacher were observed, with selection based on age and availability of lesson time for observation. For comparisons, students were divided into three age groups: elementary, secondary, and adult. Observation forms were used to measure the data. Results indicated that student age was a significant factor in observed differences among the selected variables. Elementary students received highest rates and ratios of approvals, secondary students spent more lesson time in student performance, and adults were most on-task during lessons. All students were on-task for at least 85 percent of the lesson time. The author concludes that lesson time was largely divided between student performance and teacher instruction.

Research on the effective human interaction involves giving and receiving appropriate feedback led to a study by Madsen and Duke (1987) that examined the effect of teacher training on the ability to recognize need for giving approval for appropriate student behavior. The purpose of their study was to test the effect of training on the ability to recognize the need for giving both approval and disapproval for appropriate and inappropriate behavior as opposed to giving only disapproval for inappropriate behavior. The authors compared the judgements concerning appropriate teacher behavior in

response to specific classroom situations before and after a 16-week course in behavioral techniques among 57 music majors enrolled in teacher or therapist education programs. Subjects observed 50 videotaped examples of student behavior in three different classroom settings. They were instructed to write their recommendation concerning the teacher's response to the student behavior depicted in the example. Subjects' responses were placed in one of five categories according to the nature of the recommended teacher behavior. Comparisons of pre- and posttest responses across settings found differences within all of the five student behavior categories. These differences represent the major aspect of the study. Responses concerning examples that depicted on-task behavior demonstrated the greatest changes between the pre- and posttests. The greatest among these is the marked increase in verbal approval responses from 19 percent to 53 percent and a commensurate decrease in recommendations for the teacher to continue with ongoing activity without giving specific feedback. The authors state that the most important aspect of this research is that students can learn to identify situations in which they recognize opportunities to give contingent approval.

Several other studies have examined the effects of the teacher's behavior on students' attentiveness. Madsen (1982) examined the effect of contingent teacher approval and withholding music performance on improving attentiveness. This study comprised ten subjects enrolled in four junior high school general music classes who had been referred to the school counselor as "having problems". Two of the classes were seventh-grade; two were eighth-grade. An experienced instrumental music teacher taught each class. In order to reduce off-task behavior, it was decided to employ two behavioral

approaches demonstrated effective in other research. The approaches incorporated contingent teacher approval and withholding music performance. This experiment used a modified reversal design comprising five phases. Phase I, during baseline conditions, classes were observed and class operations continued in the manner to which students appeared to have been accustomed throughout the previous portion of the school year. Phase II, during this phase the teacher was instructed to “catch students doing the correct thing” and verbally reinforce their behavior. A small light that could be seen only by the director was installed on the podium. The experimenter would activate the switch signaling the teacher to approve the referred student’s on-task behavior. During Phase III the second independent variable was introduced. The primary contingency during this phase of the program was music performance. Students were told that they could not perform as an ensemble until every student in the class was sitting quietly in the appropriate seat. Phase IV was an attempt to return to baseline conditions. At Phase V a reinstatement of the contingencies identified in Phase III above with the fading of experimenter cues by the end of the second day. Results showed that during baseline the combined teacher approval ratio toward the referred students was only 18.9 percent. Also observed was that both teachers demonstrated a high rate of reinforcement mistakes. Phase II increased the total approval ratio as well as decreased the referred student off-task behavior. Phase III produced the highest approval ratio and the lowest student off-task behavior. The final phase revealed that the approval ratio remained high and the off-task behavior of the referred students decreased to a very low level.

Murray (1975) investigated experimentally the differential effects of teacher approval and disapproval on musical performance, attentiveness, and attitude of three high school choruses. Three teachers and 340 students from six mixed choirs participated in this experiment. The independent variable was the experimental conductor's ratio of teacher approval and disapproval to student behavior. Two ratios of approval and disapproval were manipulated experimentally: 80 percent approval and 20 percent disapproval and 20 percent approval and 80 percent disapproval. A third ratio of approval and disapproval was determined from each group by the responses of the regular directors. The regular directors did not know what specific behaviors were being observed.

During the experiment two trained observers recorded overt student off-task behavior at a 10-second interval during each minute. Teacher responses were recorded during the experiment by one observer. Students' attitudes were assessed by having each student rate two statements concerning the music ("I like this music") and rehearsing the music ("I enjoyed rehearsing this music").

Results found no significant difference in musical performance ratings among the three experimental conditions. Results of students' attitudes indicated a significant difference in ratings among the three experimental conditions. Students rated the music and rehearsal under the 80 percent approval condition highest and the music and rehearsal under the 20 percent approval condition lowest. In all cases the ranks of mean student ratings concerning the music and rehearsing the music were identical. A comparison of on-task student behavior during the observations of regular rehearsals with

the experimental rehearsals indicated an average increase of nine percent. The average on-task behavior was 95 percent for nonperformance intervals, 99 percent for performance intervals, and 97 percent for sectional rehearsal intervals. In contrast, data from the regular rehearsals indicated that average on-task behavior was 82 percent for nonperformance intervals, 95 percent for performance intervals, and 91 percent for sectional rehearsal intervals. The author concludes from this data that chorus students were more on-task when they were singing than when they were not singing.

Kuhn (1975) measured the effect of different kinds of teacher interaction on three types of student behaviors: how well students were on-task, scores students earned on the Music Achievement Tests (MAT) 1 and 2, and the scores indicated on an experimenter-designed attitude scale. Ninety-nine fifth-grade students were randomly assigned to one of the four experimental groups, pretested, given experimental treatments, observed, and posttested. Six 15-minute instructional lessons were prepared on an audiotape and presented to Groups 1 – 3. Group I received the tape containing teacher approval. Group II received the tape containing teacher disapproval. Group III received the tape of no teacher attention. Group IV was not presented with an audiotape. Each lesson contained 22 items similar but not identical to items on the MAT 1 and 2. Following the presentation of each taped item, there was a 15- to 30-second period, depending on the complexity of the item, during which the teacher interacted verbally with students concerning academic responses and social behavior. Results indicate that students receiving teacher approval followed class rules better than did students receiving teacher disapproval, no teacher interaction, or a normal class situation. The number of off-task

students placed in Group I was significantly lower than any of the other three experimental groups. The author concludes that teachers who contingently approve social and academic behaviors of their students for 80 percent of their interactions have fewer students off-task.

Price (1983) examined the effect of conductor academic task presentation, reinforcement, and student performance on attentiveness, achievement, and attitude of members of a university symphonic band. Subjects were the members of the Syracuse University Symphonic Band at Syracuse University in New York. The band consisted of a 48-member nonauditioned group composed primarily of nonmusic majors. The band rehearsed five times under three treatment conditions. Treatment A contained directions followed by ensemble performance. Treatment B contained academic task presentations followed by direction and ensemble performance. Treatment C contained academic task presentations, directions, and ensemble performance, followed by conductor reinforcement. Results indicated attentiveness was a function of both performance time and treatment. All treatments resulted in gains for music achievement, with Treatment B resulting in the smallest and Treatment C resulting in the largest gains. Student attitudes were related significantly to music, conductors, and their interaction. Student ratings of rehearsal enjoyment and conductor as a good teacher were significantly related to treatments, with Treatment C consistently rated the highest.

The purpose of Yarbrough and Price's (1981) study was to examine videotaped teacher and performer behavior during several high school ensemble rehearsals to determine the predictability of a dependent variable, frequency of off-task behavior, by

the following carrier variables: performance time, nonperformance time, frequency of social and academic approvals and disapprovals, stops, complete and incomplete teaching units, errors, and teacher eye contact. The study examined six high school ensemble teachers and randomly selected students from two mixed choruses, three bands, and one orchestra. Videotapes, using two cameras and a special effects generator for a split-screen effect, were made for ex post facto analysis. The predictability of off-task behavior caused by individual teacher differences was accounted for in a repeated measures design. Results indicated a strong relationship between off-task behavior and individual teachers, nonperformance activity, and teacher eye contact. The carrier variables in this model accounted for 81.38 percent of the off-task variability.

One research study in math was conducted to improve the academic outcomes and off-task behavior of individuals diagnosed with learning and behavior problems; Martz (1995) examined the effects of choice and preference with regard to instructional activities. In her study, seven third-grade general education students participated in the experiment (six target students and one who served as a substitute). The results of this experiment contrast other studies that have found improved performance, academic and otherwise, when individuals were given a choice with respect to activities as opposed to assigned activities. Martz concludes that the general lack of differential responding under Choice and No-Choice conditions may have been related to students not actively choosing the instructional arrangement, most students participated in more preferred arrangements than non-preferred arrangements due to the choices their partners made. In

addition, the overall Choice and No-Choice conditions had little effect on the number of off-task behavior intervals scored during experimental sessions.

Goals

For the past 70 years experimenters have been examining the effects of reinforcement on behavior. Behavioral psychologists in the 60s and 70s investigated the use of operant conditioning techniques in shaping desirable behaviors among students. The bulk of these studies have demonstrated the efficacy of reinforcement techniques in teaching appropriate classroom social behaviors (Kuhn, 1975).

Madsen (1971) concluded that musical behavior can serve in the operant conditioning paradigm through two venues: "The first area concerns the use of music to reinforce nonmusical behaviors. The second area is the use of behavioral principles to reinforce music experiences (p. 38)." Musical behavior in the first venue may be used as a reinforcer for musical or non-musical behavior, i.e., it is capable of reinforcing itself (Madsen, 1971). While in the second venue, musical behavior can be reinforced operantly by tangible things e.g., food, money, and special privileges. A facet of this study is using musical behaviors as a reinforcer, thus exemplifying the first venue described above.

As psychologists' understanding of human behavior grew and evolved other theories were posited and scrutinized as means to explain individual drives and interests, one such theory involves social interactions. Social learning theory identifies several influencing variables that may affect individuals' intent when creating goals. Influencing

variables under the umbrella of goal setting are motivation to learn, interest, and attribution. As presented earlier, goals figure prominently in motivation theory. Setting standards and goals is one of four components of self-regulated behavior. Self-regulation refers to the gradual learning process, through reinforcement and punishment, of behaviors that are acceptable and those that are not. Along the course of maturation, the individual learns and adopts performance standards, establishing criteria regarding what constitutes acceptable performance, which eventually become the basis of self-reinforcers (Ormrod, 1995).

Wigfield (1994) states that motivation is a function of two variables, expectancy and value. Expectancy refers to the individuals' belief in their likelihood of success at a given task. Value relates to the individual's belief that there are benefits either direct or indirect which will result should they engage in a particular task. Psychologists have identified three elements that are associated with highly valued activities. The three elements that will encourage perceptions of high value are personal qualities related to the activity, the pleasure and enjoyment received from engaging in the activity, and a desired goal stemming from the activity. In order for someone to be motivated they must expect to have some degree of success at the given task and perceive some value in so doing (Ormrod, 1995). Midgley, Feldlaufer, & Eccles (1988) state that students valued subjects according to the amount of perceived support from their teachers. Their study examined changes in motivation before and after the transition from elementary to junior high school. They found that students' attitudes and perceived value in a subject were affected by the amount of support received from the middle school teacher in comparison

to that of their elementary teacher, regardless of the perceived amount of support provided by the elementary teacher. In other words, students' attitudes toward a subject can change in either direction depending on the amount of support they receive from the middle school teacher.

