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INCREASING STUDENTS VISUAL AESTHETICS THROUGH THE CRITICAL ANALYSIS OF WESTERN MASTERPIECE ARTWORKS

by

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Increasing Students Visual Aesthetics Through the Critical Analysis of Western Masterpiece Artworks,

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Increasing Student Visual Aesthetics through the Critical Analysis of Western Masterpiece Artworks.

Capstone directed by Dr. Thomas Sherman

Abstract

Students at the high school level were continually basing their judgment of unfamiliar artworks on previous perceptions gained through their previous knowledge and misconceptions of what art should look like. As a result, students were increasingly creating and discussing artworks of their own and others in an uninformed and disorderly approach. The purpose of this study was to involve students in a comparison between a student's initial opinion of a masterpiece artwork with the students opinion of the artwork after the student had been made aware of the artworks sensory, formal, technical, expressive, socio-cultural, cultural-historical and symbolic properties. All students participated in each exercise and were asked to rate each artwork with a preliminary score. After knowledge was presented, applied and reflected on, a subsequent rating was also gathered. Student response or comment of each artwork was accepted, but not necessary or demanded so as not to bias the true nature of the artwork in any way.

A small rubric scale was used by the students to judge their impression of each artwork. The ratings are as follows: 1-unsatisfactory, 2-satisfactory, 3-average, 4-above average, 5-excellent. Students participated in the study during a one semester, five-month period from January through May, rating twenty random Fifteenth through Twentieth century artworks. Students were of mixed gender, 9 boys and 18 girls in 5th hour as opposed to 13 boys and 12 girls in 6th hour. The classes were also mixed age classes varying in class size from 27 students in 5th hour, and 25 students in 6th hour, ranging in the ages of 14 through 18.

Results of this study showed a slightly higher post-test mean for all of the artworks viewed.

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CONTENTS

CHAPTER I

INTRODUCTION

The teaching of art is a difficult matter. In the school curriculum there are many disciplines in which the student is asked to actively participate and learn. In other words, students are introduced to different art outcomes in schools such as the academic, the practical, and the cultural. The academic art outcome introduces students to pure art concepts, techniques, and knowledge. The practical art outcome is implemented to give students the technical skills and resources they may need in real world situations, and is merely driven by economics. Art exists in all of the aforementioned and, not exclusively, but inherently in the cultural realm. The area of culture in the art curriculum seeks to help students realize themselves as individuals in society, and helps them grow into persons who look at the world with awe and amazement. The cultural area distinctly gives students the ability to cope with the experience of “being individuals in the world”.

The focus of this study was to determine to what extent and capacity the critical analysis of Western Masterpiece artworks had on increasing student’s aesthetics. The research was used to gain insights into strengthening art curriculum. The researcher compared the new aspects of the study with past curriculum standards to determine if critical analysis increased students aesthetics.

Need for the Study

As our society becomes larger and the network of information and technology magnifies its grasp on human life, education in the visual arts, specifically aesthetic reasoning, is needed to compliment and sometimes dispute the sentiments of a society that has developed as a post-industrialized popular culture. Students need to be able to think and feel beyond what a society dictates as popular culture. Art enhances almost everything that humans manufacture. Can we imagine a life without colorful clothes, ergo-dynamic cars, sensational fun toys for children, or clever movies that are one minute making us laugh to a state of sadness the next? Individualized decision making requires that students have a well developed intellect ultimately because making appropriate choices in society can be a difficult task. Just as our world and the things we make are beautiful and appealing, and can communicate vital messages, aesthetics can be both good and evil. Aesthetics can fool us and lead us to believe or buy everything we see. Aesthetics can trick us into adopting stereotypes, convince us our bodies are not as fashionable as others, and even coax us to buy products before we analyze their capabilities, value or need. Making art and responding to art requires that students be involved in the creation or decoding of varieties of images in society. Using one's mind to create and react to art engages the mind in cognitive deciphering, which has been the basis for concept formation and a greater understanding of what one experiences.

Statement of the Problem

When students react to unfamiliar works of art they are reacting to the most superficial aspects, what is the most obvious to them, and they rush to make judgments and conclusions of what they consider to be a sub-standard work of art. These judgments happen when students are unfamiliar with the world of art as a whole. Students, as they reach adolescences, seem to stand on the fact that works of art are to be realistic or imitative of nature. The more an artwork looks like the "real thing" the more it is valued. A students lack to distinguish reproductions from implied interpretive artworks result in many reactions such as "I love it" or "I hate it", or a statement like "I don't know much about it, but I know what I like". This really means "I like what I know."

Statement of the Hypothesis

The Hypothesis of the study was that students will learn to perceive artworks better through critical analysis and social-historical discovery in comparison to those who only experienced the selected artworks at an initial visual viewing. Therefore, opinions of the students who investigate the artworks should have been substantially higher than those who are not allowed to investigate the artworks.

Definition of Terms

Aesthetics: A description of what one thinks is beautiful.

Aesthetic Experience: Focusing on the perceivable qualities that permeate any experience.

Autonomy: .A student who is in possession of a full and mature understanding of artistic conventions, and also beginning to see the work of individuals, including themselves, in relation to, but independent from those conventions.

Behaviorism: Individuals are reflectors of their environment which serve as the determinant of their ability to behave and learn.

Cognition: The process of knowing (perception, memory, judgment.)

Discipline-Based Art Education (DBAE): A method of teaching art education based on the inclusion of four major components; art history, art analysis, art production, and aesthetic awareness.

Formal Qualities: The concrete properties of an artwork, such as color, shape, value, texture, space, scale, symbols, etc.

Variables

Independent Variables

The independent variables in this study relate to the level at which the students pre-rate each artwork, and how students rate the artworks in a post tense.

Dependent Variables

Dependent variables are the students' ability to view and score power-point shows of artworks created by twenty different artists who have created "Masterpieces".

Control Variables

The researcher conducted the study at Lincoln High School in southeastern Minnesota during the 2004-2005 school years. Students enrolled in Beginning Drawing for one semester (18 weeks), were included in the study. While two different groups of students participated each day, they were comparable in terms of socio-economic status, (mainly middle income), and number of students per classroom, (5^{th} hour-27 and 6^{th} hour-25). The same teacher administered the same test for the pre-evaluation and post-evaluation each day. All students attended a 52-minute class.

Moderator Variables

Moderator variables included in this research are: Differences in the age of the students in each group, the exact number of class periods students attended, (because of absences due to assemblies, field trips, illness, or snow days), and the time of day or day of the week the class was held. Other moderator variables could include: The students' attitudes, interests, and art backgrounds; the art aptitude of the students; and the uneven proportion of gender.

Limitations and Delimitations of the Study

The limitations of this study were:

- Sample size—Based on approximately 25-27 students enrolled in the elective of Beginning drawing during the 2004-2005 spring semester.
- Age--This study included students ranging from 14 to 18 years in age.
- Aptitude—No data was available to gauge student's art aptitude
- Socio-economic status—The large majority of students were from middle-income homes.
- Limited diversity—The study included a single, large, rural school district with very limited cultural diversity.
- Location—The school district was located in southeastern Minnesota in a community with moderately good support of arts programs.
- Teacher—One male high school art teacher with adequate experience in art

- Length of study—The research encompassed five months.
- Technology--Students viewed artworks through a video-projector using Excel Power-point.

The delimitations of this study were:

- Information varied as some students have more knowledge about art.

CHAPTER II

REVIEW OF LITERATURE

The term “aesthetics” encompasses a large area of understanding. The main focus of this research refers to aesthetics as an adjective that relates to the noun “experience”. This method of understanding aesthetics is a method of art criticism, or responding to a specific work or body or work. (Hagaman 1990) The other definition of Aesthetics can also be employed as a noun when used as the central topic for discussion; when we are engaged in the study of aesthetics, (as in the philosophy of art.)

Aestheticians are philosophers who study the nature of art. When we discuss and argue and write about the possibilities that artworks infer, we are engaging ourselves in activities that have existed in the minds of philosophers for over 200 years. (Silverman 2001)

While the discussion of aesthetics is considered a large and sometimes unanswerable topic, the topic of “What is Art?” encompasses an even larger array of questions. Also we must decide if every object that evokes a response be considered art? Art and aesthetics are two topics that find in each other connections to one another’s meaning.

Mankind wonders how art and aesthetics are related. Is art anything we want it to be or does it refer to objects and/or events that have particular characteristics? Let us begin answering the questions by thinking about our senses and our ability to perceive. As the race car driver rushes around the steep curve of the race track, as the

hiker stares out into the sun setting over the Grand Canyon or Mt. Fuji, as the motorcyclist rips through New York traffic across the Manhattan Bridge, or rides through a thunderstorm on the way to Sturgis, Her/his senses are on an intense overload, each of them experiencing emotions that may evoke a spiritual enlightening that could make them respond with awe and amazement reactions to their surroundings. The artist, as she carves and reapplies the paint from the surface of the canvas is having a conversation with her piece and is having an aesthetic experience. Any of these situations and any of the other million examples are considered aesthetic. "When we focus on the perceivable, (acquiring information through our senses), qualities that permeate any experience --variations in color, shape, values, (dark and light), texture, space, scale, and symbols, and then have thoughts and feelings that are stimulated by what we encounter, we are immersed in the aesthetic dimensions of experience." (Silverman 2001 p.96).

The Cognitive Revolution

Generally philosophy can be divided into three major realms. The first realm, (speculative philosophy), deals with valid methods for gaining valid knowledge. The second area, (applied philosophy), is described as a philosophy that relates philosophical concepts with other fields; i.e. philosophy of science, education or history. Lastly, and most importantly, practical philosophy is a philosophy that describes itself as one that is concerned with the worth of mankind, the nature of beauty, and art which in turn set guidelines as to the discussion and creation of art.

Many people have wondered why we as humans are meant to be able to

perceive. During the 1920's and 1930's, American psychology was dominated by the view that is usually called "Behaviorism." (Davis and Gardner 1992) Davis and Gardner go on to indicate that behaviorism's focus on observational behavior promised psychology the clarity of real science. The behaviorists were focused from the outside in: Individuals were reflectors of their environment which served as the determinant of their ability to behave and to learn. Science seemed as though it could discriminate against art by a disconnection of the cognitive or knowing function often contrasted with the affective or feeling function. Philosopher Israel Scheffler, (cited in Davis and Gardner), cautions against their disassociation which threatens to "mechanize science" while it "sentimentalizes art." (p.97)

Artists know that art becomes meaningful if concept and process are intertwined. If the artist creates conceptual art without the process of creation, an important set of values and emotions, those of the viewer, are lost. Instead, Scheffler maintains that "emotion without cognition is blind and cognition without emotion is vacuous." (p. 98)

Significantly, the recognition that art can be viewed as a cognitive process – a most important result of the cognitive revolution - does not separate art from emotion. Rather it emphasizes the important role of the intellect in making and perceiving art, perhaps even in the aesthetic achievement of expression of emotion. (Davis and Gardner 1992 p.98)

Jean Piaget and the Cognitive Developmentalists

Davis and Gardner also explain that one important cognitive developmentalist was Jean Piaget. Piaget's philosophy of child development leads him to reveal his four hierarchical stages of reason. They are: (1) The sensorimotor period in which experience is legislated through action upon objects. (2) The symbolic or semiotic period in which objects are represented even in their absence. (3) Concrete operations in which reason is coordinated with physical objects, and (4) Formal operations in which experience is mediated through abstractions upon which intellectual operations may be performed. A second generation of cognitive developmentalists dealt with the problem of Piaget's lack of describing a child's synchronous development across cognitive domains. (Davis and Gardner 1992).

Five Phases of Artistic Development

The current state of research literature has recently been documented in "Children and the Arts 1." These new five phases of Artistic Development are deliberately called phases as not to be associated with Piaget's stages, although they do have many similarities.

Davis and Gardner state that the *presymbolic* phase is the first phase, (0-2 years). It is called presymbolic because children's understandings of representational symbols are not yet fully formed. Most developments involve physical actions and sensorimotor coordination, and it is only in the second year of life that abstract symbolism begins to emerge. Infants' drawings are described as "scribbles," where the action of moving a drawing utensil around on paper is most gratifying. Scribbles

only begin to take on representational meaning toward the end of this phase. Most researchers today agree that the brain during this period of life is developing neural networks from the biological point of view. If we want children to develop their sensory motor development, we must learn to give children time to be creative.

The next phase as described by Davis and Gardner is the *figural* phase, (2-5 years.) This phase is the tendency to make "global" or "outline" representations in various artistic media in which the overall shape, or figure of the representation is clearly discernible, but the details within that shape are imprecise or absent. Drawings at this stage could be described as "preschematic." One of their central features is "intellectual realism. Children are said to draw "what they know, and not what they see." Examples include "transparencies," such as people's heads being drawn as visible beneath their hats, and "turning over," where two visual perspectives are incongruously combined in the same drawing. Another feature of this stage is the well known "tadpole figure" in which children universally draw people without bodies. This is a good example of the graphic equivalent of "outlines" in other media. Many researchers have discovered a tendency for children to be concerned at this age with the concrete feature of art works and with the mechanics of producing them.

Most researchers today agree that the brain during this period of life is developing neural networks from the biological point of view. If we want children to develop their sensory motor development, we must learn to give children time to be creative instead of time spent watching Television, video games, and DVDs. (Jensen, 2005)

Davis and Gardner's next phase is the *schematic* phase. This phase, as one might expect, is one of the major developments occurring when children's engagements with art works become "schematic." The schematic phase, roughly between the ages of five and eight years, is an increase in the level or organization of "immature" productions, so that they become increasingly congruent with cultural rules and standards.

Children between the ages of five to ten are developing a wider sense of what the world offers. Novelty abounds, and things like music, new school classmates, different opinions of style and clothing, and an excitement to explore their neighborhoods, are all examples of new rituals. (Jensen 2005) Researchers agree that children of this phase are concerned with the subject matter of art works and on the degree of realism of this subject matter. Thus, pictures or drawings are good if they look realistic. If the child can see what the artwork represents than that is much more important than how the artwork is made. The acquisition of cultural rules in drawings is clearly evident in children's use of ground lines, or skylines. These serve to organize spatially the elements of a drawing, which have previously been unsystematically arranged on the paper. (Davis and Gardner 1992)

Most young students develop the *rule systems* phase, which is labeled by Davis and Gardner as a stage of logic. Full scale accuracy in relation to cultural rules only fully emerge between the years of eight and fifteen or so, which has accordingly been labeled the phase of "rule systems." Thus, drawings become "visually realistic," or what has been described as "viewer-centered." Objects can be depicted as they

might be seen from any angle, or by any viewer, and they are accurate in their use of artistic conventions such as perspective, occlusion, and depth relationships. In this stage, children become fully aware of stylistic conventions and interpret works of art in these conventions.

The last phase described by Davis and Gardner is the "*metacognitive*" phase, which begins in the teenage years. Adolescents not only posses a full and mature understanding of artistic conventions, but they may also begin to see the work of individuals, including themselves, in relation to, but independent from those conventions. As Wolf puts it, "They become aware that there are no absolute answers, no certain rules. They realize that different minds will construct different works and different ways of evaluating those works." Importantly, many people may never achieve this mature level of artistic understanding. Many adolescents, not allowed too view or produce art, lack the critical thinking skills needed to survive and ascertain the visual world around them, and these inefficiencies can be carried with them into their adult life.

In visual art, music, and in other media, artistic styles can be seen in relation to one another, and the creator can draw on each style to varying degrees in formulating the language of an original statement. (Hargreaves and Galton 2000) Being able to communicate about what one is seeing and describe it in an art mark has had many crucial functions throughout history, including religion, ritual, tradition and the formation of the identity of the self.

The basic direction of all humans is the development from dependence to autonomy. It is the common theme of developmental theories. The story of the growth of both human freedom and human sociality occurs in two great movements. We earn our freedom from the domination of biological impulse by becoming good members of society and freedom from the domination of society by constructing some viewpoint independent of society. The last phases of development is no less a growth of sociality than the first. When we are autonomous we are no less members of society, but we are more concerned to improve society than to conform to it. (Parsons 2000)

Stages of Aesthetic Development

Michael Parsons describes the phases as "Stages". The first stage develops during or around Kindergarten and is described as Favoritism. It is in this stage that children describe most artworks with these statements. "It's my favorite color; I like it because of the dog. We've got a dog, and it's name is Toby. Or "it looks like a big pickle coming down from the sky." Lastly, "I don't believe in bad paintings. They're all mostly good." Young children at this phase rarely find fault with paintings, no matter what their subject or style. They relish color and they are often aware of the subject matter. Psychologically, this is the stage where there is little awareness of the point of view of others. (Parsons 2000) This stage could be associated with the schematic phase of development as described earlier.

Parsons describes Stage two as being about beauty and realism. This second stage is being primarily dominated by the subject in art. A painting during this stage

is described as being better if the subject is attractive and if the representation is realistic. Beauty, realism, and skill are objective grounds for judgments. In this stage, the learner is considered to have advanced because this stage acknowledges the viewpoint of other people. Stage Two evokes statements like "It's gross", or, "It's really ugly!" Another person could describe artworks like this: "You expect something beautiful, like a lady in a boat, or two deer in the mountains." Children might also say: "You can see how carefully he's done it. It's really good," or, "It looks just like the real thing" and, "It's really just scribbling, my little brother could do that." In referring to the phases of development, this stage has connections with the "rule systems" phase during adolescent development.

Another stage of development associated with the "rule systems" phase is described by Parsons as Stage Three: Expressiveness. The organizing insight of Stage three has to do with expressiveness. We look at paintings for the quality of the experience they can produce, and the more intense and interesting the experience, the better the painting. This is a psychological advance because developmentally, it is an awareness of the interiority of the experience of others. Aesthetically, Stage three enables one to see the irrelevance of the beauty of the subject, the realism of the style, and the skill of the artist. Stage Three evokes statements as: "You can see the artist felt really sorry for her." Or, "You've got to have a gut feeling for it. It doesn't matter what the critics say about form and technique." And, one answer that has been heard by many art teachers: "We all have a different experience of it. There's no point in talking about good and bad. It's all in the individual."

Stage four is called style and form. In this stage Parsons had theorized that a painting is a social rather than an individual achievement. As people discuss work collectively, they find some things more meaningful and others less so. They help each other to see perceptively. Aesthetically, it enables one to find art criticism useful as a guide to perception and to see aesthetic judgment as reasonable and capable of objectivity. In this stage, associated roughly with Piaget's "Metacognitive Phase", students may say: "He's playing with the eyes. They're more like cups or boats, it's a visual metaphor." And, "the way the paint is laid on here, it lets the bottom color show through – it sings!"

Lastly, Stage Five is also in direct relation to the Metacognitive Phase because it is called: Autonomy. The central insight is that the individual must judge the concepts and values with that which the tradition constructs the meanings of works of art. One's own experience is, in the end, the only possible testing ground for judgment, and one can affirm or amend accepted view only in light of one's best understanding of one's own response. It is in the eye of the beholder, yet the beholder is a caring, thinking and feeling individual. This could mean that while one is individually responsible for their opinions, the responsibility and end response is toward others. One cannot question one's own experience without dialog, without considering the response of others to the same works. Art is valued as a way of raising questions rather than as transmitting truths. The personal reaction of a critical assessor might be to say: "It seems to me that it breaks out of the limitations of style by emphasizing the flatness of the surface," or, "It has a kind of tired feeling to it.

I cannot be sure if it is because I am tired of seeing that kind of thing, or if he (the artist) got tired of painting it." (Parsons 2000).

Discipline-Based Art Education

> "Kunst gibt nicht Sichbare weider, sondern macht sichbar". ("Art does not reproduce what is visible, rather it makes things visible.) Paul Klee's declaration in his "Creative Credo," 1920.

Art education is, or should be, a basic part of education because art itself is an essential part of everyone's life (Walling 2000). Discipline-Based Art Education (DBAE) is a comprehensive approach to teaching and learning in the visual arts which although has beginnings through the research of Jerome Bruner, special interest groups and the governments massive Elementary and Secondary Education Act passed by Congress, was developed in 1984 through a trust of the Getty Center for Education in the Arts in Los Angeles. Discipline-Based Art Education features systematic and sequential learning experiences in four distinctive domains of art to help students create, understand, and appreciate art, artists, artistic processes, and the roles of art in cultures and societies. This approach to teaching enabled students to have a broad and rich experience with works of art in the following areas:

1. *Art making*. Creating works of art, through the skillful application of both experience and ideas with tools and techniques in various media.

Art production, or studio art, has been the heart of most art education practice this century. The guiding notion behind the philosophy of "creative self-expression" was that students needed to express themselves through art, not to study art in terms

of aesthetics, art history, or art criticism. Doing was the thing and still is in many classrooms. But in isolation, what this focus accomplishes is to promote (not merely to permit) a shallow view of art as almost wholly self-referential and self-serving and thus ignores the larger purposes of art. (Walling 2000) As was discussed earlier, art without the awareness of either the concept or process, or one missing in the equation, is art that could be critiqued as naïve and incomplete.

2. *Art criticism*. Describing, interpreting, evaluating, and theorizing about works of art for the purposes of increasing understanding and appreciation of works of art and clarifying the functions of art in society.

The role of art criticism is to inform people, (including artists), about the meaning and significance of artworks. Greer, (1997), writes, "The niche of the art critic is in increasing understanding and appreciation of art by illuminating the cultural and societal values reflected in it." (p24). In other words, the art critic applies the perceived current aesthetic values. And so aesthetics and art criticism are as inextricably linked as aesthetics and art history. Art criticism must draw on both aesthetics and art history for criteria. (Walling 2000)

3. *Art history.* Inquiring into the historical, social, and cultural contexts of art objects by focusing upon aspects of time, place, tradition, functions, and styles to better understand the human condition.

Without some prior knowledge of different periods in art, it is impossible to consider the merits of any periods in art. It is not difficult to see how interconnected are the studies of aesthetics and art history. Indeed, when the student begins to take

on the role of art historian, the task becomes richly multidimensional. Art historians must go beyond art, as must aestheticians, to connect art to culture, both in general terms and as expressed by individual societies. (Walling 2000)

4. *Aesthetics*. By raising and examining questions about the nature, meaning, and value of art, which lead to insights as to what distinguishes art from other kinds of phenomena or objects, the issues that such differences give rise to, and the development of criteria for judging and evaluating works of art are considered aesthetics. (Dobbs 2004 p.701)

The discipline of aesthetics is culture bound. What is valued in art is determined within a context of time and place. A simplistic notion of aesthetic value is conveyed in cultural decisions about what is "beautiful." (Walling 2000)

Walling states that the last aspect of Discipline-Based Art Education is the most interesting, as that it is not a goal of any other subject in the school curriculum to teach aesthetic character, and understanding types of aesthetic experience. DBAE teaches the special ness of art. It does so to introduce and sustain forms of experience which can enhance the lives of students who encounter and experience it.

Establishing Student Aesthetics

The question that arises, then, is why should we try to improve students' aesthetics? Barbara Fredette writes:

> "Aesthetic ways of knowing must become part of the basic education of all students. What is learned is dependent on the ways in which it is taught. Students at all levels should be given opportunities to engage in talk about art that reveals not only the ideas encoded in the art, but also important things about themselves as human beings." (Fredette 1993)

Education in and through the visual arts is needed to support, and quite often challenge the increasingly sophisticated visual culture that has developed in our postindustrial environments. In these environments, education can provide a way of enriching students' lives by helping them to critique and advance the ideas connected to visual culture and its meanings. Studies have shown that general education has not been instrumental enough in promoting learning that will help students make meaning. (Freedman 2003)

Most importantly, when we make objective critical or aesthetic judgments about what works of art do for us emotionally and intellectually, we are engaging in analytical and critical thinking. Specifically, art criticism leads to a greater understanding and appreciation of works of art, ranging from recognized masterpieces to the monuments of our built environment to forms that make-up our pop culture.

When we create or observe good art, it usually feels good. Humans are different from other animals for the fact that we do art for the mere pleasure of it.

Making and observing visual art seems to enhance our ability to elicit and even mediate our emotional responses.

An art education that is mentally challenging and not merely craft-oriented has very important cognitive roles of development. There is much evidence why we must challenge students to become critical thinkers. Evidence from skin-conductance responses show that once something familiar or meaningful has been "uncovered" we are moved. (Jensen 2001)

When we cultivate our perceptual accuracy and the skills of expression and impression, while reviewing the history of art forms and masterpiece artworks, we are increasing our intellectual development needed to function positively in the 21st century. (Silverman 2001)

CHAPTER III

METHODS AND PROCEDURES

Overview

Beginning drawing students at Lincoln High School, Lake City, Minnesota, completed 20 surveys of artworks during the months of January through May of the 2004-2005 school years. In each 52-minute class, students were asked to look at a historically important artwork, (Examples in Appendix B), and rate it based on their initial reaction to the visual presented before them. During the second part of the study, students were asked to participate in a historical, cultural, social, functional, and critical analysis of the artwork. Students then were asked to again rate the artworks using the new information perceived about the artwork. The objective of critically analyzing artworks was to provide students insight to the artists' aesthetics and in turn increase their perceived aesthetics.

Research Design

Each student's initial reaction to each of the artworks was recorded on a spreadsheet to determine the mode, median and mean. All student's post reactions were then recorded on an identical spreadsheet to determine the mode, median and mean of each student's score for each artwork per each day. At the end of all 20 slideshows, the researcher compared the test data of the control score against the data of the experimental score for mode, median, and mean. Gathering and recording the data in this way made it possible to compare the results for any final aesthetic insights gained.

Selection of Subjects

The selection of subjects consisted of 52 students from the Beginning Drawing classes during the spring semester of 2004-2005. Since Beginning Drawing classes were electives in the school course curriculum, the students were of mixed gender classes varying in size from 25 to 27.

Instruments/Measuring Devices

The researcher designed the power-point shows (Example in Appendix C) and surveys used in this study. The format of each power-point show was designed to show only an initial visual of each artwork, and a subsequent rating by the students. Secondly, students were asked a series of aesthetic/critical analysis questions about what they were viewing, and finally were asked to actively participate in a discussion of the factors relative in a critical analysis of the pieces. A standard critical analysis rubric, (Appendix D), was used for the students to react to an initial and final analysis of the artworks.

Validity Measures

This study focused on increasing student's visual aesthetics through critical analysis. To determine the effectiveness of the critical analysis, the researcher compared the student results from the pre and post evaluation of the artworks. The researcher used the amount of increase or decrease in aesthetics as a determining factor of critical analysis effectiveness.

Reliability Measures

To increase study reliability, only students from the Beginning Drawing classes at Lincoln High School of the spring semester 2004-2005, participated in the study. The students were exposed to the same group of power-points, for the same amount of time (52 minutes), from the same teacher in the same classroom environment. By following the structure of each power-point, the researcher hoped to obtain data less skewed by teacher attitude. Using only Beginning Drawing students also lessened the chance for students to bring too much applied knowledge to each artwork. Each presentation was limited to one day a week as not to influence student behavior or attitude towards the study.

Field Procedures

At the beginning of each power-point show students were asked to rate each artwork with their initial reaction to the artworks. After discussion of the aesthetics of the artworks, students were then asked to participate in a critical analysis of each piece of artwork and re-rate each artwork accordingly. During the initial viewing of the selected artwork, students were asked only to objectively state their opinionated score and not to rate the artworks based on the reaction of the other students in the class. Discussion was later required and promoted during the critical analysis of the artworks.

Conclusion

The study accomplished its goal of measuring the aesthetics through the critical analysis of Western artworks. But the study is deemed inconclusive as to determining if each student's art background, age, class load, and socio-economic status affected the pre or post scores of each student.

CHAPTER IV

RESULTS AND DISCUSSION

The researcher collected data from two groups of students during the 2004-2005 school years. Recorded data included every student's pre and post scores for each of the twenty artworks. These records allowed the researcher to compare the pre-scores of every artwork against the post score of every artwork to determine an implied growth of the student's aesthetics.

Procedures

The researcher entered all data from the pre- and post-tests into Excel spreadsheets to facilitate data analysis. The one sample spreadsheet and chart listed in Appendix A, list the pre- and post-test scores rated by each student for an artwork, with its appropriate total points comparison, maximum score, mean score, mode score, and minimum score. At the end of the study, the researcher totaled the pre and post scores per class hour according to the appropriate artwork and calculated the percentage of increase or decrease. Looking at the following two tables, (4.1 and 4.2), we see that the post scores for each artwork were higher than those of the pre-score. There was a moderate increase in the mean percentage of each artwork. When the pre-scores and post-scores are compiled, (Table 4.1), for all of the artworks rated in the 5th hour class, a total points comparison showed a percentage increase in the total point mean of +28.1%. Table 4.2 showed a 6th hour class total point mean of +20.7%.

Table 4.1: **A 5th Hour Pre/Post Comparison of Scores by Total Points**

Student Sample Artworks (5th hour)	*Pre-Rating (Class Mean)*	*Post-Rating (Class Mean)*	*Percentage*
The "Ambassadors"	2.95	3.68	+24.7%
"The Arnolfini Wedding"	2.78	3.67	+32.0%
"Lavender Mist"	2.95	3.75	+27.1%
"Urinal"	2.45	2.73	+11.4%
"Persistance of Memory"	4	4.27	+6.8%
"Marilyn"	2.5	2.79	+11.6%
"The Scream"	4.11	4.8	+16.8%
"Les Demoselle de'avignon"	3.01	3.48	+15.6%
"Nighthawks"	3.72	4.15	+30.9%
"The Last Supper"	3.42	4.31	+26.0%
"Mona Lisa"	3.33	3.81	+14.4%
"Starry Night"	4.58	4.84	+5.6%
"Spiral Jetty"	3.63	4.29	+18.1%
"David"	2.66	3.26	+22.6%
"American Gothic"	3.84	4.36	+13.5%
"Las Meninas"	3.12	3.66	+17.3%
"Girl with a Pearl Earring"	2.77	2.88	+4.0%
"The Thinker"	2.50	2.91	+16.4%
"La Grande Jatte"	3.27	4.06	+24.2%
"Guernica"	3.33	3.97	+19.2%
Total Points Comparison	**59.02**	**75.67**	**+28.2%**
Mean Score Result	**2.95**	**3.78**	**+28.1%**

Table 4.2: **A 6th Hour Pre/Post Comparison of Scores by Total Points**

Student Sample Artworks (6th hour)	*Pre-Rating (Class Mean)*	*Post-Rating (Class Mean)*	*Percentage*
The "Ambassadors"	2.69	3.05	+13.4%
"The Arnolfini Wedding"	2.61	3.09	+18.4%
"Lavender Mist"	1.52	3.1	+103.9%
"Urinal"	1.42	1.5	+5.6%
"Persistance of Memory"	3.23	3.88	+20.1%
"Marilyn"	2.17	2.93	+35.0%
"The Scream"	3.22	3.93	+22.0%
"Les Demoselle de'avignon"	2.02	2.79	+38.1%
"Nighthawks"	3.87	4.22	+9.0%
"The Last Supper"	3.86	4.49	+16.3%
"Mona Lisa"	3.6	4.02	+11.7%
"Starry Night"	4.8	4.83	+0.6%
"Spiral Jetty"	4.25	4.56	+7.3%
"David"	2.62	3.16	+20.6%
"American Gothic"	3	3.69	+23.0%
""Las Meninas"	2.09	3.18	+52.1%
"Girl with a Pearl Earring"	2.8	3.27	+16.8%
"The Thinker"	2.6	3.2	+23.1%
"La Grande Jatte"	3.57	4.13	+15.7%
"Guernica"	2.89	3.95	+36.7%
Total Points Comparison	**58.83**	**70.97**	**+20.6%**
Mean Score Result	**2.94**	**3.55**	**+20.7%**