An individual displays interest when they find a topic or activity intriguing and enticing. Interest is divided into personal interest and situational interest. Personal interest refers to internal preferences toward topics and activities an individual pursues. Situational interest occurs as a result of something in an individual's environment, for example something new, surprising, or unusual. Fostering interest among students has rewards (Ormrod, 1995). Schiefele, 1992, believes that when individual's are interested they are more likely to set learning goals related to that activity. Interest promotes deeper information processing as well as a greater cognitive engagement in a topic, which leads to the processing of that new information in more meaningful and elaborate ways.

Attribution theorists hypothesize that people seek to explain causes of events in their lives. Attributions influence expectancies for future success at given tasks. Research shows that students often attribute their successes and failures to such factors as ability, effort, task difficulty, and luck. Following the assumption that are relatively equal, students who attribute prior success largely to internal-stable factors such as high ability, and ease of task are apt to hold higher achievement expectations than those who stress factors that are internal-unstable, e.g., high effort and good luck (Weiner, 1985). Applying self-efficacy and attribution theory to motivation, one might conclude that

students with high self-efficacy would be more motivated to engage in specific tasks when compared to their colleagues who possess low self-efficacy.

Technology

This section will present research studies in the area of computer technology. These studies sought to answer questions pertaining to student motivation, gender inequalities, and the effectiveness of computers as Mindtools. A Mindtool is a way of using a computer program to engage learners in constructive, higher-order, and critical thinking about subjects they are studying (Jonassen, 1996). Due to the lack of research available exploring the effects of recording student performance as a motivator, the researcher will include studies examining the effectiveness of Computer Assisted Instruction (CAI). It is the researcher's intent to present the effectiveness of a tangible goal as an academic motivator.

Mamlok (1994) posits using electronic technology to stimulate higher order cognitive skills and to provide another method of honing abstract thought. Rosenthal (1998) conducted a case study that incorporated computer technology in general music at the eighth grade level. In her study, students functioned as hypermedia authors. The purpose was to investigate the feasibility of involving four classes of eighth grade students in the joint development of class projects using the program Hyperstudio. Outcomes of the study indicate that students demonstrated a high level of involvement in projects as they shared both technical and content information. In addition, they exhibited nearly continuous on-task behavior, worked cooperatively, and verbalized

enthusiasm for the project. This description of working habits illustrates that the technology may have aided in building a positive classroom climate.

In another study, Bush (1996) compared the learning effects of a researcher-designed interactive hypermedia program and an expository teaching method. The purpose of his study was to investigate the interaction of select variables (cognitive style, gender, and achievement) when middle school students are involved in learning about music through different modes. Assumptions drawn imply that cognitive style, mode of instruction, and gender do not, either alone or in combination, affect long term retention of information by middle school music students. Bush identified some drawbacks to using hypermedia-assisted instruction. The first drawback was that students receiving hypermedia-assisted instruction might achieve significantly lower scores than students experiencing an expository teaching lesson. In addition, field dependent female students using an educational hypermedia program scored significantly lower on posttest scores than any other combination of student cognitive style, gender, and instructional mode. Field dependence is a term defined by Witkin (1977) referring to content-bound, experiencing concepts as embedded within their environment. Individuals who are field dependent learn best from other people in a social setting, class discussions, and teacher-directed activities.

Rogers (1997) conducted an investigation which asked if high “levels of resourcing improve pupils’ compositional attainment; and do pupils make greater progress in their learning where there are significant levels of music technology resourcing?” His study involved three schools with different amounts and types of

technology. The assumption drawn was that computers more directly impact student progress and achievement than keyboards, even those equipped with sequencers.

Holton (1991) draws several conclusions from a study exploring student attitudes toward electronic and acoustic instrument timbres among third, fifth, and seventh-graders. His results show that students indicated preference toward synthesized timbres. When comparing the timbres of instruments by family, students ranked band instruments such as brass, below synthesized timbres. Stringed instruments ranked lowest among student timbre preference. Gender differences were found among student timbre preference. Girls demonstrated more favorable attitudes toward acoustical timbres than did their male classmates.

Conant (1988) reported several advantages of using computers in music education. Working with middle school students, she states that students found it easier to use computers than to play instruments. While some musicians might think this is a disadvantage, she explained that music fundamentals were learned through playback options that allowed the students to revise their work while they perceived both aurally and visually the texture and melodic contour of their works. Students reported very positive attitudes toward using the computer, stating that they “enjoyed using it” and “wished to continue this work.”

Course Electives and Preferences

Eccles, Midgley, and Adler (1984) describe the gradual decline in students' general attitudes toward school and academic subjects with advancing age and grade

level. Decline in attitudes is not limited to academic subjects; Larson (1982) found a decline in students' satisfaction with their school and teachers across grades six to eight.

Boredom is defined by Larson and Richards (1991) as a function of understimulation ("when there is nothing to do" in the words of adolescents) or during forced effort ("when you don't like what you're doing"). The researchers examined the causes of boredom sampling a large group of fifth- through ninth-graders from working- and middle-class suburbs of Chicago. They found no significant differences between the five grade levels. However, they did learn that adolescents experience boredom in all areas of their lives, including activities of their choice.

Within the area of general music activity preference many researchers agree that as students mature their attitudes toward music activities, especially those common to the general music curriculum, decline (Bowles, 1998; Broquist, 1961; Nolin, 1973; Thompson, 1991). This correlates to a decline in enrollment in general music classes. When student gender is examined, differences in the rate of attitude decline are noticeable. Typically, male students' attitudes toward singing, listening, and playing in general music decline more rapidly than those of their female counterparts. Furthermore, the rate of decline changes with advancing age. Beginning around fifth-grade, negative attitudes toward activities common to general music increase and intensify (Boyle and Noyes, 1972; Boyle, Hosterman, and Noyes, 1981; Siebenaler, 1998; Thompson, 1991).

Bowles (1998) duplicated the research of Boyle, Hosterman, and Noyes at the elementary level. She created a 23-item questionnaire regarding music classroom activities prepared for children at levels ranging from kindergarten through fifth grade.

Items were derived from various activities found in series textbooks, specialized methodologies, and her teaching experiences. In addition to identifying their favorite activity among the six, they also indicated whether they liked to participate in program-related activities (e.g., attending music performances, having performers visit the class, and performing in music programs/contests).

Results showed a relationship between grade level and activity preference. Overall, kindergartners gave more positive responses to most activities than any other grade level. Fifth graders gave the lowest percentages of positive responses for all activities when compared to students at the other levels. Ninety-three percent of all students reported positive attitudes toward playing instruments. Of these, 50 percent indicated that playing instruments was their favorite activity. Further analysis, of the activities rated highly, revealed that 82 percent selected listening to music. The third highest rated activity, as selected by 81 percent of the students, was singing. For most activities positive attitudes declined with advancing grade.

Observing that most of the studies conducted focused on middle income families of Anglo-American descent, Johnson (1994) chose to conduct a study examining the preferred general music activities among low-income, urban-minority middle school students. She defines urban-minority as students of African-American ancestry.

Results indicate that students most preferred creating activities and least preferred singing activities. These students indicated that they would like their creative endeavors to culminate in performances for their peers. Performing, to these students, is the greatest outcome. Participants reported that they believed students in performing groups learned

more and “worked at a higher level”. From this the author draws the following conclusion “It appears that providing students with more performance opportunities within the general music class environment, would increase their level of pride, peer acceptance, and self-esteem; important factors in early adolescent development.” (p. 100).

Murphy and Brown (1986) conducted a study on the comparison of preferences for instructional objectives between teachers and students. They compiled a list of 20 seven point Likert-type scales of instructional objectives that represented conceptual learnings outlined for Level Five in the Scope and Sequence Chart of Conceptual Learnings Related to the Elements of Music. Each objective was demonstrated for the students, who indicated how much they would like to achieve that objective. The list contained five objectives for each musical element, form, harmony, melody, and rhythm.

Significant differences were found between teachers and students in 10 instances. The results indicate students’ most favored objectives included instrumental playing within a tune context. Teachers’ most preferred objectives were generally the students’ least preferred objectives, including objectives that required listening and knowledge of harmonic and melodic rhythm and formal structure.

Summary

The studies included in this review of literature represent a broad spectrum of influencing variables relating to students’ perceptions of the classroom climate, activity preference, and academic drives.

In addition to music itself, technology has been used as a reinforcer and to modify behaviors. Review of the literature indicates that students, especially boys, are generally attracted to and enjoy activities incorporating computer technology as well as other electronic instructional aides. With advances in technology many schools and teachers are beginning to take advantage of this tool to enhance and provide new and more engaging learning projects for their students.

Technology is not merely an ephemeral whim to replace traditional pen and paper; it is an extremely powerful tool, which can foster creative and higher order thought processes. Technology in the music class means higher quality of creative output and reflective thought in students' compositions and analysis of music, and the ability to discover the elements of music through active involvement versus the passive learning common to theoretical presentations. Technology also enables students to evaluate and critique their performances as well as evaluate and compare their own performances to those of other groups through audio-visual equipment. Some researchers are concerned that female students are not given as much experiential time and encouragement to use technology as their male counterparts. One issue of concern among these individuals is their belief that women will be left to fulfill lower occupational jobs due to their lack of self-efficacy and experience with technology.

Turning to the literature on cognitive development, research indicates that human thought develops across four principle stages from birth through adulthood. Males and females progress through these cognitive stages at different rates, with females typically maturing more rapidly than males.

During the early school years, elementary students are less aware of themselves as individuals and only comprehend concrete objects. During middle school the mind matures and advances to the next level of thought process. Middle school students develop the ability to understand who they are as individuals and to comprehend abstract concepts such as algebra and love. Abstract thought enables middle school students to understand and conceive of concepts beyond those presented at the elementary level such as black holes in space.

The learning environment also directly relates to student academic and social performance in class. Data gathered from these investigations generally agree that showing care, respect, physical closeness, as well as establishing a democratic learning environment help students feel safe and aid in removing anxiety. According to which Ormrod (1995) anxiety is a large contributor to negative perceptions of classroom climate held by students. Other essentials required to create a positive classroom climate are value, expectations, leadership, and cohesion. Teachers should choose academic tasks which students will perceive as valuable and personally interesting. This requires that the teacher get to know the likes and interests of his/her students. Expectations are closely linked to goal setting. If students are provided the necessary time and interaction with the teacher to understand concepts presented; they will develop confidence in their understanding that will evolve into high expectations of success at that task. Once high expectations are a part of their belief system, a child they will begin to make learning goals. Students with learning goals approach academic tasks for the sake of increasing knowledge not pleasing their parents or teachers and not doing just enough to maintain a

specific grade point average. By allowing students opportunities for leadership, students will be able to reach decisions, and learn to work together toward a common goal (Mayer, 1967). Further, a cohesive classroom will blossom from the democratic structure. Students in cohesive classrooms value their classmates and are involved with and care about each other (Vacha, 1977).

Lastly, research on preference was presented. It was shown that unlike attitude formation, preferences are not dependent upon a knowledge base. LeBlanc created an eight-level model that illustrates the process through which preferences are formed. Several studies in music education research have explored student attitudes toward music activities. Of these studies, several have focused on the activity preference among general music students at both the elementary and junior high/middle school level. Studies revealed that playing instruments ranked highest among preferred music activities across grade levels.