Figure 4.1: **A 5th Hour Pre/Post Score Comparison**

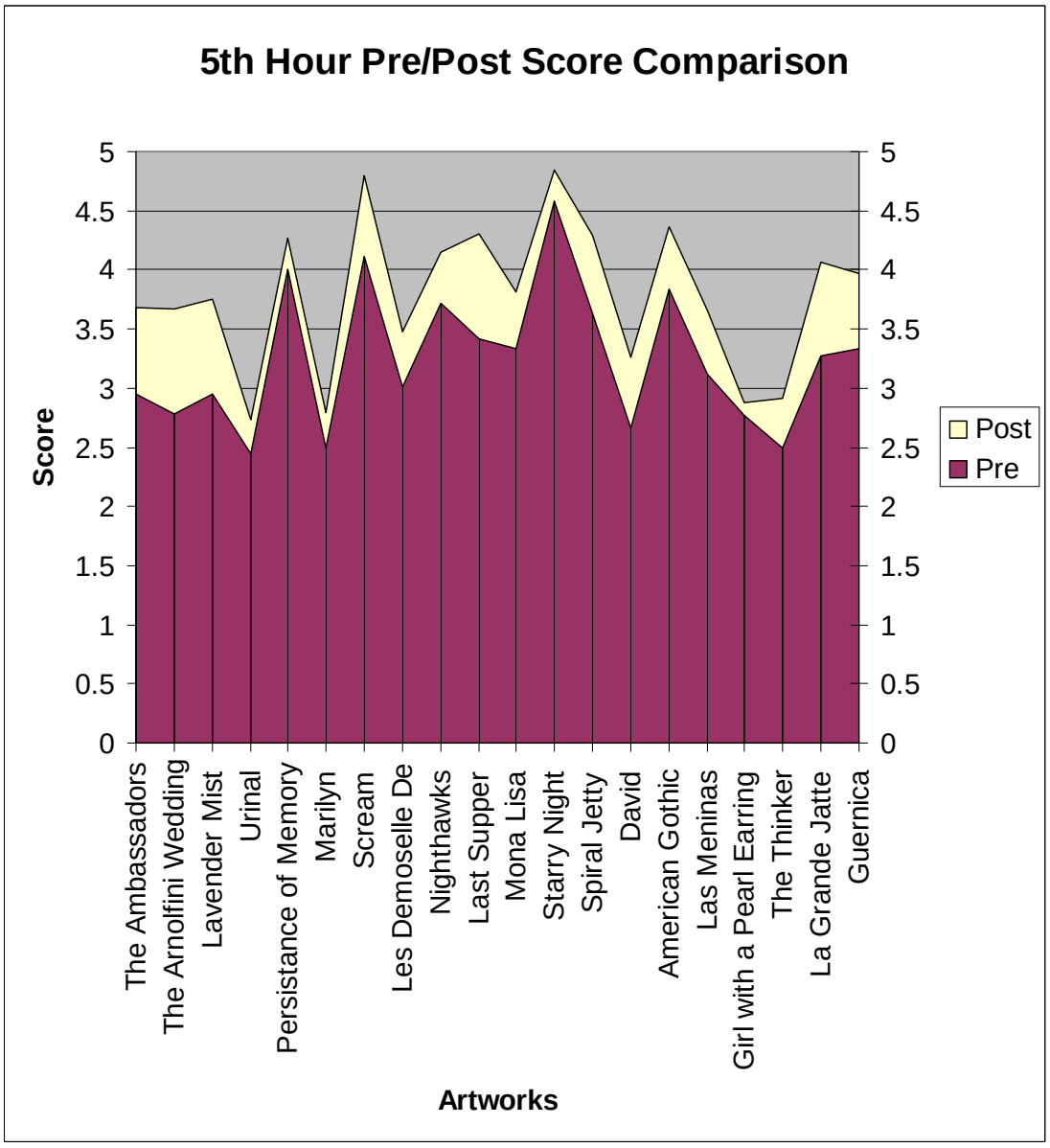
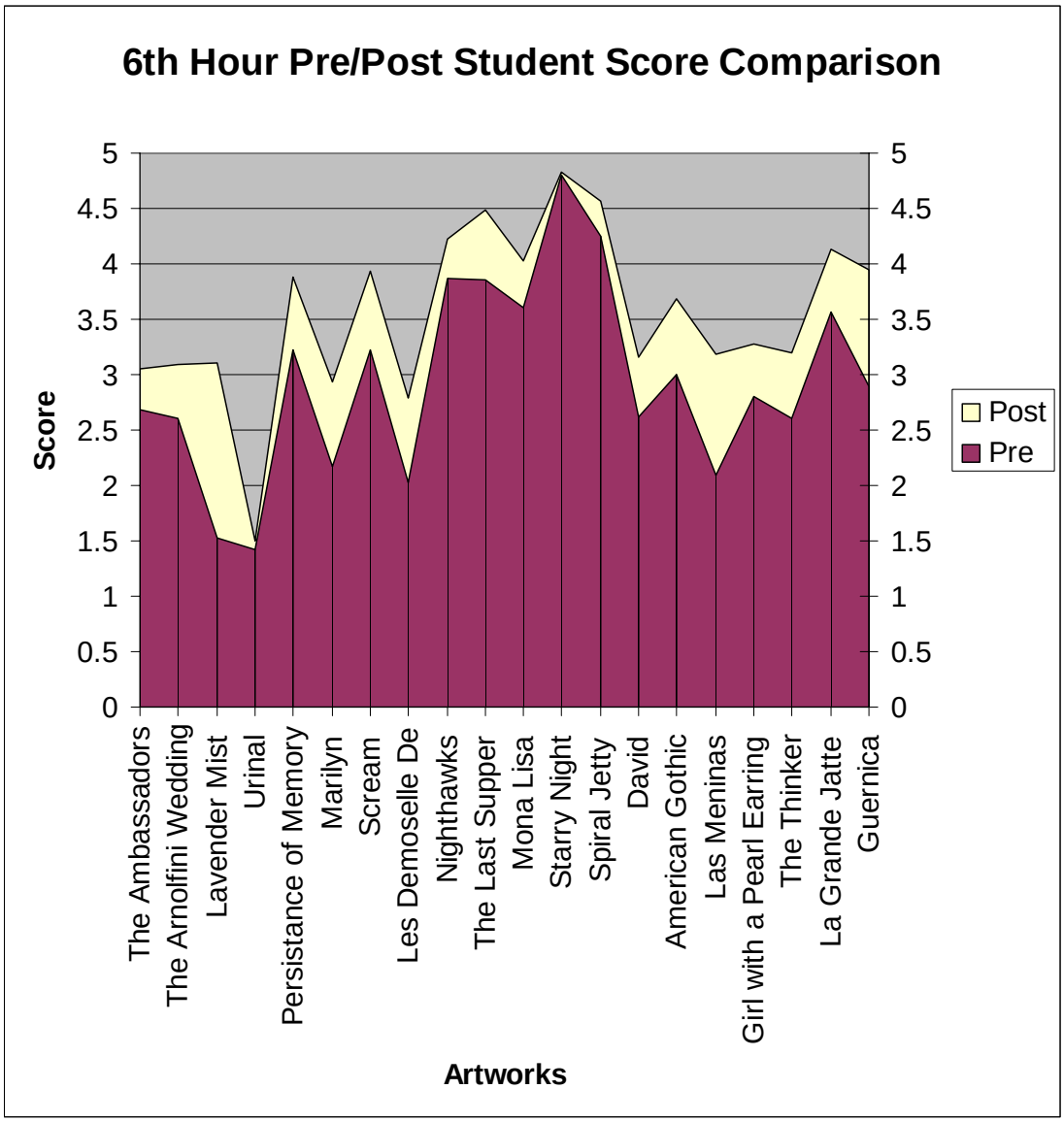


Figure 4.2: **A 6th Hour Pre/Post Score Comparison**



Figures 4.1 and 4.2 visually show the percentage increase in total point mean per the respective class hour.

Hypothesis Test

To test the hypothesis of the study, the researcher used the website, http://www.physics.csbsju.edu/stats/t-test.html, to conduct *t*-tests on the data. *t*-Tests were performed on the difference of pre-and post-test data.

t-Test Results

These *t*-tests used a 95% confidence interval or a significance level of 0.05, a standard level used in research as the criterion for rejecting the null hypothesis. If the probability is less than or equal to this significance level, then the null hypothesis is rejected, meaning the outcome is statistically significant. If the probability is greater than the significance level, then the null hypothesis is not rejected. This means that the outcome is not statistically significant, and the results could be simply a matter of chance. Using these explanations, the probability of this data is statistically significant. As table 4.3 shows, the probability of .0001 is less than the significance level of 0.05, therefore rejecting the null hypothesis. The test results are as follows:

Table 4.3: **t-test results**

	Pre-Scores	**Post Scores**
Mean	3.09	3.67
Standard Deviation	0.757	0.706
Hi/Low	4.8-1.42	4.84-1.50
Median	3.0	3.72
Ave. Absolute	0.594	0.565
t	-3.50	
sdev	0.732	
Probability	.0001	

CHAPTER V

SUMMARY AND CONCLUSIONS

Throughout the study, the researcher was aware that students needed to be involved in the critical analysis of artworks. When students are asked to critically evaluate artworks based on their previous knowledge, some may have seen the artworks as substandard. True critical analysis involves research into the formal and expressive qualities of artworks. The researcher was aware that critical thinking can involve students in greater levels of cognition, in turn increasing their perceived aesthetic experience.

The goal of this study was to engage students in the critical examination of artworks to see if students develop a new perceptual awareness to the artworks. Hopefully, students then would use their new skills to decipher not only artworks, but to make appropriate decisions about society, and transcend to a greater understanding of what one experiences. To achieve this goal, all students involved in the study evaluated twenty masterpiece artworks and rated them at each artwork's initial viewing, and after critical analysis of each artwork. The researcher compared the results of the pre-rating before the implementation of critical analysis, with results from the post-scores; scores influenced by the teaching of the important social, formal, and expressive aspects of each work

.

Summary of Results

Comparing classes and the artworks used in each class, scores for each student were generally greater but not as great an increase as inferred in the initial hypothesis. The pre-score for the artworks in both 5th and 6th hours totaled 123.75, while the post score cumulation was 146.64, a difference of 22.89, or a percentage gain of +18.5%. Could the researcher show a correlation between critical analysis of artworks and a gain in aesthetic awareness?

Conclusions

This study did prove that critical analysis can improve a student's aesthetics. As a teacher, an 18.4% increase in students perception of artworks is a promising and exciting statistic. This statistic may overall seem meager in the large scale of the study, yet there are many factors embedded in the evidence that need more discussion.

Two important factors of the study that need noting are the student's prior knowledge and historical awareness of the viewed artwork. It should be noted that the artworks previously taught in grades Kindergarten through 8th, such as The "Starry Night" by Vincent Van Gogh, (5th hour percentage increase equals: 5.6%, while 6th hour increase was only 0.6%), showed that students were possibly so familiar with the work of art, that scores reflected their disinterest, not their un-favorability. If the "Starry Night" was unfavorable and disliked, the initial pre-score response would not have been the highest rated artwork within the twenty other artworks.

Many of the artworks differed between each other stylistically. Artworks spanned many centuries, cultures, genres, and isms. Artworks of a more conceptual, modern basis did not seem to gain rank any more or less favorably than those more representational and classical. This seems to unveil the truth of the student's ratings. Students did not rate the artwork purely based on its formal qualities, they based many of their post reactions on the expressive, or feeling qualities, or those associated with the aesthetic experience. This analysis shows that some students who were engaged in the study, possibly had the maturity of the metacognitive stage, or autonomy phase discussed in Chapter Two of this document. Student's scores show that they appreciated not only the artist's opinions, but say, (according to the data,) that they value the fact that artworks could have meanings instilled and intrinsic to them that cannot be ascertained.

Another factor attributed to the modest percentage ratings, were the students' initial reaction to the artworks. As the literary research concludes in Chapter Two of this document, students at the adolescent age are in their, (as Parsons describes), Stage Three, or expressiveness stage, whereas students comment that: "We all have a different experience of it. There is no point in talking about good and bad. It is all in the individual." Therefore, the initial reaction of the artworks is already a very high reaction, (The mean pre-score being over 52% at 3.09), making the post scores a modest advance.

Furthermore, unanticipated variables may have distorted the reliability of the data. Among these:

- Class time for the 5th-hour group was between 12:36 and 1:25; class time for the 6th-hour group was between 1:30 and 2:22 P.M.—a time in which students may be more disinterested in school and more interested in their end of the day.

- Gender proportion for the 5th-hour group was 66.6% female, 33.3% male; for the 6th-hour group, the ratio changed to 48% female; 52% male. This study can only note the difference as a potential factor.

- Teacher/researcher inexperience in teaching new art history lessons; effect unknown.

- Parental interest or support for art is unknown, although, students from 5th-hour participated in band while those in 6th-hour did not.

- Quantities of information for each artwork varied. Some artworks just do not have the depth of study needed for an obtrusive formal reaction.

- Technological issues, such as a clip from a movie, or an image from a book being featured in a certain power point, while other power points not having the same resources, may or may not have extended the artworks' favorability.

Recommendations

Using the research of this study, the researcher recommends continually using critical analysis of artworks as a way to increase student's art aesthetics. Neither class ranked an artwork lower in the post scoring, even the artworks without great symbols or representations. The format of the presentation of each artwork was kept very open, to enhance the critical thinking of each student, and to let students make comments about each artwork's function during the critical analysis. The comments heard during the presentation may have had negative/positive impacts on the rating of the artwork. This may have increased the students understanding of the meaning of each artwork, as the researcher was present to dispel or confirm any negative remark by the reactionary student.

Much of the literary research in this document discussed the positive effects of increased aesthetic awareness. The students will be able to become better decision-making individuals in society. The researcher informally observed an increase in the student's eagerness to see each artwork up close when the presentation was finished, and students persistently discussed symbols in the artworks with each other while taking second looks at the visual aids.

Recommendations for further study include using artworks of the same movement and comparing those to other movements, hopefully, to increase the understanding of styles in art. The most important factor in critical analysis is the

communication of the reaction. If more time was allotted, students must be required to communicate with each other about the artworks, determining the artworks' intrinsic value and warranting its aesthetics.

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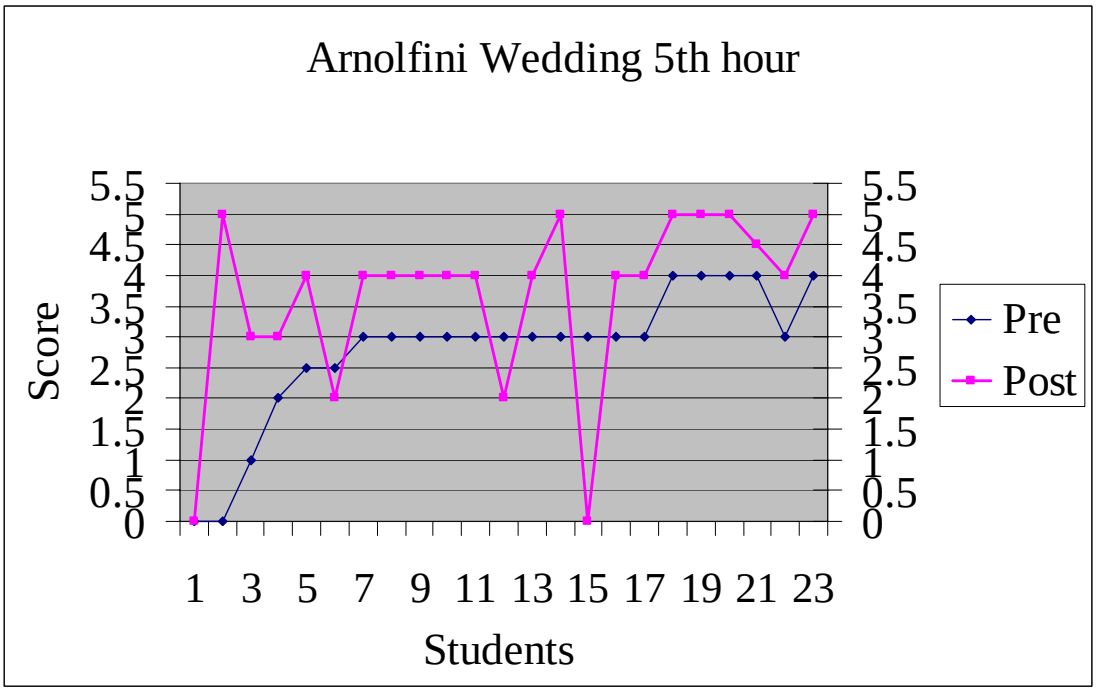
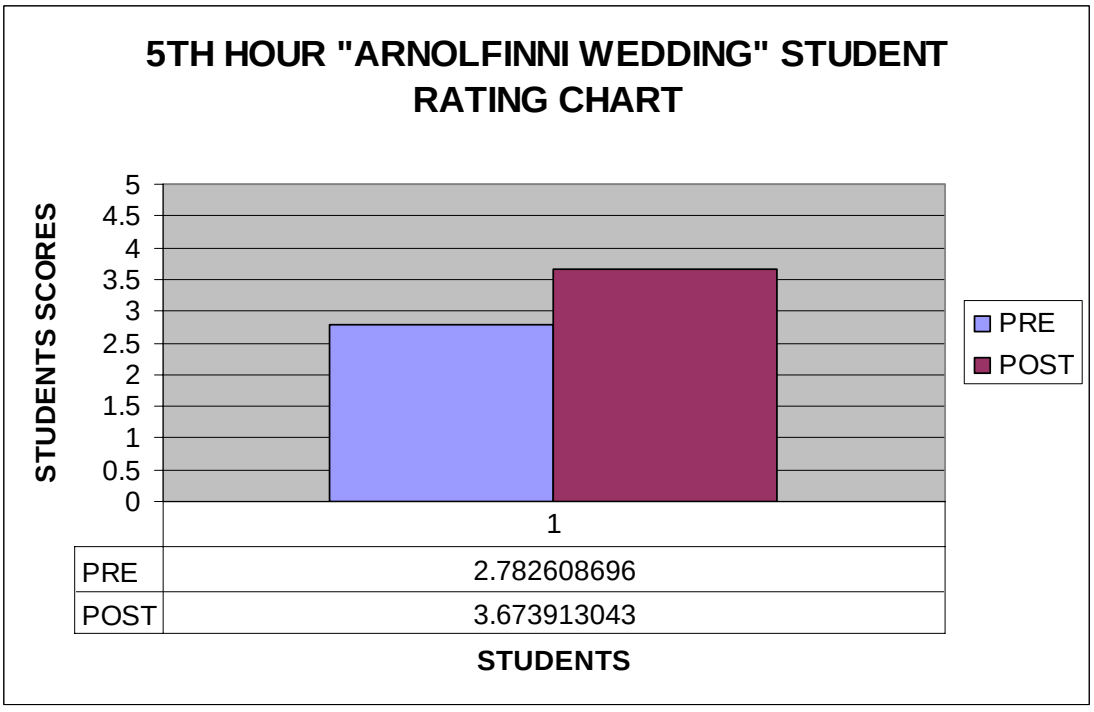
APPENDIX A

"The Arnolfini Wedding" Summary 2/17/05	Pre	Post
Student 1	0	0
Student 2	0	5
Student 3	1	3
Student 4	2	3
Student 5	2.5	4
Student 6	2.5	2
Student 7	3	4
Student 8	3	4
Student 9	3	4
Student 10	3	4
Student 11	3	4
Student 12	3	2
Student 13	3	4
Student 14	3	5
Student 15	3	0
Student 16	3	4
Student 17	3	4
Student 18	4	5
Student 19	4	5
Student 20	4	5
Student 21	4	4.5
Student 22	3	4
Student 23	4	5
Total Points Comparison	**64**	**84.5**
Maximum score result	**4**	**5**
Mean score result	**2.7826087**	**3.67391304**
Mode score (most of that number)	**3**	**4**
Minimum score	**0**	**0**


Arnolfini Wedding 5th hour
Score
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1 3 5 7 9 11 13 15 17 19 21 23
Students
Pre
Post

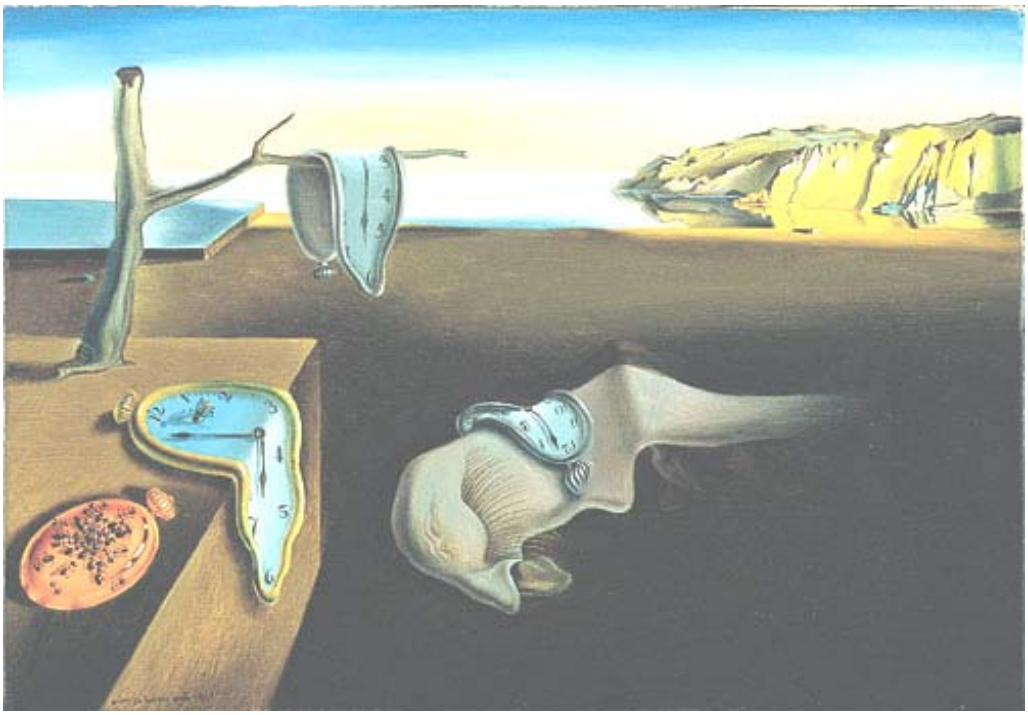

5TH HOUR "ARNOLFINNI WEDDING" STUDENT RATING CHART
STUDENTS SCORES
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1
PRE 2.782608696
POST 3.673913043
STUDENTS
PRE
POST

APPENDIX B

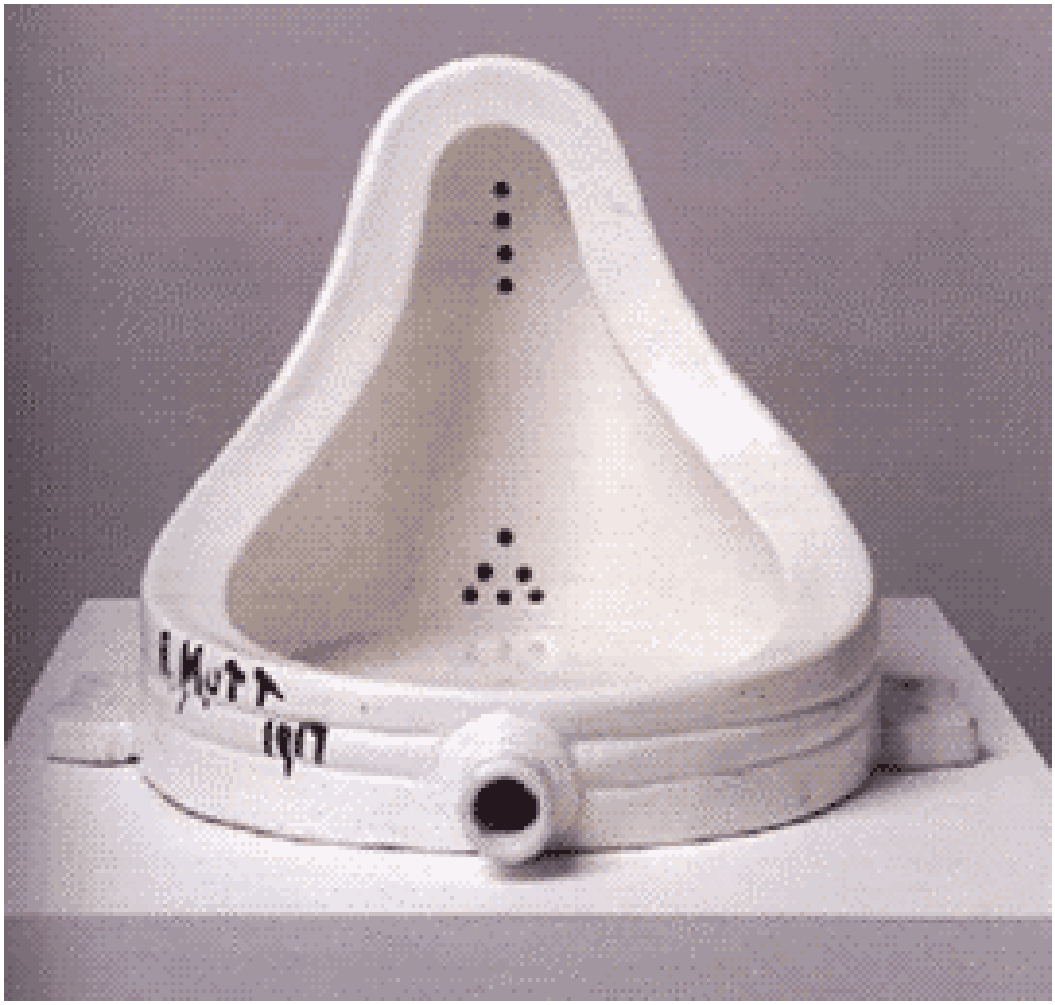
The Ambassadors. Hans Holbein, 1533
(Oil on wood, 207 x 209.5 cm. National Gallery, London.)

The Marriage of Giovanni Arnolfini and Giovanna Cenami; Jan Van Eyck, 1434 (130 Kb); Oil on wood, 81.8 x 59.7 cm (32 1/4 x 23 1/2 in); National Gallery, London

Number 1, 1950 Lavender Mist, Jackson Pollock,1950, National Gallery of Art, Ailsa Mellon Bruce Fund, 1976.37.1
Image Courtesy of: The National Gallery of Art
Web Address: http://www.nga.gov/feature/pollock/painting1.shtm



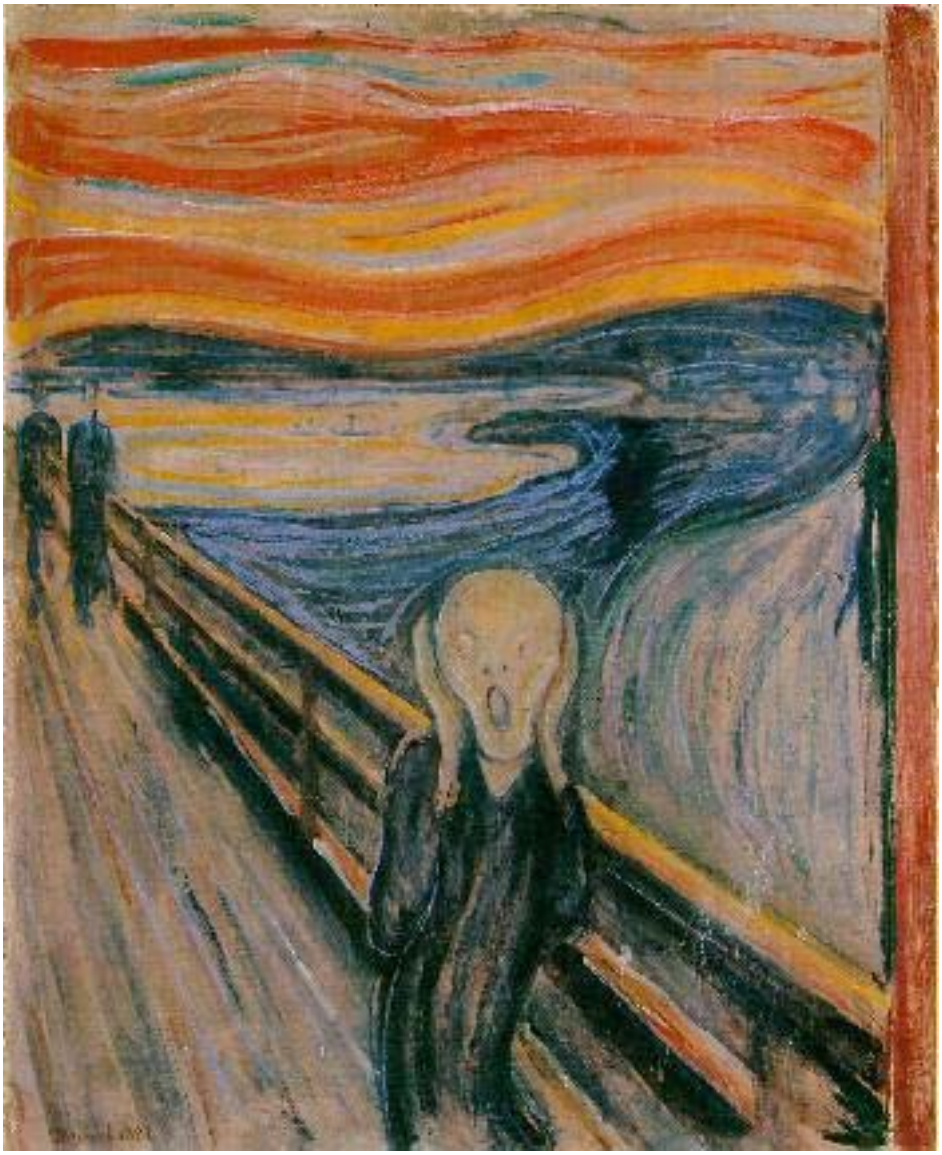
The Persistence of Memory
Salvador Dalí, 1931
oil on canvas, 24 ¥ 33 cm
Museum of Modern Art



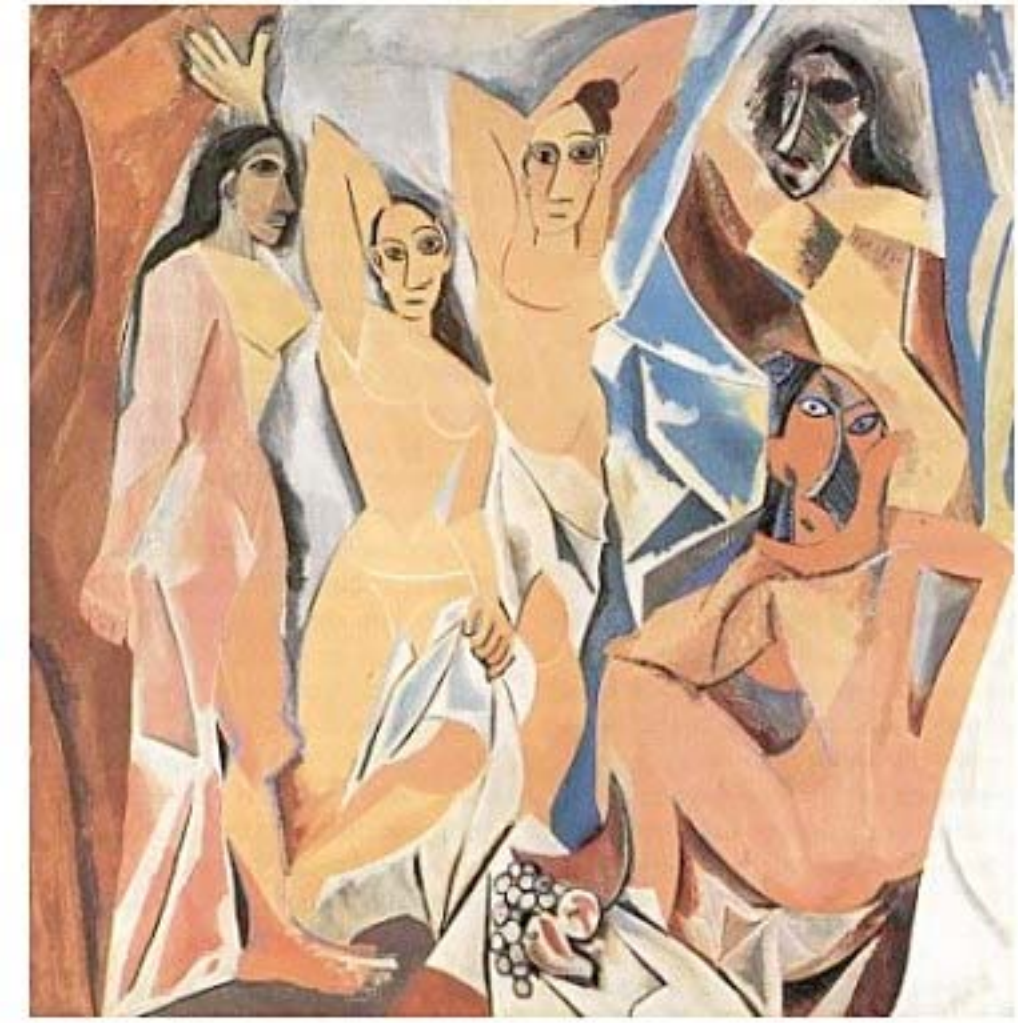
Fountain,
Marcel Duchamp, 1964.
Photo Courtesy of:
www.artnet.com/.../ moore/moore12-09-96.asp

Marilyn Diptych
Andy Warhol,1962
Acrylic and silkscreen on canvas
208 x 145 cm (82 x 57 in)
Photo courtesy of:

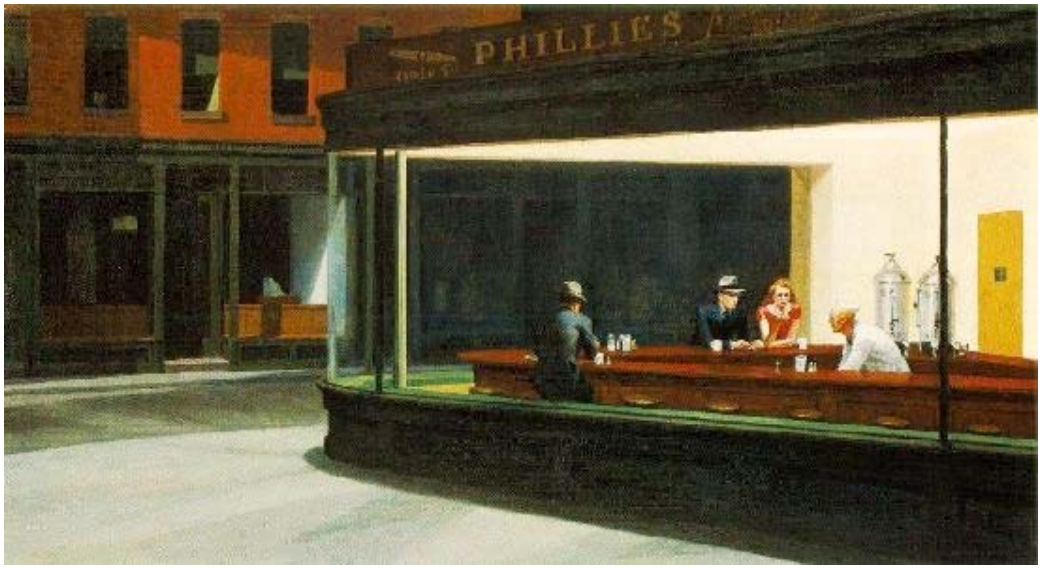
Photo courtesy of:
http://www.artchive.com/artchive/W/warhol/warhol_marilyn_diptych.jpg.html



The Scream
Edvard Munch
1893
Tempera and casien on cardboard
Munch Museum, Oslo



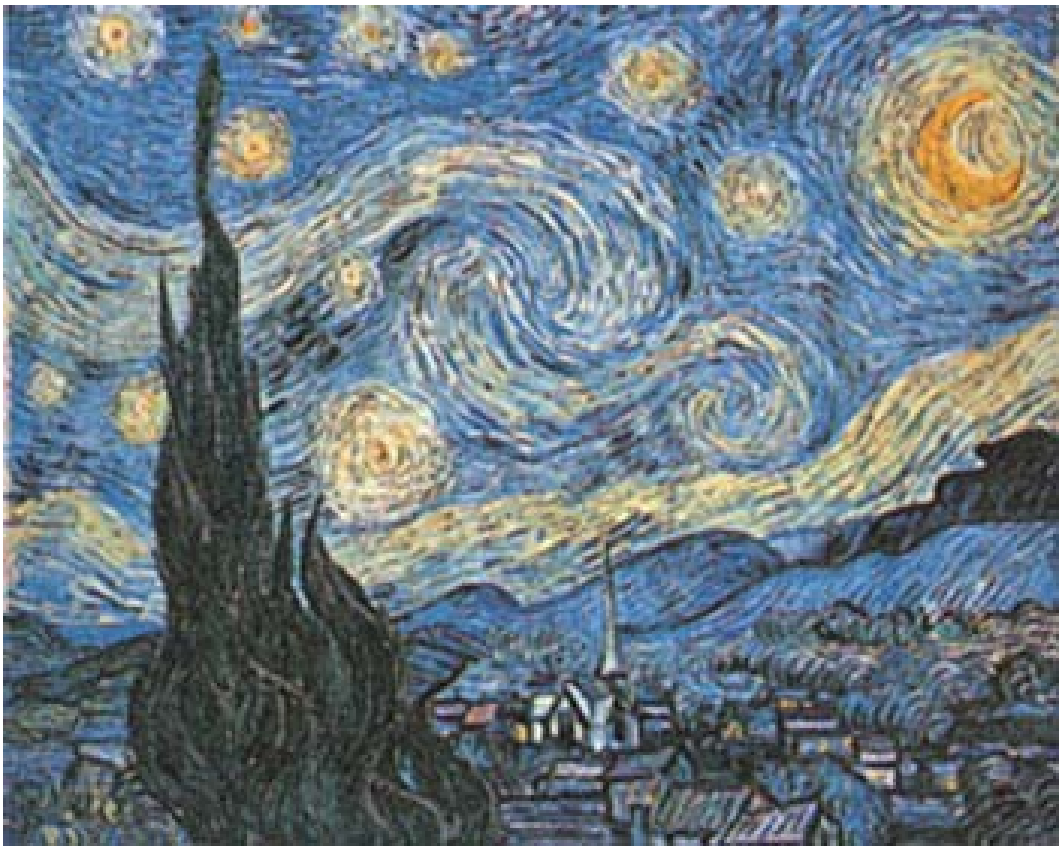
Les Demoiselles D'Avignon
Pablo Picasso
1907
oil on canvas 243x234cm
MOMA, New York



Nighthawks
Edward Hopper
1942 (120 Kb); Oil on canvas, 30 x 60 in; The Art Institute of Chicago
Photo Courtesy of:
http://images.google.com/imgres?imgurl=http://www.ibiblio.org/wm/paint/auth/hopper/street/hopper.nighthawks.jpg&imgrefurl=http://www.ibiblio.org/wm/paint/auth/hopper/street/&h=673&w=1234&sz=120&tbnid=iIC8kVxsSWcJ:&tbnh=81&tbnw=150&hl=en&start=1&prev=/images%3Fq%3Dnighthawks%26svnum%3D10%26hl%3Den%26lr%3D%26ie%3DUTF-8

The Last Supper
after cleaning
Leonardo da Vinci
1498
Tempera on plaster
460 x 880 cm (15 x 29 ft.)
Convent of Santa Maria delle Grazie (Refectory), Milan

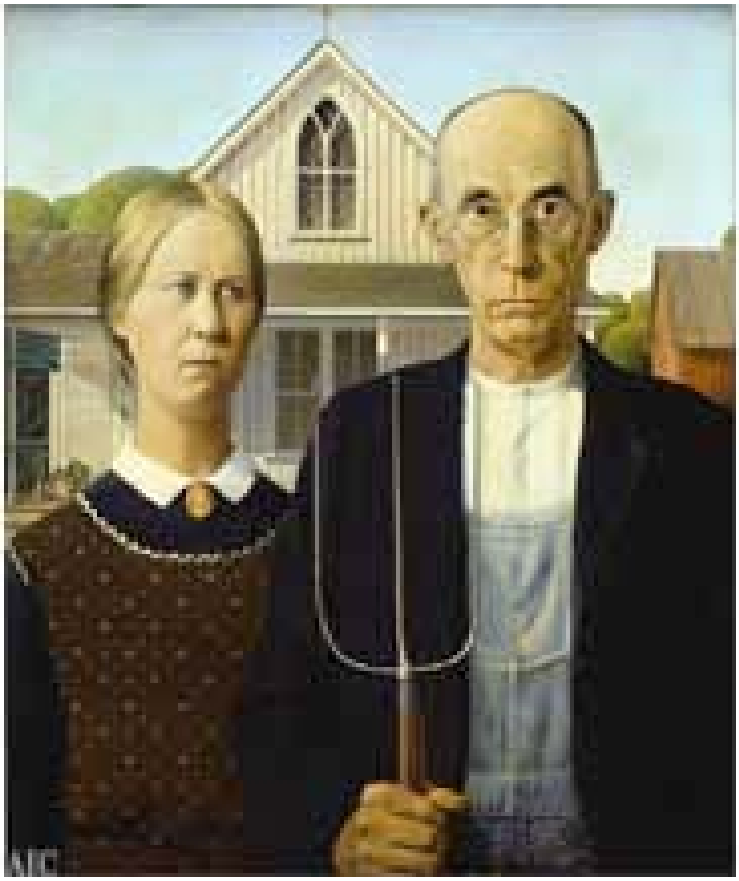
Mona Lisa (La Gioconda)
Leonardo Da Vinci
c. 1503-5
Oil on panel, 77 x 53 cm Musée du Louvre, Paris



The Starry Night
Vincent van Gogh
1889
29 x 36 1/4" (73.7 x 92.1 cm)
Oil on canvas

Spiral Jetty (now under water) Robert Smithson, 1969-70, Great Salt Lake, Utah

David
Michelangelo
c. 1501-1504
Marble
Height 410 cm (13 1/2 ft)
Accademia delle Belle Arti, Florence



American Gothic
Grant Wood
1930
Oil on beaverboard
29 1/4 x 24 5/8 in. (74.3 x 62.4 cm)
The Art Institute of Chicago
Friends of American Art Collection
Acquired in 1930

Las Meninas
Diego Velazquez
1656
Oil on canvas
10'5" x 9'1"
Museo del Prado, Madrid

Girl with a Pearl Earring
Johannes Vermeer
1660-1665
Oil on Canvas, 44.5 x 39 cm
Mauritshuis, The Hague, The Netherlands.

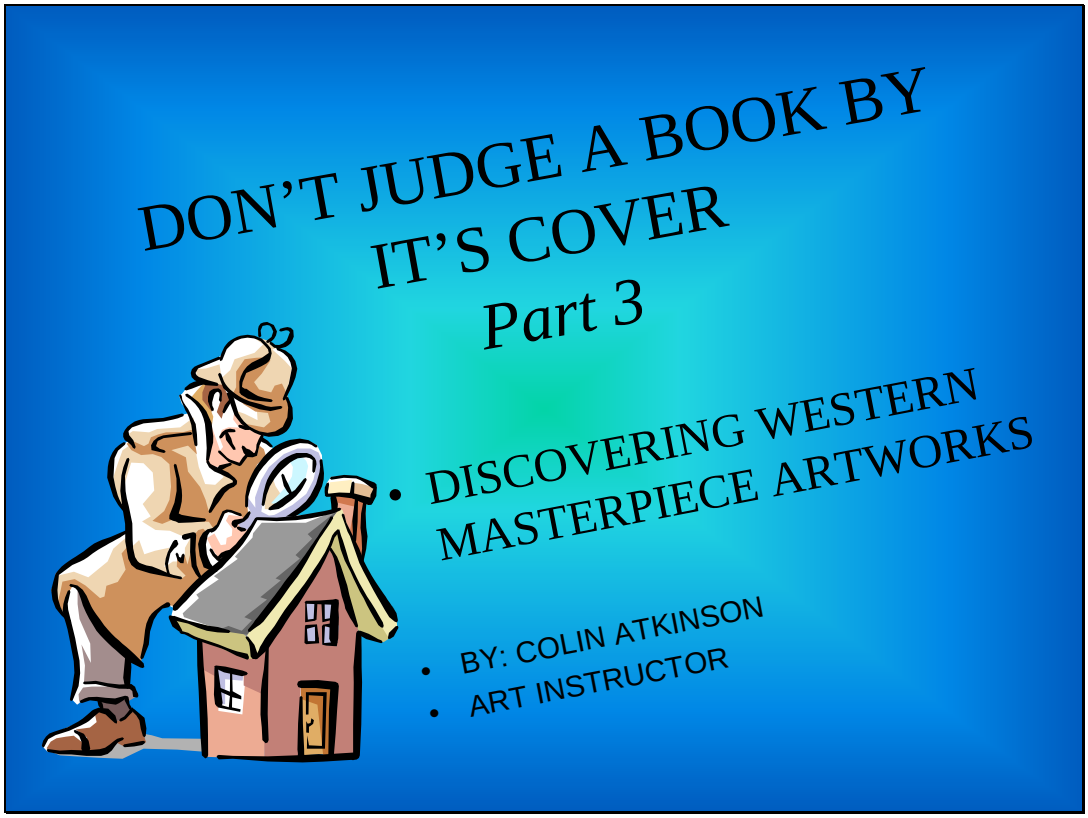
The Thinker
Auguste Rodin
1881
bronze

A Sunday Afternoon on the Island of La Grande Jatte
Georges Seurat
1884-86
Oil on canvas
Art Institute of Chicago

Guernica
Pablo Picasso
1937
Oil on Canvas, 349x776 cm
Museo Reina Sofia, Madrid

APPENDIX C

Sample Powerpoint Show



Looking at a Masterpiece

Would you agree this next artwork is a masterpiece?

Aesthetic questions:

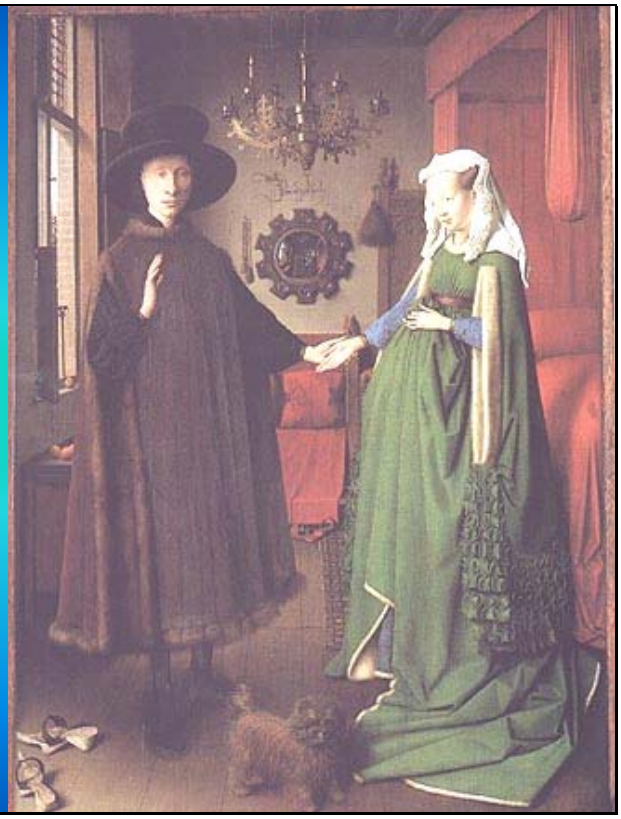
- What conditions must be present for this to be called art?
- What meanings can be conveyed by this work of art?
- What does this work of art express if anything?
- Is this painting beautiful or ugly and how do you distinguish the difference?
- Is this work expressive, imaginative, original, or all these?
- Do the meanings relate to the artists culture? Can you answer how from observation?
- Is this artwork amoral or apolitical?

In your opinion, should this be considered a masterpiece? Why?

What would art critics and aesthetitions like about this artwork?

Eyck, Jan van:

The Marriage of Giovanni Arnolfini and Giovanna Cenami; 1434 (130 Kb); Oil on wood, 81.8 x 59.7 cm (32 1/4 x 23 1/2 in); National Gallery, London



This title has traditionally been given to this painting because it was thought to be a form of ``wedding certificate'' for Giovanni Arnolfini and Giovanna Cenami, who married in Bruges in 1434. He was an Italian merchant, she the daughter of an Italian merchant. Their grave, youthful faces both have a lovely responsibility that is typical of van Eyck.

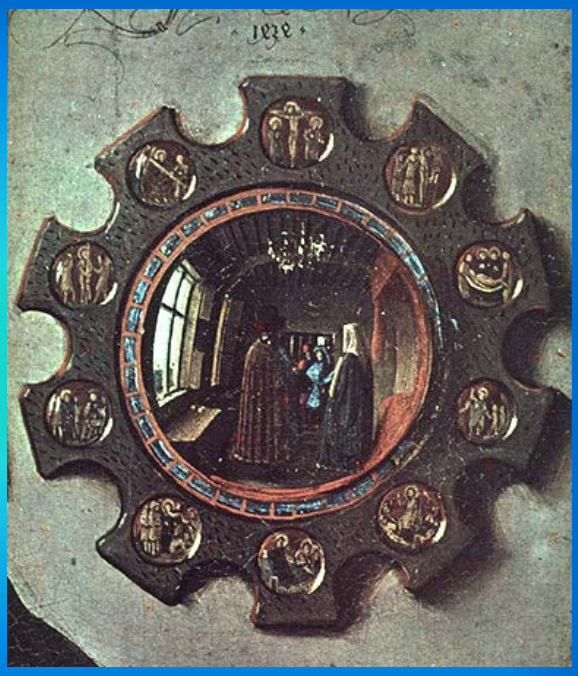
Symbolism

- Symbolic candle
- The solitary flame burning in bright daylight can be interpreted as the bridall candle, or God's all-seeing eye, or simply as a devotional candle. Another symbol is St Margaret (the patron saint of women in childbirth), whose image is carved on the high chairback.

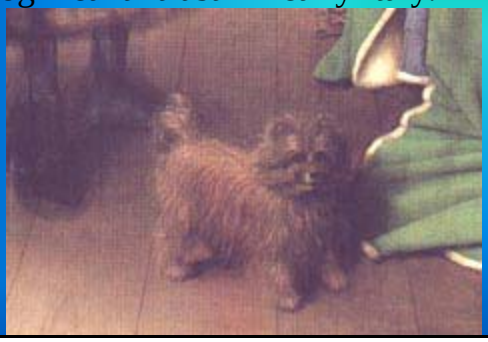
An elaborate signature

As today, marriages in 15th-century Flanders could take place privately rather than in church. Van Eyck's Latin signature, in the Gothic calligraphy used for legal documents, reads: ``Jan van Eyck was present'', and has been interpreted by some as an indication that the artist himself served as a witness.