It was shown that more elementary students are enrolled in general music than any other type of music class. Yet, enrollment in general music swiftly declines once students leave elementary school. In addition to the decline in enrollment, student preferences for general music activities decline with advancing grade. This decline in enrollment corresponds to the paucity of general music beyond eighth grade. Like technology and cognitive development, general music activity preferences do not decline at the same rate across gender. It is believed that general music activity preferences do decline for females, although they tend to rate general music activities higher than their

male counterparts. The last aspect relevant to preference is that it can be modified through environment, education, and other environmental and musical factors.

Implications to the present study

Several implications to this study can be drawn from the presented literature. Students generally enjoy classes that integrate various technologies into the curriculum. Electronic technology's appeal to boys is particularly strong. As reported by social psychologists, strong interest manifests as greater durations of on-task behavior. Middle school children are cognitively more advanced than elementary students. This cognitive advantage allows middle school students to rationalize abstractly, including being able to hypothesize, and to predict future events such as goals. Teachers who establish a safe and positive classroom climate provide their students with the opportunities to make learning goals.

Results of the presented literature suggest that a goal, an audio CD, might motivate the students in general music classes, thus changing their attitudes toward curricular activities. If the attitudes are changed in a positive way students' interest in those activities will increase leading to greater on-task behavior resulting in more positive perceptions of their classroom climate.

Chapter III

Methodology

Restatement of Purpose

The purpose of this investigation was to determine the effects of a tangible goal on students' on-task behavior and perception of the general music class environment.

Sample

The sample group (n = 253) used in this study consisted of students in grades three (n = 84), five (n = 101), and seven (n = 68). The total number of male students included was (n = 126) and the total number of female students was (n = 127). The number of males to females by grade were (n = 35) male, (n = 49) females in the third grade, (n = 57) male, (n = 44) females in the fifth grade, and (n = 34) male, (n = 34) females in the seventh grade. The sample comprised 12 intact general music classes from two public elementary and two public middle schools in Tucson. At each elementary school, one third-grade class and one fifth-grade class was assigned to the treatment group while the other third-grade and fifth-grade class was assigned to the comparison group. The same procedure was used at the middle schools for the seventh-grade classes. The researcher chose schools with similar student populations based mainly on socioeconomic and ethnic groupings. All four schools were located in upper middle class neighborhoods and were predominantly Anglo-American.

Dependent Variables

Dependent variables examined in this study are the amount of time, measured in seconds, of off-task behavior and perceptions of the classroom climate. Attentiveness has been used to refer to both on- and off-task behaviors (Madsen, 1971; Madsen & Madsen, 1974; Murray, 1975). As defined by Murray (1975), off-task behaviors are counted when (1) the student is supposed to be engaged in a specific teacher determined musical behavior, that student must be performing the stated behavior and looking at either the music or the teacher. (2) When the student is not supposed to be engaging in a musical activity, that student must be quiet and looking at either the music, the other students who are engaged in the stated behavior, or the teacher. (3) When the teacher gives instructions, the student must follow those instructions. The researcher applied these definitions to the present study to determine duration of students' on-task behavior. Attentiveness is broken into four categories to specify which behavior is being observed. The first is on-task (active) as defined by (1) above. The second is on-task (passive) which is defined by number (2). On-task instructions are the third. This category is defined by number (3). Finally, the fourth category is off-task. Murray (1975) succinctly states that a student is off task when they are not observably on task.

Obtaining off-task duration for each student was accomplished through the use of videotape and a stopwatch. A stopwatch was chosen for its ability to provide the researcher with accurate durations of time down to the 1/100th of a second. With that option, the researcher chose to use seconds as the unit of measure to identify the cumulative duration of off-task behavior.

To measure classroom climate the researcher used scores from the instrument My Class Inventory (MCI), designed by Fraser, Anderson, and Walberg (1982). This instrument is a simplified version of The Learning Environment Inventory (LEI) by the same authors. The (LEI) was modified so that it might be used for younger children between the ages of 8 and 12 (grades 2-6).

The MCI was designed to measure the social climate or the learning environment of elementary school classes. The inventory consists of 38 items that measure five dimensions of social climate within the classroom: cohesiveness, friction, difficulty, satisfaction, and competitiveness. Cohesiveness items address perceptions of friendliness between classmates while friction items measure the degree of acceptance children have for each other. For example, a high friction score would indicate frequency fighting and squabbling within the class. Difficulty refers to the perceptions of the class assignments while satisfaction measures the degree to which children enjoy the class. Items addressing competitiveness indicate the degree of student competition.

Each of the 38 items makes a statement applicable to the class environment, e.g. "students enjoy their school work in my class" (Fraser, et al., 1982). Students respond by circling either "yes" if they agree with the statement, or "no" if they do not agree with the statement. The number of items for each scale varies from six to nine. These scales represent social variable that the authors believe have been shown by research to influence learner outcomes thereby affecting the acquisition of knowledge. The MCI is easy to administer and to score. Children with average reading ability who are in grades

4 and higher will not have difficulty reading this instrument. The time used to administer this test requires less than one class period. (Reed, 1985).

This test was intended for children between 8 to 12 years of age. However, the only coefficient alpha reliabilities reported are for grade- 7. The reliability coefficients were based on 2, 305 seventh grade students in Australia. The range of coefficients was from .62 to .78. Also the reliability coefficients based on class means are somewhat higher than those reported for individual students. Means for class coefficients ranged from .73 to .88 (Reed, 1985). The MCI was determined to have satisfactory reliability for the purposes of this study.

Regarding instrument validity, Reed (1985) reports that studies testing validity appear to indicate statistically significant relations between the scales of MCI and various learner outcomes such as inquiry skills, understanding science, and achievement as represented by the total score on the Iowa Test of Basic Skills.

Independent Variables

The independent variables examined in this study are (treatment) group, time of test, gender, and grade. Treatment group was the first independent variable of this study. This study placed all subjects into one of two groups, experimental (treatment) group and comparison group. At each school there were two classes at each grade level. One class was assigned to the treatment group and the other class was assigned to the comparison group. Due to the organization of this study, subjects at each grade level were taught identical lessons by their school's music teacher, therefore subjects in the experimental

group and the comparison group received similar musical experiences as much as possible. The musical goal was an audio CD of the students' music behaviors recorded on the last day of the treatment. The audio CD contained approximately 15 minutes of music performed by the students. The CD and the protective jewel case were labeled with the name of the school, the teacher's name, and the year of publication.

The second independent variable was time of test. Both the My Class Inventory and the videotaping were administered twice, once as a pretest and then as a posttest. One purpose of administering two measurements was to examine the effect of time on students' perceptions and attentiveness.

The third independent variable is gender. The researcher met with the cooperating teachers to confirm students' gender identity. Gender was chosen to determine the effects of a tangible goal on male and female off-task behaviors as well as perception of their music learning environment.

The fourth independent variable is grade level. The grade levels used for this study are third, fifth, and seventh. These grades were chosen to examine the effects of a tangible goal on students across cognitive stages. Based on the research of Piaget (see chapter 2) students in the seventh-grade have developed mentally to the highest cognitive stage, formal operations, which the stage where abstract thought processes are possible. Thus, "a student's level of cognitive development affects the kinds of learning and behavior that are possible" (Ormrod, 1995, p. 190).

Design

This study used a Two-Group pretest/posttest quasi-experimental design. The design is presented graphically in Figure 1.

Figure 1: Research Design of this Study

O ₁	X	O ₂
O ₁	C	O ₂

Figure 1 illustrates that both groups were given the MCI and were videotaped as a pretest (O₁) and posttest (O₂). The treatment group (X) was told “that their in-class activities would be recorded at the end of the study and that everyone would receive an audio CD of the music performed that day”. The comparison group (C) continued learning under their established curriculum.

This experimental design controls for the following internal sources of invalidity: history, maturation, testing, instrumentation, regression, and mortality. Pertaining to the external sources of invalidity, multiple control interference is not relevant as a source of concern. This design does not control for selection, interaction of selection and maturation, and interaction of testing and control. Further, the external sources of invalidity, interaction of selection and control and reactive arrangements are of concern. The researcher recognizes that control of all music activities and teacher influences was not possible. Teacher, peer, and family influences cannot be controlled. It is possible

that the music teacher could have intentionally or unconsciously modified lessons for one group, thus affecting positively or negatively students in one group or the other.

Procedures

General music students from two elementary and two middle schools were selected from public schools in Tucson. The researcher randomly assigned one class at each elementary school to the treatment group and the other to the comparison group. The classes at the two middle schools were also randomly assigned to the treatment group and comparison group. The researcher pre-determined that all students by grade-level would be engaged in similar activities by asking each teacher what activities they would be focusing on during the research period. If the teacher stated that his/ her curricular focus strongly centered on playing instruments, singing, and movement activities the researcher determined that their curriculum was applicable to this study and continued to make arrangements to use their students as participants.

Each class was video taped twice, once at the beginning and then at the end of the study. Prior to the treatment, a video camera was placed in back of the classroom of each class. The video camera was present and on for 4 class periods but without recording any of those classes. The first taping of the students occurred during the fifth class session. The purpose of this procedure was to allow students to adjust to and ignore the presence of the video camera.

To aid in the precision of observing student behaviors, the researcher focused the camera on five or six students, depending on the configuration of the room for two minutes. Following the two minutes, the researcher moved the camera to focus on the next group of students for two minutes until all students in the class were recorded. This cycle was repeated until all students were recorded for at least eight minutes. Using the internal counter on the camera the researcher was able to record a group of students for an equal duration of time.

This initial recording marked the beginning of the experiment. On this day the researcher administered the MCI, reading each question to the class. Each music teacher was provided with specific directions for administering the MCI. Teachers were requested to distribute answer sheets and then read the directions aloud to the students. To insure that student responses reflected their perceptions of the music classroom environment, the teachers were instructed to stress that the statements referred to the students' music class only. In addition, the teachers of the goal condition groups told their students that their music activities will be recorded in three weeks and that they will be given an audio CD of that recording session. After the pretest all teachers taught their planned lessons. Music instruction followed the typical school's curriculum and was led by that school's assigned instructor throughout the experiment.

On the last day of the experiment the final video tapings were completed. In addition, all teachers were instructed to administer the posttest, MCI. The collected data from the posttest surveys were then analyzed and compared to the pretest surveys.

In addition to completing the posttest and being video taped, participants in the treatment group were recorded while performing their musical activities. The total amount of recorded music per class ranged between 36 and 21 minutes in length. A Digital Audiotape (DAT) was used to record all musical events. Once the performances were recorded the researcher converted each performance from DAT to a format readable by computers called AIFF files using the Sound Designer II software program for MacIntosh computers. From there, the researcher imported the files into the MacIntosh software program SoundEdit 16. Once the files were edited to the researcher's satisfaction, a master CD was burned using the MacIntosh software program Jam. Thus six-master CDs were burned, one for each treatment group. From these six masters, a CD for each student was burned using the software program Adaptec Easy CD Creator for PC compatible computers. All CDs were professionally labeled with the school name, the teacher's name, and the year of recording. Four weeks following collection of posttest data the students in the treatment groups received the CDs of their classroom music behaviors.

Analysis

Four independent variables, group, time of test, gender, and grade were analyzed to determine their effects on on-task behavior. Those data were organized into a four-dimensional [2 x 2 x 2 x 3] design. The collected data were subjected to a four-way analysis of variance (ANOVA) with repeated measures. Identical procedures were used

to test for both dependent variables, perceptions of classroom climate and off-task behaviors. All significance levels were set at .05.

Time Table

A four-week treatment period was used for this study during March 2000. At the beginning of the experiment, the students in the treatment group and the students in the comparison group completed the pretest MCI and were video taped the first time. The study spanned four weeks in length. At the end of the fourth week students in both groups completed the posttest MCI and were videotaped.

In addition, students in the treatment group had their in-class musical activities recorded using a DAT machine. Three weeks following the DAT recording, each student in the treatment group was given an audio CD of their class' musical behaviors.

Summary

This study examined the off-task behaviors and the perceptions of classroom climate among third-, fifth-, and seventh-grade general music students ($n = 253$). The study used a two-group pretest/posttest quasi-experimental design. Two classes at each grade level were placed into the research groups, treatment and comparison. This study was conducted across a four-week period throughout the month of March. Students in both the treatment and comparison groups completed the MCI as a pretest and posttest. In addition, the researcher videotaped all 12 classes twice to determine the duration of their off-task behaviors. The researcher focused on five or six students at a time for two

minutes, then moved the camera to focus on the next group of students. This recording procedure continued until all students in the class had been recorded, and was repeated until all students had been recorded for at least eight minutes.

The students assigned to the treatment group were told that their in-class music activities would be recorded at the end of four weeks and that they would receive an audio CD of their music activities performed that day. At the end of the fourth week, all students completed the My Class Inventory posttest and were videotaped. In addition to the MCI and the videotape, the researcher audio recorded the six classes in the treatment groups using a DAT machine later converting that analog data to computer readable AIFF files using the MacIntosh software program, Sound Designer II. Once the performances were in AIFF format, the researcher edited the sound files using the MacIntosh program SoundEdit 16. When the sound files were edited to the researcher's satisfaction, the researcher created an audio CD master of each class using the computer program Jam for MacIntosh computers. From these six CD masters, a CD copy was created for each student of that class using the software program Adaptec Easy CD Creator for PC compatible computers.

Analysis of off-task behaviors was accomplished using the Macintosh software program Statistica. The researcher conducted a four-way analysis of variance (ANOVA) with repeated measures on both the MCI and videotaped data.

Chapter IV

Results and Data Analysis

This chapter will present the analyses of data collected for this study. This study utilized a pretest/ posttest two group experimental design to answer the research questions. The independent variables were grade, gender, and experimental group. The dependent variables examined were students' scores on the five subscales of the My Class Inventory (MCI) and the duration of student off-task behaviors. The five subscales are Cohesiveness, Friction, Difficulty, Satisfaction, and Competitiveness.

Two hundred and sixty two third-, fifth-, and seventh-graders comprised the original sample size at the beginning of the study. These students comprised 12 intact classes from two elementary and two middle schools in two different school districts. Data from 11 subjects were not included in the final analysis because of absenteeism. Therefore, the sample size for data analysis was 253 subjects. Of the 253 subjects, there were 84 third-graders, 101 fifth-graders, and 68 seventh-graders. The total gender composition of the students included 126 boys and 127 girls.

The researcher scored 253 pre- and posttest My Class Inventory questionnaires. In addition, the researcher tallied the total seconds of off-task behaviors exhibited by each student. A second judge was used to determine the average difference between the durations of off-task behaviors. The second judge observed 15 percent or 38 of the total 253 students videotaped. To determine the mean difference in seconds between the two judges, the researcher determined the difference in seconds between observations

conducted by both judges. From there the researcher added the differences, 116 seconds, and divided that sum by the number of times both observers recorded behavior (38). Therefore, the mean difference between the judges was 4.10 seconds. The range of the differences between judges was from two to 17 seconds. This was deemed acceptable for this project.

Data were analyzed using the Statistica MacSoftware Program available for the Apple Macintosh computer. Analyses of Variance with repeated measures were conducted to measure mean differences, interactions, and possible relationships in the data. To be relevant to the purposes of this study, significant interactions needed to include both independent variables group and time of test. Specifically, the only significant interactions reported and discussed will be those that included both variables group and time of test. Significant interactions containing both of these variables are important because they indicate any differences between observed groups and across the treatment condition. Other combinations are included in the tables for entirety. The results for each null hypothesis will be presented individually and the chapter will conclude with a summary of the findings.

Data Analyses

Null Hypothesis 1: There will be no significant difference between Cohesiveness scores among gender, grade, and group over the duration of this study.

1a) There will be no interaction between the Cohesiveness scores among group, time of test, and gender.

1b) There will be no interaction between the Cohesiveness scores among group, time of test, and grade level.

A repeated measures ANOVA revealed that no significant interactions were found between any combination of the three variables when examined in light of pre- and posttest Cohesiveness scores (Table 1).

Table 1 Repeated Measures ANOVA:

Dependent Variable: Cohesiveness Scores, My Class Inventory

Independent Variables: 1- Grade, 2- Group, 3- Gender

Repeated Measures: 4- Time of Test (pre- and post)

STATISTICAL GENERAL MANOVA							
Effect	df	MS	df	MS	F	p-level	
	Effect	Effect	Error	Error			
1	2	91.61	239	7.55	12.12	0.00	
2	1	144.26	239	7.55	19.08	0.00	
3	1	1.72	239	7.55	0.22	0.63	
4	1	12.06	239	6.50	1.85	0.17	
12	2	35.27	239	7.55	4.66	0.01	
13	2	25.98	239	7.55	3.43	0.03	
23	1	49.31	239	7.55	6.52	0.01	
14	2	23.39	239	6.50	3.59	0.02	
24	1	8.95	239	6.50	1.37	0.24	
34	1	1.75	239	6.50	0.27	0.63	
123	2	3.26	239	7.55	0.43	0.65	
124	2	17.82	239	6.50	2.74	0.07	
134	2	0.54	239	6.50	0.08	0.91	
234	1	2.31	239	6.50	0.35	0.55	
1234	2	7.70	239	6.50	1.18	0.30	

Therefore, hypothesis one failed to be rejected. The interpretation of these results suggest that students perception of classroom Cohesiveness, regardless of treatment group, exhibited no difference in pre- and posttest scores. Examination of the sub-hypothesis one (a) and (b) revealed no significant interaction among the isolated variables. Therefore, the researcher failed to reject null hypotheses one (a) and (b).

The significant interaction of group by gender indicates third- and seventh grade boys felt less cohesiveness than did their female counterparts. This gender perception changed among fifth-graders where boys reported higher feelings of cohesiveness than did girls. These differences are not germane to the research questions of this study. Therefore, interpretation of these differences will not be addressed.

Table 1 presents the summary of all effects, Table 2 provides a summary of means for the variables, Table 3 presents the summary of cohesiveness means by grade and gender, and Table 4 presents the summary of cohesiveness means by grade and time of test.

Table 2 Summary of Cohesiveness Means by Grade and Group

Group (T = treatment, C = comparison)

		Means
Grade	Group	
3	T	13.17
3	C	15.07
5	T	14.54
5	C	14.69
7	T	15.05
7	C	16.27

Table 3 Summary of Cohesiveness Means by Grade and Gender

Gender (B = Boys, G = Girls)

Group (T = Treatment, C = Comparison)

STATISICA GENERAL MANOVA		Means	
GROUP	GENDER	Depend Var. 1	
T	B	14.52	
T	G	15.00	
C	B	14.97	
C	G	15.72	

Table 4 Summary of Means for Interaction Grade and Test

Test (Pre = Pretest, Post = Posttest)

GRADE	TEST	MEANS
3	Pre	13.90
3	Post	14.34
5	Pre	14.74
5	Post	14.49
7	Pre	16.23
7	Post	15.09

Null Hypothesis 2: There will be no significant difference between the Friction scores among gender, grade, and group over the duration of this test.

2a) There will be no interaction between the Friction scores among group, time of test, and gender.

2b) There will be no interaction between the Friction scores among group, time of test, and grade level.

A repeated measures ANOVA revealed no significant interaction was found on Friction scores between the four focus variables. Based on these results, the researcher failed to reject null hypothesis 2. Table 5 presents the summary of all effects.

Table 5 Repeated Measures ANOVA:

Dependent Variables: Friction Scores, My Class Inventory

Independent Variables: 1- Grade, 2- Group, 3- Gender

Repeated Measures: 4- Time of Test (pre- and post)

STATISTICA GENERAL MANOVA		Summary of all effects; 1- GRADE, 2- GROUP, 3- GENDER, 4- PRE/ POST				
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	2	31.09	239	5.37	5.78	0.00
2	1	1.96	239	5.37	0.36	0.54
3	1	41.65	239	5.37	7.74	0.00
4	1	29.63	239	4.40	6.72	0.01
12	2	2.53	239	5.37	0.47	0.62
13	2	18.13	239	5.37	3.37	0.03
23	1	2.58	239	5.37	0.48	0.48
14	2	3.59	239	4.40	0.81	0.44
24	1	5.12	239	4.40	1.16	0.28
34	1	0.20	239	4.40	0.04	0.82
123	2	5.43	239	5.37	1.01	0.36
124	2	48.74	239	4.40	11.05	0.00
134	2	2.61	239	4.40	0.59	0.55
234	1	10.95	239	4.40	2.48	0.11
1234	2	6.53	239	4.40	1.48	0.22

However, significant interactions were found between grade, group, and pre- and posttest scores. Therefore, the researcher rejected null hypothesis two (b). When the variables group, time of test, and gender were examined no significant interactions were found.

Therefore, the researcher failed to reject null hypothesis two (a). This interaction is illustrated in Figure 2. These data indicate that perceptions of classroom friction among fifth- and seventh-grade students in the treatment group decreased between pre- and posttests. The perceptions of classroom friction among fifth- and seventh-grade students in the comparison group increased slightly. In contrast, third-graders in the treatment group reported increases in perceptions of classroom friction between pre- and posttests, while their counterparts in the comparison group reported decreases in perceptions of classroom friction. No other significant interactions were detected when variables were considered individually against pre- and posttest Friction scores. Table 6 presents a summary of means for the variables in the interaction.