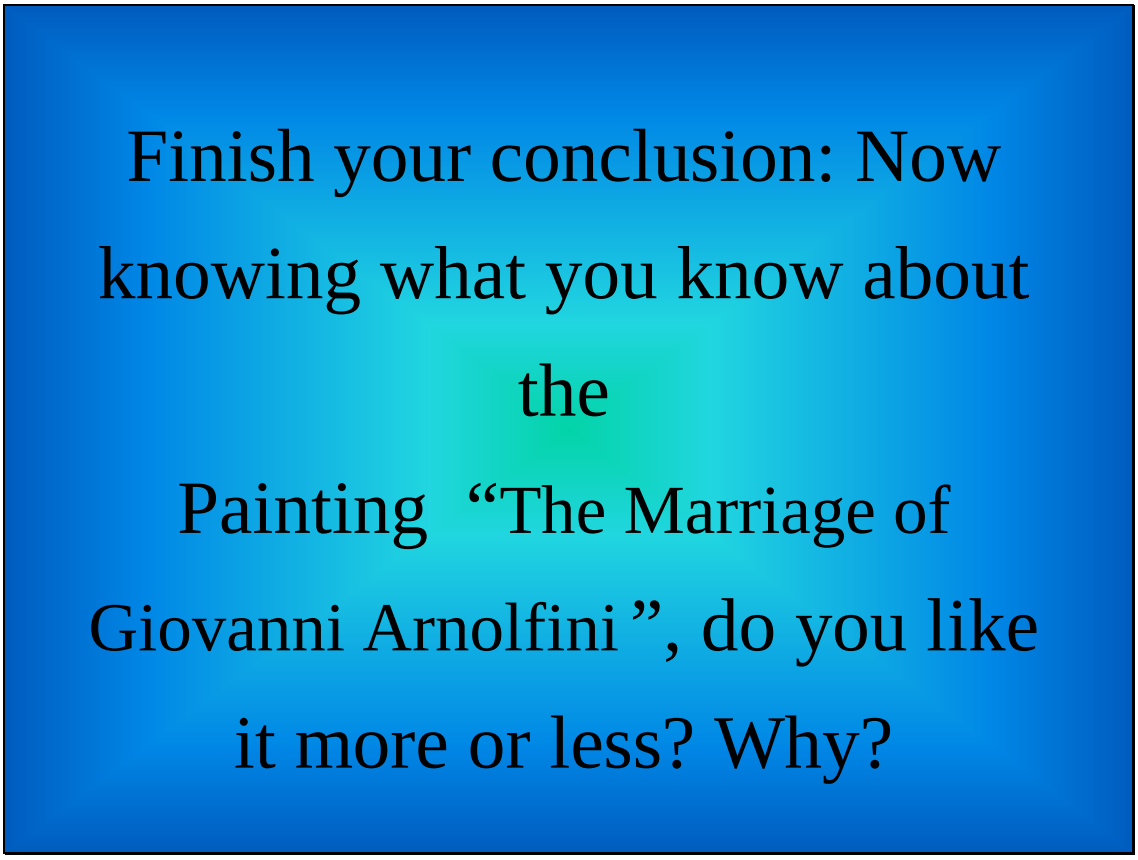
The mirror is painted with almost miraculous skill. Its carved frame is inset with ten miniature medallions depicting scenes from the life of Christ. Yet more remarkable is the mirror's reflection, which includes van Eyck's own tiny self-portrait, accompanied by another man who may have been the official witness to the ceremony.



Almost every detail can be interpreted as a symbol. The companion dog is seen as a symbol of faithfulness and love. The fruits on the window ledge probably stand for fertility and our fall from Paradise. Even the discarded shoes are not thought to be incidental, but to signify the sanctity of marriage. The word “Fido”, our nickname for a dog meant “trust” in early Italy.



The oranges on the chest below the window may refer to fertility, and the all-seeing eye of God seems to be referred to twice.



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APPENDIX D

Describing what you see using your senses and Aesthetic perceptions: Part 1

Name:

Hour:

Name of Artwork:	Quick Sketch: On a seperate piece of paper.	Medium?	Condition: Dimensions:	Things your can recognize in the artwork.

Describe visual elements: (combine to make sentences) Example: I see a small blue circle:

Technical qualities:
Describe how the artist used the materials:

Describe how the artist used tools and techniques:

Anaylze relationships: analyze the evidence. Part 2

Balance:
a: Symmetrical
b: Aymmetrical
c: radial plan

(circle one)

Rhythym:
Are there movements/rhythms in colors, shapes or other elements?
How?

Proportions:
Normal/Exaggerated.

Pattern:
Is there a pattern of light, shadow, or color?

Emphasis:
Is there a focal point?
Is there a center of interest?
Where and Why?

Unity and Variety:
What principles help to unify the artwork and why?
(Line, Shape, Form, Value, Texture, Color)

Are some principles more important than others? Why?
(Rhythm, Pattern, Balance, Proportion, Dominace, Unity Harmony, Variety, Movement, Perspective)

Is there a definite subject? What?

Are you invited by the artist to walk through or around the artwork? Why? How?

Are you the observer?

Are you part of the action of the artwork?

Develop a hypothesis (**a good guess)** aobut the meaning of the work of art. Part 3
- A good interpretation e**xplains what you have observed and analyzed** . You will use a lot of your knowledge about art and life to interpret the artwork.
-Expressive qualities in the artwork and what they mean to you. There are no **write or wrong** answers. Remember to think of your interpretations as hypotheses.
-A hypothesis is an educated guess about the meaning of an artwork. An educated guess includes what you have discovered by carefull observation.
-Remeber a good interpretation includes **expressive language** . You might say that a work has energetic lines, bold colors, velvety shadows, etc.
-A good interpretation includes **analogies.** An analogy might be "a delicate shading is misty, like fog. Or, The diagonal lines seem to be marching."
-A good interpretation also includes **causes and effects** . For example you might say " The face looks tired (effect) because the lines and shadows are dark and droopy (cause).
-A good interpretation explains how the work of art is related to other ideas or events. The artist is always sending one or more wordless messages to the viewer. Make an educated guess about the message. The artists message might be about the beauty of color of the power of the artists imagination. It is often about the artists world and culture. Some works show joy or great sorrow. If you have difficulty in interpreting a work, think about your own experience in life.
HYPOTHESIS: IT TELLS ABOUT THE MOST IMPORTANT SENSATIONS, FEELINGS AND IDEAS THE WORK COMMUNICATES TO YOU.

IN THIS SPACE YOU WILL WRITE YOUR HYPOTHESES: your best guess what the artwork is about. USE YOUR IDEAS AND OTHER CRITICS THEORIES ABOUT ART. THESE ARE LOCATED ON THE NEXT PAGE.

Criteria from theories of art: A theory of art states how people should think about and judge art. Art theories are developed by philosophers about art called aestheticians. Most aestheticians agree that there are four main theories about art:
Be **flexible** when judging and making theories about art. Only a few artworks match up with the standard of a strict theory of art. Experts often use criteria from different theories to explain and judge new kinds of art. For example, surrealism is a now well known style or art. It combines realism an fantasy, or imagination. We could combine one or two theories together.

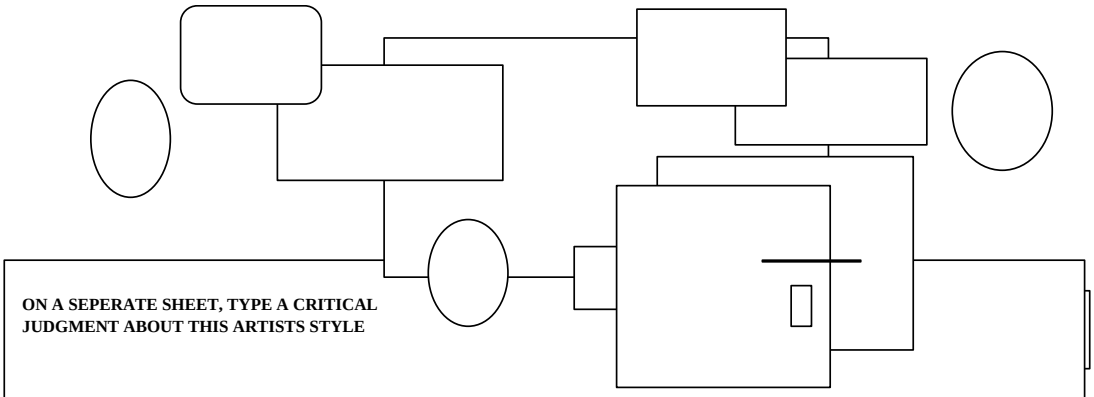
The artists message might be about the beauty of color or the power of the artists imagination. It is often about the artists world and culture. Some works show joy or great sorrow.

1: **Art as imitation:** some experts say that art is a way to represent or interpret what you see. Accuracy and honesty in art are highly valued.
a: **First impression/** Does the work look real?
b: **Design** /Do the proportions of parts, colors and other elements seem to be natural or lifelike? Is the work planned around patterns rhythms, forms we see in nature or the human-made environment?
c: **Subject, theme** / Does the subject or theme seem to be based on an event or something the artist observed? Is the subject or theme more realistic than as it is honestly shown.
d: **Materials** / Can you see some of the natural qualities or materials?
e: **Functional or decorative art/** Can you identify the use or function of the art looking just at the design?

2**: Art as formal order** : Some theories are based on a respect for logical order and idealized forms in art. A work of art might be judged good if it met all the criteria listed :
a: **First impression** / Is the work beautiful or harmonious?
b: **Design** / Is the work unified by a kind of invented or mathmatical order?
c: **Subject theme/** Does the subject or theme seem to be idealized or have a spiritual quality? Is the work more abstract than realistic?
d: **materials/** Does it look like the artist used extreme care using materials and finishing the work? Do you sense the artist knew exactly what to do with materials and techniques?
e: **Functional or decorative art/** Is the artwork elegant, refined or dignified? Does the design of the work seem to be just as important or more important than the practical use of the object?

3: **Art as expression:** Some theories of art are based on a respect for strong human feelings and originality. Standards for judging art include:
a: **First impression** / Does the work express a definite feeling:
b: **Design** / Are the proportions or parts, color, and other elements unexpected or exaggerated? is the total design dramatic or original? Does it give you a definite feeling?
c: **Subject theme** ? Is the subject or theme unique, dreamlike or fantastic? Does the subject or theme seem to come from the artists desire to communicate a strong feeling (the great joys, sorrow or problems of people)?
d: **Materials** / Is the use of materials original or unexpected? are the materials and techniques an important part of the mood or feeling of the work?
e: **Functional or decorative art/** Does the work have an unusual function or combine several functions?

4: **Art as function** : Religious, political, social, economical, radical, a message about any of these.
a: **First impression/** Does the work have an importance message or function?
b: **Design** / Are the proportions, colors and other elements planned to help you understand the message of the work.
c: **Subject theme/** Is the subject or theme related to the life of a particular cultural group?
d: Materials/ Do the materials and techniques help you understand the message in the artwork?
e: **Functional or decorative art** / Does the work have an important purpose?



ON A SEPERATE SHEET, TYPE A CRITICAL JUDGMENT ABOUT THIS ARTISTS STYLE

Judgement: A critical judgment can be made after you have interpreted an artwork. Judging art is always a matter of being fair and logical. Make sure you identify the **kind of art** you are judging. Judge things in relation to their **type** . You can't judge one art form or style better or worse than another.

1. **State your purpose (EXPLAIN WHAT YOUR DOING) 1OR 2 PARAGRAPHS,** ***THIS IS THE OPENING STATEMENT.***
2. **Identify criteria or standards. (USE YOUR HYPOTHESIS)**There are 2 main sources of criteria. ***THIS IS THE BODY OF THE PAPER.***
   a. Some artworks can be judged by criteria that you learn about at home, in school or everyday life.**(This is where your hypothesis goes.)**
   b. Many artworks can be judged by criteria that come from art theories that have been developed by art experts.(Next page).
3. ***Cite evidence (give reasons.***) After you state your criteria for judging art, give reasons why the work does or does not meet the criteria or standards. **1 OR 2 PARAGRAPHS WHY YOU LIKE THIS ARTISTS OR NOT, AND GIVE REASONS.**
4. **State your conclusions.** You state your conclusions by giving a summary of the major strengths and weaknesses in the work.***CLOSING.***

WILL ABILITY GROUPING THE SEVENTH GRADE STUDENTS IN MATH POSITIVELY IMPACT THEIR BST SCORES WHEN THEY TAKE THE TEST IN EIGHTH GRADE?

By

CJ BOERGER

A capstone submitted to the Faculty of the Graduate School of Winona State University in partial fulfillment of the requirement for the degree of

Master of Science

Department of Education

March 2006

This capstone entitled:

Will ability grouping the seventh grade students in math positively impact their BST scores when they take the test in eighth grade?

written by CJ Boerger

has been approved for the Winona State University Department of Education by

_____	_____
Amanda Bremer	Jeff Cole
_____	_____
Amy Wild	Dr. Thomas Sherman
_____	_____
Heather Klees	Corey Kline

Date_____

The final copy of this capstone has been examined by the signatories, and we find that both the content and form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

Boerger, Charles John (M.S., Education)

Will ability grouping of the 7th grade students in mathematics have a positive affect on those student's 8th grade Basic Skills Test (BST) scores?

Capstone directed by Dr. Thomas Sherman

Abstract

This study compares the 8th grade class of 2004 that were grouped heterogeneously as 7th graders with the 8th grade class of 2005 that were grouped homogeneously as 7th graders. The means of the whole groups were compared with each other, and the means of the individual groups were also compared with each other.

The results of this study will hopefully show both the benefits and the ills of ability grouping students. The students are given the benefit of working at their individual level, but the social and mental aspects of ability grouping can cause harm to some students in the long run.

This study takes a look at the work done by previous mathematics educators and scholars on the topic of ability grouping, and builds off of the work that has been done. Many studies have been done on ability grouping, but the benefits of ability grouping are still debated.

CONTENTS

CHAPTER

CHAPTER I: INTRODUCTION

Need for the Study:

Before graduating from high school, all students in Minnesota must pass the Basic Skills Test (BST) in mathematics. The students originally take the test their 8th grade year, and if they don't pass they must continue to take that test until they do pass. This need to pass the test drives the high school curriculum towards teaching to the test, and so the same skills need to be taught over again. This repetitiveness can stunt a student's mathematical growth, and thus it is important for them to learn the requisite skills and pass it as soon as possible. If grouping students homogeneously produces better results than grouping them heterogeneously, it would be extremely beneficial for educators to know. The test would have to be taken less often, and the mathematics curriculum could advance instead of staying stagnant. As of now, researchers have not come to a consensus concerning this topic (Stroud, 2002).

Throughout this study the terms "ability grouping", "ability level grouping", "grouping homogeneously", and "tracking" will be used interchangeably.

Statement of the Problem:

Educators are torn on the best method for instructing students in mathematics. The debate is whether students should be ability grouped at the middle school level, or work as a whole group. There are benefits to each method, but it is necessary to know which method would produce better results on

the BST. Specifically, it would be beneficial to know which method produces better results at a smaller school where the instructor is the same for all students.

Purpose of the Study:

Some middle school mathematics classrooms are grouped heterogeneously, while others are grouped homogeneously. What this study will show is which method is more beneficial for students in terms of their BST results, especially for a smaller school district.

Statement of the Hypothesis:

When students are grouped with other students at their same ability level there will be a rise in their overall BST scores.

Variables:

The independent variable of the study is the grouping of the 7^{th} grade students according to their ability level rather than mixed together as a whole. The dependent variable of the study is the BST results of those students. The control variables are that the students will be at the same grade level, they'll all be students of the same middle school in Southern Minnesota, and they will all have the same mathematics instructor. The test will be given at the same time of year; the first week in February. The moderator variables that could potentially have an impact on the study are the student's prior knowledge, educational background, and life experiences.

Limitations and Delimitations of the Study:

The students will not be the same. The comparison will be between the 8th grade class of 2004 and the 8th grade class of 2005. The students will not be taking the exact same BST as the test changes the questions each year. The students will also not have had the same 6th grade teacher the previous year, and thus have been instructed differently in the past. The students will all be grouped homogeneously their 8th grade year regardless of the way they were grouped in 7th grade.

CHAPTER II: REVIEW OF RELATED LITERATURE

History of ability grouping:

One of the often debated issues in education is whether to use ability grouping, or to keep students heterogeneously grouped. This debate has raged in educational forums for over 70 years (Slavin, 1993), and there does not seem to be a conclusive answer to the question of whether it is beneficial to all students or not. Most of the studies come up with the same conclusion, and that is that the findings are inconclusive.