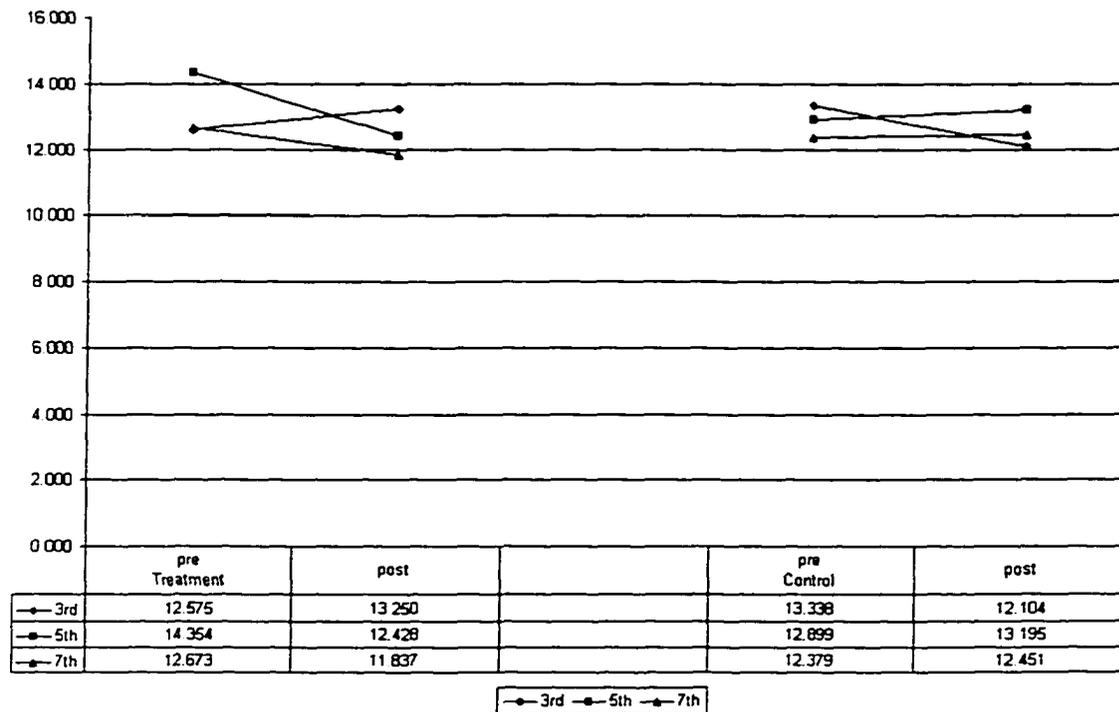
Table 6 Summary of Friction Means by Grade, Group, and Time of Test

Group (T = Treatment, C = Comparison)

Test (Pre = Pretest, Post = Posttest)

STATISTICA GENERAL MANOVA				Means
GRADE	GROUP	TEST		Depend. Var. 1
	3	T	Pre	12.57
	3	T	Post	13.25
	3	C	Pre	13.33
	3	C	Post	12.10
	5	T	Pre	14.35
	5	T	Post	12.42
	5	C	Pre	12.89
	5	C	Post	13.19
	7	T	Pre	12.67
	7	T	Post	11.83
	7	C	Pre	12.37
	7	C	Post	12.45

Figure 2: Friction Means of Significance by Grade, Group, and Time of Test



Null Hypothesis 3: There will be no significant differences between the Difficulty scores among gender, grade, and group over the duration of this study.

3a) There will be no interaction between the Difficulty scores among group, time of test, and gender.

3b) There will be no interaction between the Difficulty scores among group, time of test, and grade level.

A repeated measures ANOVA found no significant interaction between scores on the Difficulty scale of the My Class Inventory among boys and girls regardless of treatment group. Therefore hypothesis three failed to be rejected. Also, no significant

interactions were found for the isolated variables of null hypothesis three (a). Table 7 provides a summary of all effects.

Table 7 Repeated Measures ANOVA:

Dependent Variables: Difficulty Scores, My Class Inventory

Independent Variables: 1- Grade, 2- Group, 3- Gender

Repeated Measures: 4- Time of Test (pre- and post)

STATISTICAL GENERAL MANOVA						
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	2	566.35	239	6.65	85.06	0.00
2	1	20.84	239	6.65	3.13	0.07
3	1	5.49	239	6.65	0.82	0.36
4	1	0.64	239	8.04	0.08	0.77
12	2	87.10	239	6.65	13.08	0.00
13	2	5.81	239	6.65	0.87	0.41
23	1	5.93	239	6.65	0.89	0.34
14	2	11.03	239	8.04	1.37	0.25
24	1	5.30	239	8.04	0.65	0.41
34	1	1.85	239	8.04	0.23	0.63
123	2	3.05	239	6.65	0.45	0.61
124	2	69.56	239	8.04	8.64	0.00
134	2	1.38	239	8.04	0.17	0.84
234	1	1.16	239	8.04	0.14	0.70
1234	2	1.74	239	8.04	0.21	0.80

Therefore, the researcher failed to reject null hypothesis three (a). Yet, significance was found for the main effect of grade. In addition, significance was found for two interactions those being between grade and group, and between grade, group, and pre- and posttest. Therefore, the researcher rejected null hypothesis three (b). This three-way

interaction is illustrated in Figure 3. This Figure shows that among seventh-graders the perception of assignment difficulty was not affected by the experimental treatment. Yet, among subjects in grades three and five the experimental treatment may have contributed to the change in perception of assignment difficulty. It seems that among third-graders in the treatment group their perception of assignment difficulty went down while the opposite perceptions occurred among third-graders in the comparison group. Overall, the opposite occurred among fifth-graders. Fifth-graders in the treatment group seem to show an increase in assignment difficulty while those in the comparison group appear to believe the level of assignment difficulty decreased. Table 8 provides a summary for the three-way interaction.

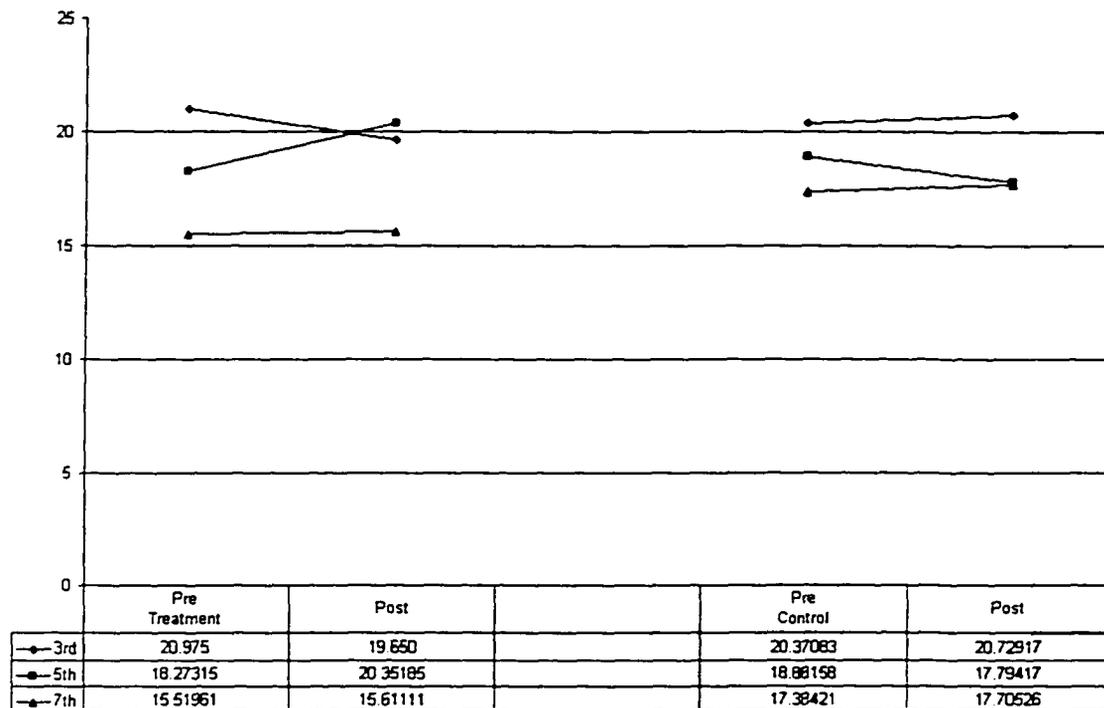
Table 8 Summary of Difficulty Means by Grade, Group, and Time of Test

Group (T = Treatment, C = Comparison)

Test (Pre = Pretest, Post = Posttest)

			Means
GRADE	GROUP	TEST	
3	T	Pre	20.94
3	T	Post	19.65
3	C	Pre	20.37
3	C	Post	20.72
5	T	Pre	18.27
5	T	Post	20.35
5	C	Pre	18.88
5	C	Post	17.79
7	T	Pre	15.51
7	T	Post	15.61
7	C	Pre	17.38
7	C	Post	17.70

Figure 3: Difficulty Means of Significance by Grade, Group and Time of Test



Null Hypothesis 4: There will be no significant difference between the Satisfaction scores among gender, grade, and group over the duration of the study.

4a) There will be no interaction between Satisfaction scores among group, time of test, and gender.

4b) There will be no interaction between Satisfaction scores among group, time of test, and grade level.

A repeated measures ANOVA revealed significance for the main effect grade on the Satisfaction scale of the My Class Inventory. Interpretation of the main effect grade

scores indicates that the extent of satisfaction felt by subjects significantly differed between grade levels. . Table 9 provides a summary of all effects.

Table 9 Repeated Measures ANOVA:

Dependent Variables: Satisfaction, My Class Inventory

Independent Variables: 1- Grade, 2- Group, 3- Gender

Repeated Measures: 4- Test (Pre- and Post)

STATISTICA GENERAL MANOVA		Summary of all effects; 1- GRADE, 2- GROUP, 3- GENDER, 4- PRE/ POST					
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level	
1	2	23.31	239	6.17	3.77	.024	
2	1	0.79	239	6.17	0.12	.719	
3	1	11.98	239	6.17	1.94	.16	
4	1	19.09	239	5.22	3.65	.05	
12	2	11.90	239	6.17	1.92	.14	
13	2	3.85	239	6.17	0.62	.53	
23	1	1.90	239	6.17	0.30	.57	
14	2	3.31	239	5.22	0.63	.53	
24	1	0.95	239	5.22	0.18	.66	
34	1	8.82	239	5.22	1.68	.19	
123	2	2.02	239	6.17	0.32	.72	
124	2	7.90	239	5.22	1.51	.22	
134	2	10.11	239	5.22	1.93	.14	
234	1	0.99	239	5.22	0.19	.66	
1234	2	0.39	239	5.22	0.07	.92	

Post hoc comparison of scores revealed that the greatest difference in perceptions of satisfaction in general music class lies between third- and fifth-graders. Between these two groups, fifth-graders reported greater feelings of satisfaction with their general music class than that reported by third-graders. When all grades are compared side by side the

order of satisfaction with general music class from greatest to least is fifth-graders, seventh-graders, and third-graders. Although, seventh-graders' ranking of satisfaction with general music was higher than that among third-graders the difference between these two grades was not significant. Examination of all other main effects and interaction scores revealed no significance in any combination. Therefore, hypothesis four as well as the sub-hypotheses four (a) and (b) failed to be rejected.

Null Hypothesis 5: There will be no significant difference between the Competitiveness scores among gender, grade, and group over the duration of the study.

5a) There will be no interaction between the Competitiveness scores among group, time of test, and gender.

5b) There will be no interaction between the Competitiveness scores among group, time of test, and grade level.

A repeated measures ANOVA revealed significance for the main effect grade when compared to each other on the My Class Inventory Competitiveness scale. Analyses revealed no other levels of significance for main effects and interactions in any combination. Therefore, hypothesis five, and sub-hypotheses five (a) and (b) failed to be rejected. Table 10 presents the summary of all effects.