The first reported case of ability grouping began in St. Louis, Missouri in 1867 (Manning & Lucking, 1990). In the 138 years since, ability grouping has been widely used at times, and infrequently used at other times. Currently, many states are calling for the end of all ability-grouping, and are working towards a common curriculum (Ansalone, 2004). However, there are many education experts who question the wisdom of this because of the contradictory conclusions of many of the studies. The reason for the contradictory results may be because some of the studies are looking at social factors, while others are looking at academic factors. This study will be mainly looking at the academic factors of the students.

Proponents of ability grouping:

Proponents of ability grouping argue that it provides low-level students the attention and slower pace that they require and allows the high ability students a more challenging course load (Mills, 1999). Ability grouping allows students to be working on topics that are geared to their intellectual ability.

One of the leading proponents of ability grouping is James G. Kulik. Kulik found that ability grouping has a positive effect on the high ability students, and that it doesn't have a positive or negative effect on the mid-level students and the low-level students (Kulik, 1992). Since it doesn't harm the other students, but benefits the high ability students, Kulik believes that its abolition would be a mistake.

Kulik also states that little research actually indicates that tracking students does harm to student's self-esteem. In fact, he believes that the evidence showed a slight indication that low ability students' self-concept was strengthened by receiving instruction in ability-grouped classes. He also feels that in a heterogeneous classroom there is more room for embarrassment for the low-ability students when they don't know the answers that the high ability students know (Kulik, 1992).

Opponents of ability grouping:

Opponents of ability grouping are concerned about psychological damage to the low-level students, the slower pace of instruction, the sometimes less-capable teachers assigned to the low students, the low expectations of those teachers, and the absence of strong, positive role models in class for the low-level students to emulate (Mills, 1999). Opponents fear that ability grouping can be a form of discrimination, and that it limits the lower student's ability to learn (Ansalone, 2004). They also contend that there are peer effects on the achievement of students, and that the average ability of the class affects others that are in the class (Betts & Shkolnik, 2000).

One of the leading opponents of ability grouping is Robert Slavin. Slavin found that the effects of ability grouping on student performance was essentially zero (Slavin, 1993), and if that is the case then there's "little reason to maintain the practice" (P. 552). Slavin believes that there are many negative social factors involved with ability grouping, and that these social problems can be solved without losing anything academically by eliminating ability grouping. Slavin disagrees with Kulik's assessment that there is more harm done socially in heterogeneous classrooms than in homogeneous classrooms. Agreeing with Slavin, Schwartz found that secondary students in low track classes considered their peers that are in the high track classes to be the most popular students (Schwartz, 1981).

Ability grouping in middle school mathematics:

One of the main reasons that middle schools use ability grouping is because some 8th grade students are ready for Algebra, while others are not ready for it. The need to include Algebra in the curriculum was discussed by 80% of middle school principals as to why their schools are grouped (Stroud, 2002). Stroud found that many principals feel self-imposed pressure for their schools to perform well on standardized tests, and that this pressure has an influence on their decisions to use homogeneous grouping. For many schools, when one subject is grouped it is difficult to mix the students back together into heterogeneous subjects in other areas.

The advantages of ability grouping in mathematics are as inconclusive as ability grouping is for all classes. Whereas some researchers find that ability

grouping in mathematics enhances academic achievement for all ability levels (Epstein & MacIver, 1992), others have found that the academic achievement for all ability groups is essentially zero (Betts & Shkolnik, 2000). Another study found no positive long-term effects for low-ability students in mathematics, but did find an enhancement for high-ability students (Hoffer, 1992). With this much inconsistency, many educators are leery of eliminating all forms of ability grouping.

Perceptions of teachers:

Another important aspect in the debate over tracking is the role that teachers play. Just as students get tracked, it has been shown that oftentimes teachers get tracked as well. Teachers of low ability math classes typically have less experience, hold fewer degrees in their core subjects, have less training on computers, and less often say that they are master teachers than teachers who are assigned to high track instruction (Oakes, 1992). Administrators are more likely to allocate teachers with master's degrees to higher ability students and classes (Betts & Schkolnik, 2000). This leaves many teachers with strong feelings one way or the other on the effects of ability grouping. Many teachers who wish to retain ability grouping are more student centered, believe that teaching is easier in ability grouped classes, and that parents are important and powerful influences in decision making about ability grouping (Spear, 1994). However, after eliminating ability grouping, one school found that heterogeneous grouping improved their classroom environment. The teachers reported positive social benefits, positive behavioral implications, and less parental competition. They also felt that they

had academic benefits from the strong influence of the peer group (Roe & Radebaugh, 1993).

For schools that use ability grouping, it is important for the faculty to speak positively towards all of the groups, and the quality of instruction should be carefully monitored. Only teachers who demonstrate a positive attitude towards lower-tracked students should be selected to teach those subjects (Ansalone, 2004). The teacher must constantly assess whether the way that they are teaching to lower ability groups is positive or not. Relationships between students and teachers in high track classes appear to be more often supportive in nature, whereas those relationships in low track classes more often center on control of student disruptions, hostility, and alienation (Oakes, 1992).

Conclusion:

Obviously, the debate around the use or non-use of ability grouping of students for instruction, and specifically mathematics instruction, is a question that has not clearly been answered despite many years of research. Many educators have an opinion one way or the other according to their own personal classroom knowledge, but their answers are far from concrete. As Kulik (1998) said, "For every research reviewer who has concluded that grouping is helpful, there is another who has concluded that it is harmful" (p. 1). For every educator that agrees with Slavin (1987), Oakes (1992), and others that ability grouping should be eliminated, there is another that agrees with Kulik (1998) and others that ability grouping is beneficial and should be continued. Given the diversity of results on this subject, it is important for educators at their individual schools to

examine the method that works best for their school size and educational environment.

CHAPTER III: METHODS AND PROCEDURES

Overview:

The effects of ability grouping in the 7th grade mathematics classroom on students BST scores were analyzed by this study. The 68 members of the 8th grade class of 2004 were grouped heterogeneously as 7th graders, whereas the 77 members of the 8th grade class of 2005 were grouped homogeneously as 7th graders. The class of 2004 had three regular 7th grade math classes that covered the regular 7th grade curriculum. The class of 2005 was split into three different groups according to their ability. The low ability group focused more on fractions, percents, and story problems involving fractions and percents. The middle ability group covered the regular 7th grade curriculum. The high ability group spent the first half of the year covering 7th grade material and then spent the second half of the year learning pre-algebra to prepare them for algebra the following year. The study was conducted at a middle school in Southern Minnesota.

Research design:

This study consisted of a control group (class of 2004) that was grouped heterogeneously, and an experimental group (class of 2005) that was grouped homogeneously. The independent variable of the study was whether the students were grouped by ability or not. The dependent variable of the study was the final result of the student's 8th grade BST scores.

Selection of subjects:

The participants of this study included the 68 members of the class of 2004, and the 77 members of the class of 2005 that were enrolled at Kingsland Middle School. The class of 2004 received instruction in 7th grade mathematics in the 2002-2003 school year. The class of 2005 received instruction in 7th grade mathematics in the 2003-2004 school year. All of the students were taught by the same mathematics instructor. The student population was approximately 98% Caucasian in both classes.

Instruments/Measuring devices:

The instruments used in this study were the 2004 and 2005 Minnesota Basic Skills Tests. The class of 2004 took the BST in the first week of February 2004, and the class of 2005 took the BST in the first week of February 2005. The tests were administered in various classrooms at a middle school in Southern Minnesota. The BST is compiled and scored by the Minnesota Department of Education.

Validity measures:

All of the math classes were taught by the same instructor. The students attended the same middle school, and all took a 75 question test prepared by the Minnesota Department of Education designed specifically to test the same nine skills. The only major factor that changed was whether the groups were compiled homogeneously or heterogeneously.

Reliability measures:

The reliability of the study also was strong. Some outside, uncontrollable factors that could have had a slight impact on the results were student aptitude, student numbers, prior knowledge, life experiences, and parental support. Since the students consisted of two separate classes, the groups did not have identical ability coming in to the study.

Field procedures:

The students of the class of 2004 were mixed together as 7th graders during the 2002-2003 school year. There was not a high, middle, or low group. In February of 2004 those students took the BST required of all 8th graders in Minnesota.

The students of the class of 2005 were grouped by ability as 7th graders during the 2003-2004 school year. There was an advanced group, an intermediate group, and a lower ability group. The advanced group worked briefly on material that would be covered on the 2005 BST, and then went on to develop their algebra skills in preparation to take algebra as 8th graders. The intermediate group worked on the regular 7th grade material, and also worked on a few problems specifically for preparation for the 2005 BST. The lower ability group worked slower and more in depth through the regular 7th grade material, and also spent more time working on their reading skills and basic problem solving skills. In February of 2005 those students took the BST. The students were ability grouped by looking at previous Iowa Basic Skills Test scores, previous grades in mathematics, teacher interviews, and parent interviews. The students had the

potential to change groups the next year if they thrived in a group, or struggled in a group. Several students changed groups between their 7th and 8th grade, so the grouping was flexible. This is important as an inflexible tracking structure is likely to produce overall lower math scores for all groups (Gamoran, 1992).

Conclusion:

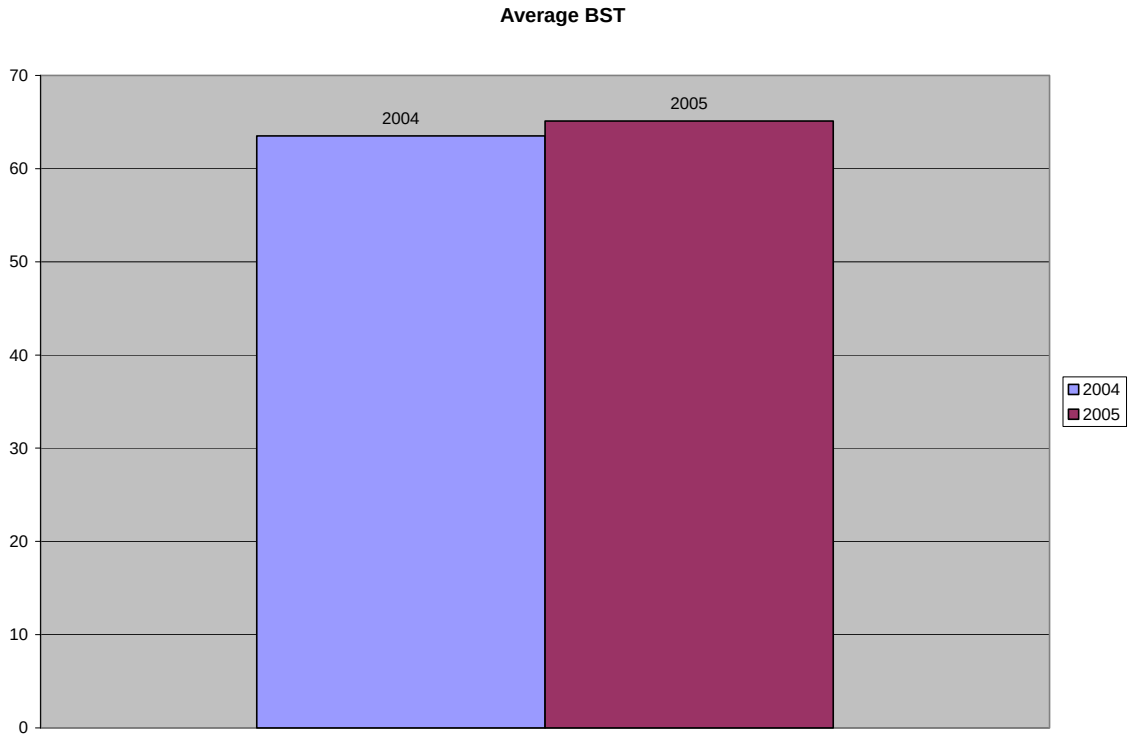
This study measured the effects of ability grouping in mathematics for 7th grade students on 8th grade BST scores. The first class of students was grouped heterogeneously and then took the BST. The second class of students was grouped homogeneously and then took the BST. The scores of the two tests were then compared. The scores of the individual groups were also compared.

CHAPTER IV: RESULTS AND DISCUSSION

Analysis:

The mean BST score for the 68 heterogeneously grouped students in 2004 was 63.5, whereas the mean BST score for the 77 homogeneously grouped students in 2005 was 65.1. There was an improvement in the overall score, but that improvement was not statistically significant. This result is consistent with many previous studies that have been done on this topic.

Figure 1



The interesting results come out when looking at the individual groups. The 68 students in 2004 were divided into three even groups, and the 77 students

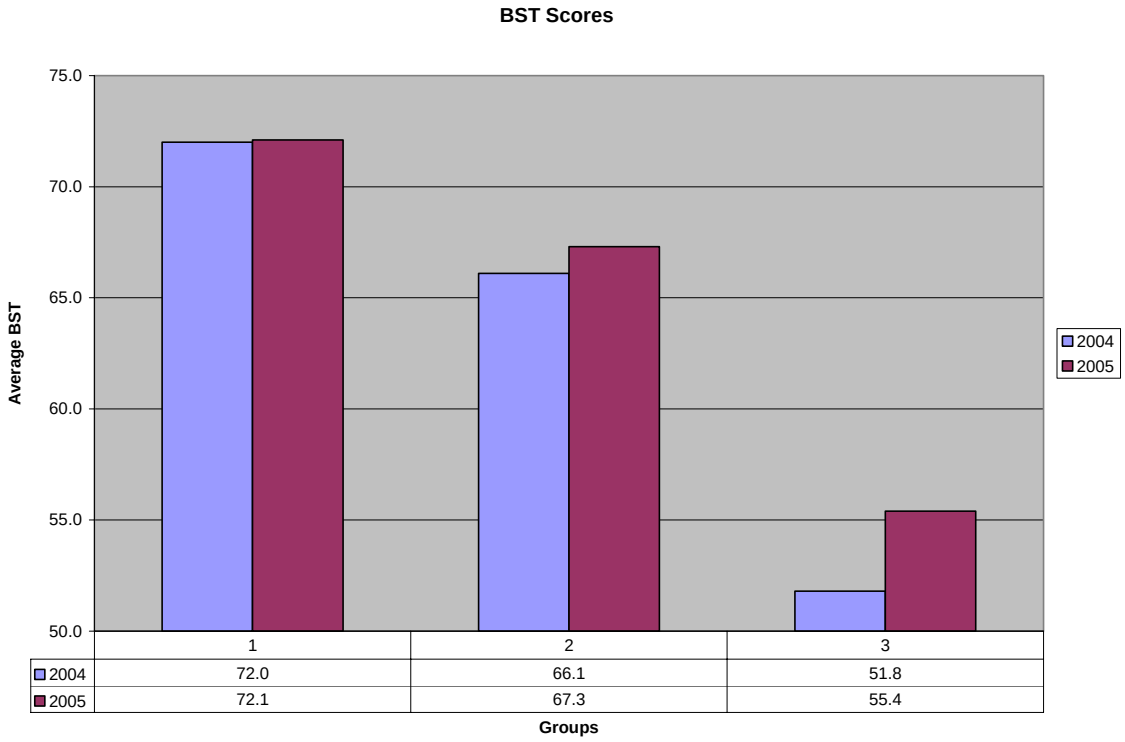
in 2005 were also divided into three even groups. The students that scored on the bottom third will be referred to as the low group, the students in the middle third will be referred to as the middle group, and the students scoring in the top third will be referred to as the high group.

The high group had 23 members in 2004, and 26 members in 2005. The high group in 2004 had a mean score of 72.0, whereas the high group in 2005 had a mean score of 72.1. There was minimal change from one year to the next. The high score on the BST is a 75, and since the high students were so close to the maximum possible score, the high student level had just about peaked. Thus, the use of heterogeneous grouping played little effect on the high students' BST scores.

The middle group also had 23 members in 2004, and 26 members in 2005. The middle group in 2004 had a mean score of 66.1, and the middle group in 2005 had a mean score of 67.3. There was an average improvement of 1.2 points from the 2004 test to the 2005 test. This improvement was still statistically not significant. Much of the curriculum for the 2004 heterogeneous group and the 2005 middle group was the same.

The most interesting results come out when looking at the low groups. There were 22 students in the 2004 low group, and 25 students in the 2005 low group. The low group in 2004 had a mean score of 51.8, whereas the low group in 2005 had a mean score of 55.4. This is a 3.6 point increase from the heterogeneous group to the homogeneous group. This result came about because of the ability grouping with about a 90% probability according to a t-test.