Table 10 Repeated Measures ANOVA:

Dependent Variables: Competitiveness, My Class Inventory

Independent Variables: 1- Grade, 2- Group, 3- Gender

Repeated Measures: 4- Test (Pre- and Post)

STATISTICA GENERAL MANOVA		Summary of all effects; 1- GRADE, 2- GROUP, 3- GENDER, 4- PRE/ POST					
Effect		df Effect	MS Effect	df Error	MS Error	F	p-level
1	2	85.80	239	2.73	31.42	0.00	
2	1	6.50	239	2.73	2.38	0.12	
3	1	1.99	239	2.73	0.72	0.39	
4	1	0.05	239	2.62	0.02	0.88	
12	2	3.99	239	2.73	1.46	0.23	
13	2	1.71	239	2.73	0.62	0.53	
23	1	0.75	239	2.73	0.27	0.59	
14	2	5.45	239	2.62	2.07	0.12	
24	1	2.72	239	2.62	1.03	0.30	
34	1	1.48	239	2.62	0.56	0.45	
123	2	0.23	239	2.73	0.08	0.91	
124	2	5.35	239	2.62	2.04	0.13	
134	2	1.38	239	2.62	0.52	0.59	
234	1	1.61	239	2.62	0.61	0.43	
1234	2	0.72	239	2.62	0.27	0.75	

Null Hypothesis 6: There will be no significant difference in the duration of off-task behaviors among gender, grade, and group over the duration of the study.

6a) There will be no interaction in the duration of off-task behaviors among group, time of test, and gender.

6b) There will be no interaction in the duration of off-task behaviors among group, time of test, and grade level.

A repeated measures ANOVA revealed no significant interaction between the isolated variables gender, grade, group, and time of test. Therefore, the researcher failed to reject null hypothesis 6. Also, no significant interaction was observed between the isolated variables group, gender, and time of test. Therefore, the researcher failed to reject null hypothesis six (a). Table 11 summarizes all effects.

Table 11 Repeated Measures ANOVA:

Dependent Variables: Off-Task Behaviors

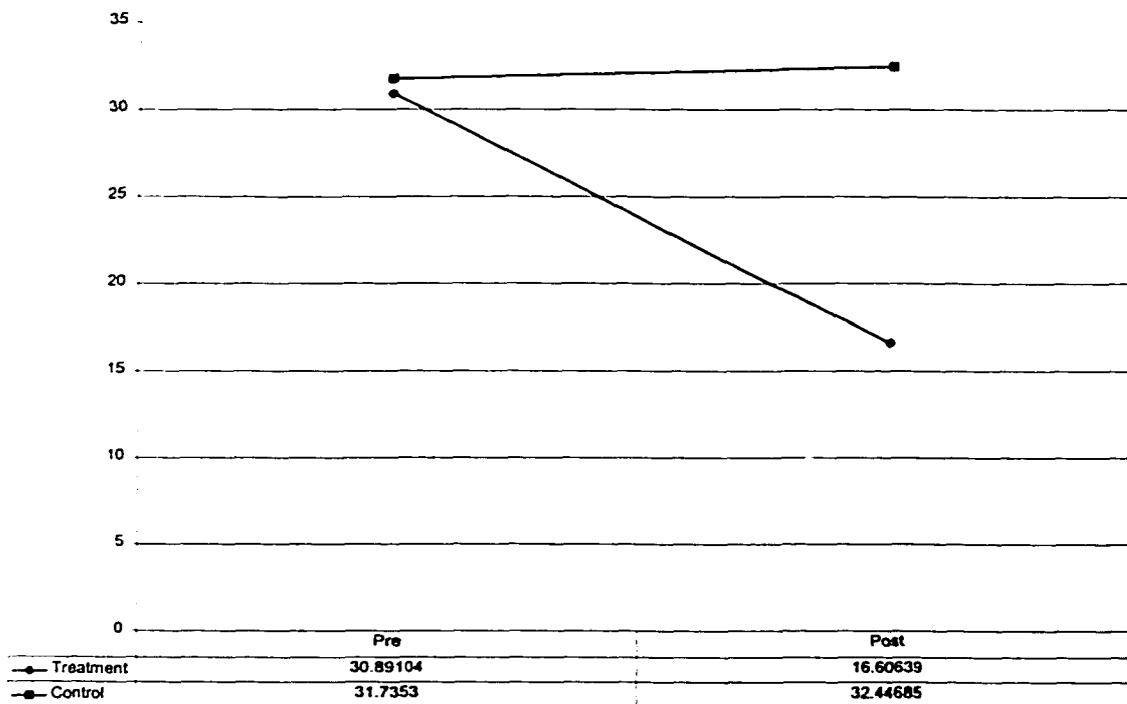
Independent Variables: 1- Grade, 2- Group, 3- Gender

Repeated Measures: 4- Test (Pre- and Post)

STATISTICA GENERAL MANOVA							
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level	
1	2	17399	233	1053.79	16.51	0.00	
2	1	8161.8	233	1053.79	7.74	0.00	
3	1	3180.7	233	1053.79	3.01	0.08	
4	1	5401.4	233	710.84	7.59	0.00	
12	2	2667.2	233	1053.79	2.53	0.08	
13	2	7273.9	233	1053.79	6.90	0.00	
23	1	12.24	233	1053.79	0.01	0.91	
14	6	840.88	233	710.84	1.18	0.30	
24	1	4	233	710.84	9.27	0.00	
34	1	1879.3	233	710.84	2.64	0.10	
123	2	8048	233	1053.79	7.63	0.00	
124	2	2361.1	233	710.84	3.32	0.03	
134	2	4906	233	710.84	6.90	0.00	
234	1	951.97	233	710.84	1.33	0.24	
1234	2	553.74	233	710.84	0.77	0.46	

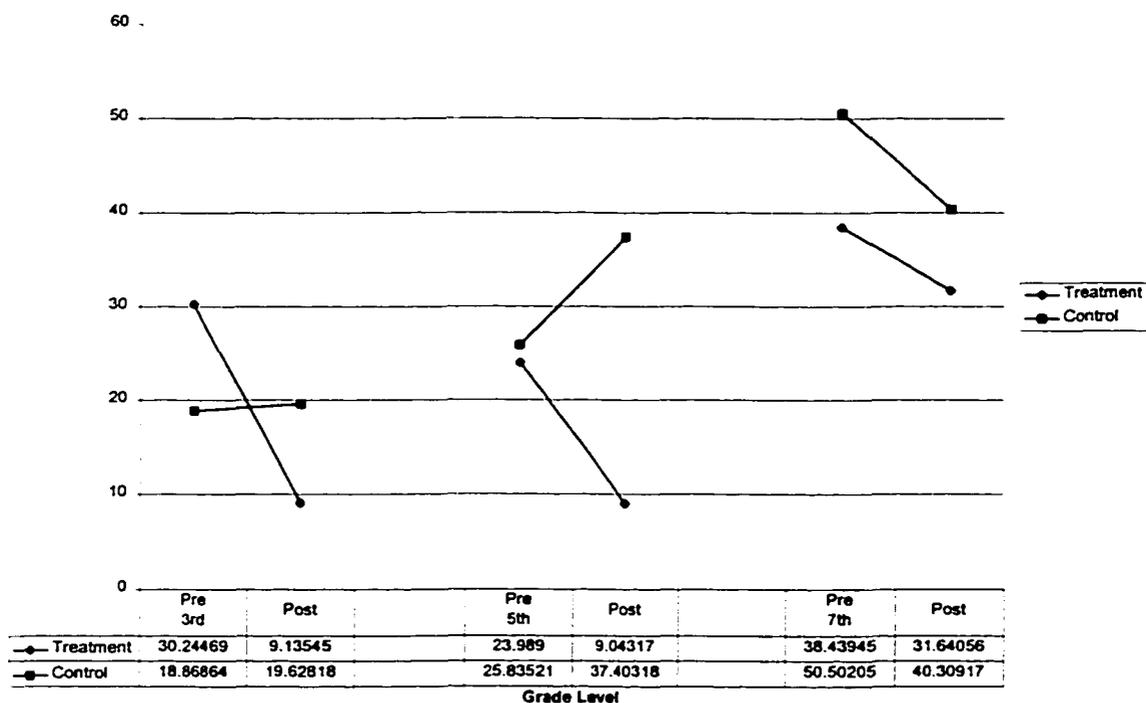
However, significant levels were found between four groups of isolated variables. The first significant interaction was found between variables grade and gender. The second significant interaction was found between group and pre/ posttest scores. As illustrated by Figure 4 off-task behavior scores significantly decreased among subjects in the treatment group. It seems that the audio CD may have contributed to lower durations of off-task behaviors. The third significant interaction was found between variables grade, group, and gender. The fourth significant interaction was found between variables grade, group, and pre/ posttest. As presented in Figure 4, students in the treatment groups exhibited lower durations of off-task behaviors on the posttest.

Figure 4: Means of Significance for interaction of Group and Test



Specifically, Figure 4 illustrates the interaction of overall off-task behavior scores between pre- and posttest. Therefore, the researcher rejected hypothesis six (b). It seems that an audio CD did affect how third-graders behaved in class. Off-task behaviors among third-graders in the comparison group changed very little across time. Durations of off-task behaviors among fifth-grade subjects in the treatment group also significantly lowered.

Figure 5: Means of Significance for Interaction of Grade, Group, and Test



In contrast, subjects in the comparison group demonstrated higher durations of off-task behavior. It seems that although seventh-grade subjects in the treatment group had lower

durations of off-task behavior, no interaction between treatment groups was found at this grade level. The fifth significant interaction was found between the interaction of variables grade, gender, and pre/ posttest scores. Significant interactions were not found for any other combination. Figure 5 illustrates the interactions of off-task behavior score by grade between pre- and posttest observations.

Summary of Findings

A series of repeated measures ANOVAs was used to analyze the data collected on the My Class Inventory and the time spent off-task behaviors. Interpretation of the results implies that students in third- and fifth-grades were positively affected by an audio CD in terms of their behavior. Students' durations of off-task behaviors significantly lowered in the treatment groups. It was hypothesized that the addition of a tangible goal would motivate all students and thus increasing the duration that students were on-task. Results show that third- and fifth-graders off-task behavior was affected by the addition of an audio CD to their curriculum. The same results were not found among seventh-graders. Overall, seventh-graders in the treatment groups had lower durations of off-task behavior, while both groups' durations of off-task behavior decreased between pre- and posttests.

Chapter V

Discussion of Results and Conclusions

The purpose of this study was to explore the differences between two groups of students enrolled in general music, one which received an audio CD of their in-class musical activities and the other which did not receive an audio CD. The researcher sought to examine the effect of this tangible musical goal on perceptions of the learning environment and off-task behaviors between two groups of third-, fifth-, and seventh-grade students in general music. Students were told at the beginning of study that after four weeks the researcher would return and record all of their music and make audio CDs for each student in the class. The intent of the researcher was to increase the amount of time students spend on-task and to improve the perceptions and ultimately attitudes of the general music class. Data analyzed represented students' on-task behavior between the beginning and end of a four-week treatment period and their perceptions of the learning environment of their general music class. Thus, the independent variables examined were gender, grade level, treatment groups (those receiving or not receiving an audio CD of the activities they performed in their general music class), and time of test. Dependent variables were the mean scores on the My Class Inventory (MCI) and student on-task behavior. Four independent variables were examined for this study. Two of the four variables were primary, those were treatment group and time of test. The other variables gender and grade level, were examined in combination with the primary independent variables. For clarity, the researcher created two sub-hypotheses one examining the

interaction of gender and grade level between treatment group and time of test.

Therefore, only significant interactions containing both primary variables were identified and explained.

This chapter will offer discussion, conclusions, and implications of the results of the research study. Each research question will be addressed individually and the chapter will conclude with a summary of the conclusions and implications for future research in this area.

The first five research questions addressed the effects of a tangible musical goal on students' perceptions of the learning environment for each of two individual areas: group, and time of test. The My Class Inventory was used to identify students' perceptions of the general music class. The MCI comprises five subscales, each measuring a different aspect of the learning environment. The five subscales measure students' perceptions of the cohesiveness within the group, friction among students, difficulty of the discipline in general, the degree of satisfaction felt among students, and the amount of competitiveness between individuals.

In analyzing the sub-scale cohesiveness pre- and posttest scores, the researcher found no significant difference between the two groups. This indicates that the addition of a tangible musical goal was insufficient in changing students' feelings of unity within general music. The perception of students assigned to the treatment group did not differ considerably from those assigned to the comparison group. This result was not anticipated. It was expected that students assigned to the group with a tangible goal

would have a gain in their perceptions of cohesiveness within their general music class.

This was not the case.

The second research question sought to examine the effects of a tangible goal on students' perceptions of friction within the class. Comparisons of the pre- and posttest scores were significantly different between three variables, grade, group, and time of test. This suggests that the incorporation of an audio CD did affect students' perceptions of the class. Comparing experimental groups by grade reveals that third-graders in the treatment group had gain scores in their perception of friction whereas, third-graders in the comparison group decreased in feelings of friction among classmates. This was not expected.

It was anticipated that students in the treatment group would work more collaboratively and thus reduce off-task behaviors within the class. The fact that the reverse was true may indicate that the tangible goal created individual anxiety or stress. Students' stress levels might have been raised due to a strong desire or excitement to do very well. Perhaps, their music teacher enhanced their level of stress while the researcher was not present. The teacher might have strong ideals or concerns for "looking good" or not "looking bad". Research on social learning identifies this as extrinsic goal setting (Ormrod, 1995). Another possible reason might be that students put pressure on each other. For example, classmates who spent more time off-task or who appear weak in certain musical areas might have been pressured by their peers to try harder.

Fifth-graders in the treatment group had reduced scores, while students' scores in the comparison group did not vary much between tests. This was anticipated by the

researcher, it was expected that students in the treatment group would work together toward a common goal. As suggested by previous research (see chapter 2), the introduction of a novel action or situation can be sufficient in changing individuals' motivation and goal setting behaviors.

Similar findings occurred when comparing seventh-graders by group. Those in the treatment group had a reduction in scores while those in the comparison group remained relatively unchanged. As with the fifth-graders, this finding was anticipated.

In the third research question the investigated students' perceptions of overall difficulty within the discipline. Significant interaction was found between the variables grade, group, and time of test (pre- and post). This suggests that the tangible goal affected students' perception of task difficulty. As anticipated, third-graders in the treatment group had reduced scores between pre- and posttests. For third-grade students in the comparison group, their perceptions of task difficulty did not vary much between tests. Several possible explanations for these findings can be made. The first possibility is that with the enhanced interest via the tangible goal, students' awareness of traditionally challenging activities was suppressed. A second possibility is that the teacher created easier activities to assure the musical outcome would be praise worthy. A third reason might be that the teacher performed only activities that he/ she knew the students liked and at which students would be successful.

A somewhat opposite finding occurred among fifth-graders. Those in the treatment group had reported the class was more difficult while those in the comparison group reported that the class was less difficult. This finding was not anticipated. It was

predicted that students in the fifth-grade would be affected similar to that exhibited by third-graders. Possible reasons describing these results parallel some of the reasons given for the explanation of the friction results. Maybe due to increased feelings of individual or group angst perceptions of the difficulty of performed musical activities increased among students in the treatment group. Again, greater friction might be attributable to individual, teacher, or parent influence either or all of which could be sufficient in changing the individual's opinions about the tasks associated with general music and specifically the tangible goal.

Seventh-graders did not present significant differences between pre- and posttest scores. This was expected for students at this level of mental development since the treatment did not impose any changes on the activities inherent in their curriculum. Also, no changes were imposed on how those activities were presented, or performed, and the expectations associated thereto. However, based on gender research on technology (see chapter 2) it was hypothesized that the introduction of technology into the middle school general music classroom might negate the typical negative attitudes females tend to express toward technology by music and technology, while the opposite was hypothesized for males. Specifically, it was hypothesized that negative attitudes toward general music class expressed by males would be negated by the addition of technology. This might have occurred, however it is plausible that students did not find the activities very difficult from the beginning and therefore the addition of a tangible goal, one which did not change the curriculum, would have no affect on students beliefs of task difficulty.

Satisfaction was the fourth sub-scale of the MCI, therefore, the fourth research question examined students' overall satisfaction with their general music class. The data show no differences in the students reported satisfaction. This was not anticipated, it was predicted that students' overall satisfaction would increase with the addition of a tangible goal that incorporated technology. The researcher posited that the combination of a technology and general music would positive affect students' beliefs about general music, thus increasing their satisfaction with this course. This supposition was strongly held for middle school students who previous research indicates would benefit the most from this combination of disciplines and activities. This finding is in contradiction to the previous research that states that tangible goals are effective in positively modifying students' attitudes toward activities. Whereas the findings of the research are in opposition to research that proclaims the benefits of tangible goals, it reinforces the findings that conclude that tangible goals are not effective for all people in modifying attitudes and behaviors. It appears that the incorporation of a musical goal culminating in a tangible representation of their hours spent in general music was insufficient in changing students' attitudes toward general music. Perhaps the outcomes of this study would have been different if students had a voice in the activities that they performed. Maybe if students could choose what music to record, their attitudes toward general music might be more favorable. Conceivably, this scenario would be different enough from the activities that most general music students experience that it would result in personal value and intrinsic motivation.

The fifth research question examined the effects of a tangible goal on competitiveness within the general music class and found no differences. The finding was not expected. It was anticipated that the addition of a tangible goal would reduce the level of competition among students. It was hoped that students would work more cohesively, thus reducing students' habits of trying to be best or first. The researcher considered that the treatment group would want to do very well which would manifest as greater competition within individuals. More than likely the plausible drive to do well manifested itself and therefor was measured by other subscales. Yet, it seems possible to consider that because students in the treatment group knew that they were the only ones receiving the tangible goal the instinct of competition did not arise. Further, since students in the treatment group knew that all students would receive the tangible goal there was no reason to compete.

The sixth research question investigated the effects of a tangible goal on students' off-task behaviors. Analyses of the data revealed that the tangible goal was seemingly helpful in improving the amount of time students spend engaged in teacher directed classroom activities. Students in the treatment group exhibited less off-task behavior from the start to finish whereas students in the comparison group exhibited little change across time. When grade level was factored into the results, it became clear that third-graders in the treatment group spent on average 30 percent more time on-task during the posttest than observed on the pretest. Similar to the overall findings, the researcher observed little change in off-task behaviors among third-graders in the comparison group. Whereas third-graders mirrored the overall findings, fifth-graders displayed more

interesting results. Students in the treatment group had reduced scores spending on average 37 percent more time on-task than during the pretest. For students in the comparison group an opposite trend was observed. Those students had gain scores averaging 48 percent more time off-task during the posttest observation. This finding might be due to students engaging in the recording of the CD which lead to a more open or less structured environment resulting in greater time spent on task for students in the treatment group but greater time spent off-task for students in the comparison group. Another reason might be that certain students played different unpitched instruments thus affecting their interest and increasing their time on-task. The researcher would not consider this a strong probability. Although interactions were found for third- and fifth-graders, no interactions were found between seventh-grade groups.

Again, perhaps the tangible goal was insufficient in changing the overall structure of the general music class. In other words, seventh-grade students probably did not find the idea of receiving a permanent product of the musical activities they genuinely dislike appealing, therefore eliciting no value in those musical activities and perhaps enhancing their dislike of the class resulting as no observed difference between groups. Compared to third- and perhaps fifth-graders that proudly display their school achievements on their refrigerators or other places of honor in the home, seventh-graders need to believe that their energies are being spent in valuable ways. Third- and to a somewhat lesser degree fifth-graders are happy to receive praise regardless of the form or behavior that lead to praise. However as suggested by research (see chapter 2), as individuals enter adolescence their interests change and they begin to seek experiences of personal value

and interest. Therefore, it is not extraordinary to consider that music that holds little value and interest would not inspire students to take activities involving that music seriously. Students would not focus on irrelevant activities despite the pairing to technology that has been shown to be motivating. The principal genre that would be valued by middle school students is the music that they purchase, hear and watch on music television stations, and listen to on the radio.

Summary

Globally, this study sought to determine if a tangible goal would improve students' perception of their learning environment and the duration of time they spend engaged in off-task behaviors. It was assumed that a tangible goal would not change students' opinions about general music and their off-task behaviors. To support this assumption, the researcher conducted this study that explored the following:

- 1) Two dependent variables identified as students' perception of the learning environment, and their off-task behaviors.
- 2) Four independent variables examined broadly: gender, grade level, group, and time of test (pre and post).
- 3) Two independent variables specific to the purposes of this study: group and time of test.
- 4) Two independent variables of secondary importance to this study: gender and grade level.

As described in the results of the study, examination of these variables collectively resulted in a panoramic view of the effects or lack of effects for the students involved in the study. In addition, this study provided interesting comparisons across grade level.

Previous research has examined most of the dependent and independent variables isolated in this study; those being the incorporation of a tangible goal, off-task behaviors, gender, and grade level. Though similar, this investigation approached analysis of the variables examined in previous research from a different perspective and looked at the effects of these when a tangible goal is added to the general music curriculum. This research approach had not been previously conducted leaving comparisons to other related research somewhat tenuous.

Based on the findings of this investigation it seems logical to conclude that the addition of a tangible goal affected some perceptions and behaviors of elementary general music students more than did it affect middle school general music students. Regarding perception of the learning environment, it appears that only the subscales Friction and Difficulty showed any change among students in the treatment and comparison groups. Friction scores among third-grade students in the treatment group went up while scores among third-grade students in the comparison group went down. Friction scores among fifth- and seventh-grade students in the treatment group went down while scores among fifth- and seventh-graders in the comparison group remained relatively unchanged. Reported Difficulty scores show that third-graders in the treatment group went down while reported third-grade scores in the comparison group remained relatively

unchanged. Fifth-graders in the treatment group reported increased Difficulty scores while their counterparts in the comparison group reported reduced Difficulty scores. Seventh-graders in both groups showed little change in Difficulty scores from beginning to end.

There are several plausible reasons for the results of the Friction and Difficulty scores. One reason for the Friction results could be attributed to self or external pressures to perform well. Individual, other students, and teacher influences could have affected individual stress levels leading to the reported results. Perception of the Difficulty level of music activities might have been affected by external influences from the music or classroom teacher, and possibly fellow classmates. The music teacher might have unintentionally emphasized the need to perform well for personal reasons. Some personal reasons include the desire to look good before the community and the principal/school board, reflection on the effectiveness of the current music curriculum, and to have a quality product to model for future classes or perhaps future music activities.

The researcher acknowledges the possibility that students' opinions of the music activities performed might have influenced their perceptions of the learning environment and their off-task behaviors. For example, the seventh-graders might not value the activities recorded whereas the third- and fifth-graders enjoy most of the activities associated with general music. It is also plausible that the teachers of the students in the treatment group constantly reminded the students of the tangible goal thus affecting perceptions and motivation states of their students. Also, it must be considered that the sole establishment of a deadline might have been sufficient in itself to change the

motivational state of the students examined. In this scenario, just knowing that they, the students, must be ready to perform in a short time might have created a sense of urgency that could have changed their perceptions and ultimately their behaviors. These and other plausible explanations can be contributing to the events observed by this researcher.

Although several reasons exist, they are not all equal in strength. Some reasons such as deadlines and perceived value weigh more heavily as influencing factors than do internal or external pressures.

Regarding their perceptions, this enhanced sense of urgency could have easily changed the way students perceive general music. This deadline could have increased students stress levels resulting in increased perceptions of friction both internally and externally as well as task difficulty which under normal conditions would not have arisen. As for students' behaviors, it seems logical to conclude that a sense of urgency would change how people approach a given task. When faced with a deadline, individuals often will modify their normal routine to successfully accomplish the set goal.

Conclusions of the Study

Based on the results of this study, it can be concluded that:

- 1) The addition of a tangible musical goal can change students' perceptions of interpersonal friction associated with elementary general music activities.
- 2) The addition of a tangible musical goal can change students' perceptions of task difficulty associated with elementary general music activities.

- 3) The addition of a tangible musical goal can be effective in reducing the duration of time students spend engaged in off-task behaviors of general music students.
- 4) The addition of a tangible musical goal can be more effective in reducing the duration of off-task behaviors among elementary general music students than for middle school student.

Implications for Future Research

Taking all of the plausible alternate realities, there is a necessity for future investigations to replicate this theory both wholly and under individual natures across variables representing students' perceptions and their off-task behaviors. As a result, future research might begin to make determinations with regard to increasing positive attitudes toward general music class among middle school aged students, decreasing the duration of time spent engaged in off-task behaviors, and increasing overall motivation among general music students but specifically students in middle school.

While some of the findings reported from this study support the results of previous research, there is a need for further examination both replication and comparing the findings of previous studies to those reported by this researcher. Future research should focus attention on the middle school level. Researchers should predetermine the activities that middle school students value and would enjoy performing and doing. Once this is determined, then a similar study can be conducted with the addition of the students actively participating in the recording and making of the audio CD.

One variation on this is to examine the differences in off-task behavior and perceptions of the learning environment. This study would also use two groups, both of which perform their preferred music or activities. Then have one group actively engaged in the full process of making an audio CD while the second group merely receives the CD of their performance. As stated previously, learning and being actively involved in the process of making an audio CD is cognitively more stimulating and would be viewed with greater “real world” relevance.

A second variation on this study is to examine the differences in off-task behavior and perceptions of the class between three groups, one group would receive a CD while the other received a cassette tape. The purpose of doing this would be to address the appeal of an audio CD over other cassette tapes. Perhaps similar results would occur if students worked toward a tangible goal regardless of the type. Again, the researcher would predetermine the preferred activities that the students would enjoy. Following this step, the researcher would have the students prepare that musical activity. One group would actively participate in the making of an audio CD, the second group would participate in the making of a cassette tape, and the comparison groups would not receive a tangible product.

The availability of affordable synthesizers and sequencers makes performing very accessible to the novice musician. These tools combined with current notation software such as Finale and Encore offer music educators and their students’ opportunities for creative expression inconceivable to earlier generations. Previous research (see chapter 2) has reported that general music students rank “composing music” relatively low on the

scale of preferred activities. Future research should combine performing and making CDs. This research should determine if students' attitudes toward performing can be improved through providing opportunities to record their compositions. Students might view such experiences as highly valuable and desired. Many students have computers in their homes as well as synthesizers and other electronic instruments. Many of these students are writing their own music and performing it in neighborhood bands. Future research should use this knowledge as a springboard to explore ways of bringing the joy and value these students have in their homes into the classroom to improve attitudes toward general music and decrease the perceived gap between students "real" music and the teachers' "schooled" music.

Implications for Education

Music educators have understood that their teaching and students' learning can be enhanced with the addition of modern electronic technology. Since the invention of the record player, teachers have modernized their curricula with these conveniences. Present day teachers have far more electronic tools available than teachers fifteen years ago dreamed possible. Technology can be a strong motivator for the adolescent learner, allowing for numerous and varied modes of creative expression. This study, because it incorporated some modern tools, has several implications for educators.

Perhaps the greatest implication is for middle school general music teachers. Based on this study, it seems that these teachers should endeavor to provide middle school students with musical experiences that this age group really likes. Structuring

activities around creating and reproducing CDs can increase students' interest and value in general music. Loundsbury and Clark, (1990) reporting for the National Association of Secondary School Principals, write that many eighth-graders do little critical thinking and place little relevance to their own lives in the content of classes. This should motivate middle school teachers to reflect on the activities that they are creating for their students and to question the relevance their students find in that content and in those activities. It seems that creating general music activities that deeply engage students in critical thinking and problem solving is the future direction general music teachers should proceed. As presented above in the "future research" section these proposed studies are an attempt to create activities that foster critical thinking skills through self and group analysis, advanced organization, and problem solving.

In addition, this study shows an effect of bringing general music closer to "real world" relevance. According to Moore (1994), "[a] dichotomy [exists] between "real" music and "school" music...for [the] adolescent, music is one area with little correlation between personal interests and the kinds of experiences found in the school environment." With the addition of technology, such as recording and burning a CD, music teachers begin to close the gap separating what adolescents consider "real"/relevant and "school"/ extraneous music. This study shows that this combination has a positive effect.

This study discussed the addition of a CD to the general music curriculum. Music teachers should creatively explore how all of the available electronic technologies might be used to enhance their teaching and ultimately to expand their students' learning and

interest. Several teachers are taking advantage of electronic keyboards and synthesizers that contain authentic sound files of the full orchestra plus much more. In addition to these, the personal computer should be explored with a broader lens. Several non-music software programs can be used to foster higher level thinking about music. Database programs, for example, can be used to categorize and compare all music performed and analyzed by the students throughout the year and their entire middle school experience. With database programs students would enter style characteristics of various works, genres and cultures. This ongoing exposure to these musical elements not only deepens their understanding of them but also allows them or with teacher guidance to continually draw mental lines linking similarities and understanding what and how styles, genres, and cultures differ. By providing student valued music activities and using this to elicit deeper understanding about the structure of music, we educators might come closer to our goal of creating a population of educated listeners and consumers of music.

APPENDIX A:
Human Subjects Approval

Human Subjects Committee

1622 E. Mabel Street
P.O. Box 245137
Tucson, AZ 85724-5137
(520) 626-6721

20 December 1999

Geoffrey Reynolds, Ph.D. Candidate
c/o Robert Cutietta, Ed.D.
School of Music
Music Building
PO BOX 210004

**RE: EFFECTS OF A TANGIBLE GOAL ON ATTENTIVENESS AND PERCEPTIONS
OF CLASSROOM CLIMATE IN A GENERAL MUSIC CLASSROOM**

Dear Mr. Reynolds:

We have received documents concerning your above referenced project. This project involves the evaluation of an already implemented teaching strategy with and without CD audio feedback of class performance (students in grades 3 - 7 participating in music classes at 4 Tucson public schools invited to participate; parental consent/minor's assent to be obtained; classes observed over a 6-week period with pre- and post class survey concerning students' impressions of music class). Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101 (b) (1)] exempt this type of research from review by our Committee.

Please be advised that clearance from academic and/or other official authorities for site(s) where proposed research is to be conducted must be obtained prior to performance of this study. Evidence of this must be submitted to the Human Subjects Committee.

Rec'd 1/2/00

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely,



David G. Johnson, M.D.
Chairman
Human Subjects Committee

DGJ/js
cc: Department/College Review Committee

APPENDIX B:

My Class Inventory Test

About Our Class

108

START HERE

Circle Your Answer

Teacher Only

- | START HERE | <i>Circle Your Answer</i> | <i>Teacher Only</i> |
|---|---------------------------|---------------------|
| 1. Students enjoy their school work in my class. | Yes No | + _____ S |
| 2. Children are always fighting with each other. | Yes No | + _____ F |
| 3. In our class the work is hard to do. | Yes No | + _____ D |
| 4. Some of the children in our class are mean. | Yes No | + _____ F |
| 5. Most pupils are pleased with the class | Yes No | + _____ S |
| 6. Children often race to see who can finish first. | Yes No | + _____ CM |
| 7. Most children can do their schoolwork without help. | Yes No | - _____ D |
| 8. Some pupils don't like the class | Yes No | - _____ S |
| 9. Most students want their work to be better than their friend's work. | Yes No | + _____ CM |
| 10. Children are always fighting with each other. | Yes No | + _____ F |
| 11. Only the smart people can do the work in our class. | Yes No | + _____ D |
| 12. In my class everybody is my friend | Yes No | + _____ CH |
| 13. Most of the children in my class enjoy school. | Yes No | + _____ S |
| 14. Some pupils don't like other pupils. | Yes No | + _____ F |
| 15. Some pupils feel bad when they do not do as well as the others. | Yes No | + _____ CM |
| 16. Most Children say the class is fun | Yes No | + _____ S |
| 17. Some people in my class are not my friends. | Yes No | - _____ CH |
| 18. Children often find their work hard. | Yes No | + _____ D |

19. Most children don't care who finishes first.	Yes No	- _____	CM
20. Some children don't like other children.	Yes No	+ _____	F
21. Some children are not happy in the class.	Yes No	- _____	S
22. All of the children know each other well.	Yes No	+ _____	CH
23. Only the smart pupils can do their work.	Yes No	+ _____	D
24. Some pupils always try to do their work better than others.	Yes No	+ _____	CM
25. Children seem to like the class.	Yes No	+ _____	S
26. Certain pupils always want to have their own way.	Yes No	+ _____	F
27. All pupils in my class are close friends.	Yes No	+ _____	CH
28. Many pupils in our class say that school is easy.	Yes No	- _____	D
29. In our class some pupils always want to do best.	Yes No	+ _____	CM
30. Some of the pupils don't like the class.	Yes No	- _____	S
31. Children in our class fight a lot.	Yes No	+ _____	F
32. All the pupils in my class like each other.	Yes No	+ _____	CH
33. Schoolwork is hard to do.	Yes No	+ _____	D
34. Certain pupils don't like what other pupils do.	Yes No	+ _____	F
35. A few children in my class want to be first all of the time.	Yes No	+ _____	CM
36. The class is fun.	Yes No	+ _____	S
37. Most of the pupils in my class know how to do their work.	Yes No	- _____	D
38. Children in our class like each other as friends.	Yes No	+ _____	CH

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