Figure 2



Overall, every group showed an improvement when grouped homogeneously. Clearly the group that showed the most improvement was the low group, but all three groups were able to gain some benefit from grouping homogeneously.

Hypothesis Testing:

A t-test was run for all of the different results to test the hypothesis. The only group that showed a statistical significance was the low group, where the t score came out to be 1.725. This showed that we can be 90% certain that the results came about as they did because of the fact that the students were group. A t-test on the entire group came out to be not significant.

CHAPTER V: SUMMARY AND CONCLUSIONS

Summary of Results:

The results of this study seem to suggest that ability grouping of the 7th graders benefited all of the students when it came time to take the BST. The lower ability students gain the most from being in a homogeneous group, but all levels show some gain. These results seem to show that for a school strictly looking at improving BST results at any cost, ability grouping them is the way to go.

Conclusions:

A lot of research has been done on whether to ability group students. In this study, the end result was the improvement in the BST scores, and that result was achieved. The social and mental aspects of ability grouping are often pushed to the side in this data-driven time. Before a school decides to ability group their mathematics students, they should look into whether that option is best for the students' development not just in mathematics, but also in their social situations.

Recommendations:

There are many more opportunities for continued research on this topic. This study should really be performed over many different classes, and for many different years. The ability levels of the two groups used were not identical coming into the 7th grade year, and thus it is hard to know whether the results came out because of the ability grouping, or if there's just a natural intelligence difference between the two groups. A pre-test could be given to each group at the

beginning of their 7th grade year, and then their growth could be calculated. That way we would eliminate the natural intelligence differences.

Also, research could be further advanced by comparing a different test. Because of the upper ceiling of the BST test, the advanced students did not have much of an opportunity to grow. A study could be done with a test that does not have an upper ceiling, and thus we could more accurately measure the improvement.

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WILL ASSIGNING MATH BAGS IN HIGH SCHOOL MATHEMATICS CLASSES INCREASE THE AMOUNT OF TIME THAT PARENTS SPEND DOING MATH WITH THEIR CHILD?

by

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And the Effect on Parental Involvement

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The final copy of this capstone has been examined by the signatories, and we find that both the content and form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

Breeser, Becky M. (M.S., Education)

Assigning Math Bags in High School Mathematics Classes and the Effect on Parental Involvement

Capstone directed by Dr. Thomas Sherman

Abstract

Parental involvement benefits students and increases their chances for success. This study examined the extent that assigning math bags to high school mathematics students had on parental involvement. Fifty high school mathematics students were assigned math bags to complete; they were encouraged to involve their parents when completing the activities in the math bags. Students and their parents were given the same survey before and after the study. This survey questioned students and parents about the amount of time that was spent doing math with each other at home. The results showed that the math bags significantly increased the amount of time that students and their parents spent doing math together. This method should be considered to increase parental involvement in the high school mathematics classroom.

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And a special thank-you goes to my husband, Jamie, and to my two sons, Cody (7) and Wyatt (3). The encouragement, support, and patience that they have provided have allowed me to get through this program, and I can't thank them enough for that. Mommy is finally done "doing school on the computer."

Lots of love and thanks to you all!

CONTENTS

CHAPTER I: INTRODUCTION

Need for the Study

At parent-teacher conferences, many parents expressed that they were no longer able to help their child with their homework at the secondary level. Parents also commented that they were not talking about mathematics at home. These comments showed the lack of active participation by parents in their child's high school math education. Research has shown that the more parents are involved in their children's education, the more successful they are in school (Epstein, 2001, pp. 17-18, 45). Based upon the remarks that parents were making, it was necessary to find a way to include parents or families when assigning homework in secondary mathematics classes. In addition, the government has recognized the importance of parental involvement and has placed requirements on schools that include parental involvement (H.R. 1804, 1994, Sec. 102; U.S. Department of Education, 2005).

Statement of the Problem

Parents have not been actively involved in their high-school child's mathematical education. Parental involvement is more of a common practice in the elementary and middle years, and it decreases as students get older. Since parental and family involvement benefit students and increase their chances for success, teachers must find a way to get parents and families involved in their child's education at home.

Purpose of the Study

The purpose of the study was to find a way to include parents or families in mathematics homework at a secondary level that would increase the involvement that parents have in their child's education of mathematics. The approach that was used was to develop weekly activities that the students could take home and complete with their families. This has been more of a common practice at the elementary and middle levels than at the secondary level. The activities that were developed to enhance the high school math curriculum were called "math bags." By assigning math bags for each student to take home and complete with their family, numerous opportunities were provided for parents to take an active role in their child's mathematics education.

Statement of the Hypothesis

In this study, it was expected that by assigning math bags for the students to take home and complete with their parents or families, there would be an increase in the amount of time that parents would spend doing math with their child. If the students did what they were encouraged to do, then clearly there would be significant growth in the area of parental involvement.

Definition of Terms

PARENT(s): The primary caretaker(s) of the student.

FAMILY: The person or group of people who care for the student and surround them when they are in their home setting.

Variables

Independent Variable

The only variable that was independent was the assigning of the math bags. Each student was expected to take a different math bag home to complete each week. Everything else in the class was done as normal; students were given traditional homework assignments and assessed formally and informally as in a typical secondary mathematic class.

Dependent Variable

The dependent variable was the amount of time that students and their parents spent doing math together at home. The study was done with the idea that this would increase, depending on how involved the parents were with the math bags.

Control Variables

All fifty students received the same instructions when the math bags were assigned toward the beginning of the semester, and also when the surveys were conducted both before and after the study. The same students were surveyed before and after, and they were asked to take the parent survey to the same person who filled out the parent survey before the study. The same accountability was expected from all fifty students. They were encouraged to involve their parents and families when completing the math bags, and they were expected to finish all fourteen bags. All students were given a "math bag journal" to fill out after they completed each math bag. They were told that it would be part of their grade.

Moderator Variables

The types of activities that the teacher put in the math bags varied. Students have a wide range of abilities and interests, so their interest in the activities varied as well. There was also a difference in the amount of interest that the students had in the math bags themselves. Some enjoyed them a great deal, while others did not like the idea of the math bags.

Limitations of the Study

Going into this study, the greatest limitation was the extent of participation that the student and the parents would have with the math bags. The students were encouraged to take a math bag home each week, to involve their parents or families when completing the math bags, and to keep a journal that would be handed in to the teacher to be included in their grade (see Appendix A). However, it was unknown if each student would actually take the math bags home or if they would invite their parents or family to participate when completing the math bags. Other limitations included not knowing if the parental involvement would be a positive or negative experience for the child, if the students or parents would actually complete the surveys honestly and return them, and if parents had abilities or disabilities that would impact the results.

CHAPTER II: LITERATURE REVIEW

Governmental Information

The report of 1983, "A Nation at Risk," that reported how America is at risk, explained that America is "being overtaken by competitors throughout the world" (The National Commission on Excellence in Education, 1983, A Nation at Risk section, ¶ 1). It stated that goals have to be met by raising standards and expectations without settling for mediocrity (The National Commission on Excellence in Education, 1983). If America was to compete in the changing world, it must have higher standards and expectations for its children; this is not the sole responsibility of the schools. America must strive to create a "Learning Society" which reaches beyond traditional schools, and colleges, and transfer into homes and beyond to develop those standards (The National Commission on Excellence in Education, 1983). Also, in 1994, Goals 2000 had a purpose of improving teaching and learning throughout the nation (H.R. 1804, 1994). It stressed the importance of parental involvement in the eighth national education goal: parental participation (H.R. 1804, 1994).

> By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children…. (ii) every school will actively engage parents and families in a partnership which supports the academic work of children at home and shared educational decisionmaking at school; … (H.R. 1804, 1994, Sec. 102).

More recently, the No Child Left Behind Act of 2001, contained four basic education reform principles, including expanded options for parents (U.S. Department of Education, 2005). It, too, puts some of the responsibility of education on parents. President George W. Bush stated, "If you expect your child to be well-educated, you

have the responsibility of making sure your child gets educated, starting at home, with some basic fundamentals" (U.S. Department of Education, 2005, by p. 1). The No Child Left Behind Act of 2001 has a goal of raising standards and ensuring that all students can attain those standards (U.S. Department of Education, 2005). To accomplish this, teachers need the help and support of families (U.S. Department of Education, 2005). To lend this support, parents can participate in the homework that their children bring home from school (U.S. Department of Education, 2005).

Parental Involvement

Parental involvement is a broad term; parents can be involved in their child's education in many different ways. Epstein (2001) broke parental involvement into six categories; parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. This study focused on the category of learning at home; learning activities done at home may be the most educationally beneficial (Epstein, 2001). Home activities help parents to participate as well as monitor, which provides the opportunity for math-related collaboration with their children (Peressini, 1998). Math activities that are done with the students' families allow "a wonderful opportunity to create an environment that makes math seem pretty special and attractive" (Stenmark, Thompson, & Cossey, 1986, p. 18).

Although many parents are considered to be actively involved, reports indicate that this participation decreases as students get older (Eccles & Harold, 1996, p. 29). As important as it is, teachers and schools should be doing everything possible to support and encourage parental involvement to continue as children get

older (Eccles & Harold, 1996, p. 29). It is important, however, for teachers to assign homework so it does not infringe upon family time more than necessary, which homework can do; it is important for homework to be considered valuable and necessary and worth the time that is given at home (Epstein & Becker, 1982). Homework becomes more of an intrusion on family time, the older the child gets (Epstein & Becker, 1982). Learning activities for home, in which an important role is provided for parents, could be assigned in which students learn about important life decisions and how to learn from their mistakes (Eccles & Harold, 1996, pp. 29-30).

According to Warner (1997, p. 13), 40% of parents feel they are not involved enough in their children's education and 48% of students aged 14-17 would like to talk more about school with their parents. Studies need to be done to see how programs involving parental involvement can be implemented to include all families (Epstein & Becker, 1982). It is also necessary to find out about the cultures of students and their families in order to better serve them (Davis, 1995).

Various studies have shown that the greatest indicator of parental involvement is whether or not the parent was invited or included by the school or the teacher. (Epstein, 2001; Eccles & Harold, 1996, p. 4). Most teachers, however, are not trained to include families in their teaching (Epstein, 2001). Colleges and universities have begun to recognize the need to train education students in the area of family involvement and have become more willing to include it in their curriculum (Epstein, 2001). Some states have recognized the importance, and have considered including school, family, and community partnership training in teacher certification

requirements, including Minnesota's Higher Education Coordination Board (Epstein, 2001).

Student and Family Benefits

When schools have well-designed programs containing parental involvement, it is a benefit to students, families, and schools (Epstein, 2001, pp. 17-18). Although the collaboration of school and home declines as children get older, it remains just as important throughout those years (Eccles & Harold, 1996, p. 31). When parents continue their involvement as their children get older, the attitudes, attendance, and behavior of the students improve and their grades are better (Epstein, 2001, p. 51). The assigning of math backpacks can bring students and their parents together in an entertaining, educational way (Orman, 1993). It provides an opportunity for parents and their children to talk about math and help each other to better understand mathematics (Stenmark, Thompson, & Cossey, 1986). Learning activities at home are also a benefit to families as it opens up communication at home, and also from home to school (U.S. Department of Education, 2005). When students and their parents interact in subject-specific activities at home, it is likely that students will do better in that subject (Epstein, 2001, p. 45). Math teachers must make an effort to provide an opportunity for those parents to play a role in the mathematical development of their child (Peressini, 1998).

> When parents maintain high expectations for their children's performance in mathematics, regularly do mathematical activities with their children, and display a positive attitude toward mathematics, children benefit. They are more likely to feel confident in their abilities; to enjoy and learn more from the mathematics that they experience at school; and to develop a sense of the richness, usefulness, and pervasiveness of mathematics. (Kliman, 1999, p. 15)

In schools where parental involvement is emphasized, students surpass those that do not have these qualities (Warner, 1997, p. 5). "Parental involvement in a child's education is the most consistent indicator of whether that child is successful in school." (Warner, 1997, p. 5) Children's problem-solving skills can be strengthened by working cooperatively on these skills with a parent at home (Bratina, 1996). This shows the child the value that their parents place on education (Bratina, 1996). Parents speak volumes by showing interest in their child's education:

> One of the most essential things a parent can instill in a child is the importance of education. If a parent shows no interest in the child's school or what the child is learning, the message given to that child is that education is not important. (Warner, 1997, p. 4)

Barbara Bush discussed the need to improve education, with much of that needing to come from home (Bush, 1992). Although many necessary concepts are taught at school, other important concepts must be learned at home and reinforced at school: confidence, motivation, effort, responsibility, initiative, perseverance, caring, teamwork, common sense, and problem solving (Rich, 1992).

CHAPTER III: METHODS AND PROCEDURES

Overview

Fifty high school mathematics students were assigned math bags for homework, and were encouraged to involve their parents and families when completing the math bags. They were to take a math bag home nearly every week throughout the semester, and fill out a page in their math bag journal after the completion of each math bag activity. A survey was given to each of the fifty students and their parents both before and after the study to compare the amount of parental involvement before and after the assigning of the math bag activities.

Research Design

This study examined the amount of time that students and their parents spend doing math together at home. A pre-survey was given to each student and their parents asking, "How much time do you spend each week doing some sort of math with your parents / child?" Throughout the study, math bags were assigned for the students to take home and complete; parental and family involvement was encouraged in the completion of the math bags. Near the end of the semester, a post-survey was given to each student and their parents asking the same question as stated above. The answers that were given on the surveys were used to compare the amount of time that students were spending doing math with their parents before the project with the amount of time they were spending after the project.

Participants

The study took place in a rural, predominantly white community in southeast Minnesota. There were only enough materials available to include two classes in the study; Algebra 1 and Pre-Calculus. These two classes were selected, because the students within these classes had different mathematical abilities and interests. The third class that was currently being taught had over 30 students in it, so it was decided to leave that class out of the study due to lack of materials. Algebra 1, containing 30 students in grades 9 through 12, was a required class with a wide range of mathematical abilities and interests. In this class, five students had learning disabilities, two students had an emotional-behavioral disability, and one student was on a 504-plan indicating special learning needs. During the study, two of the students with special needs from this class left the district; their beginning surveys were used, but they left prior to the ending survey. Pre-Calculus, which contained 20 students in grades 11 and 12, was an elective class for students who excelled in mathematics in previous mathematics courses. Even so, there was a wide range of mathematical abilities within the class. During the last half of the study, one student was struggling with mental health issues and therefore was often absent from class. At the beginning of the study, there were 50 students: 25 males and 25 females. After two students left the district, as was mentioned, there were 48 students: 24 males and 24 females.

Materials

To help defray the expenses involved in creating the math bags for this study, a grant proposal for $500 was written and approved from the district foundation of

which the study was done. The grant money was used to help purchase canvas bags, educational learning games, a book containing mathematical activities for middle and high school (Currah & Felling, 2001), and materials to create the activities; dice, cards, bingo chips, washers, rubber bands, paper clips, paper, and folders.

Validity Measures

The students who were given the pre-survey were also given the post-survey, with the exception of the two students who left the school district during the study. It was encouraged that the students take the post-surveys to the same parent who completed the pre-survey. All students were encouraged to complete the math bags and to involve their parents and families in the activities in the math bags. The students were assigned this project by the same instructor.

Reliability Measures

By using the same students and instructor throughout the study for both the pre-surveys and the post-surveys, and encouraging consistency with the parent surveys, consistent results should be produced.

Procedures

Each of the fifty students was given a survey in class during the second week of the semester, prior to the math bags being sent home. The same type of survey was sent home with the students the same day for their parents to complete. All subjects taking the survey were instructed to fill out the survey honestly, circling one

of the four choices (0, 1, 2, or 3). The high and low choices, zero and three, included a word or short phrase to identify what those numbers indicated (see Appendix B & C). The students were instructed not to discuss the survey with their parents until after the parent portion of the survey was finished. The surveys were labeled to distinguish student surveys from parent surveys.

When the math bags were prepared, three main goals were kept in mind; the contents had to be interesting, it had to support and enhance the math curriculum, and it needed to be easy for students and their families to understand. While searching for activities for the math bags, it was discovered that the expense of this project was becoming a roadblock. After receiving $500 in grant dollars, the math bags were created.

Conclusions

This study was designed with the intention of increasing the amount of time that students and their parents would spend doing math together at home. The math bags were implemented, because it seemed like an idea that the students and their parents and families would be able to become involved in, and find enjoyable. There are many variables that come into play, and numerous limitations to the study. However, the dependable variable was measurable in a valid, reliable manner.

CHAPTER IV: RESULTS AND DISCUSSION

The students in this study were surveyed to find out if the math bags that were assigned as homework would increase the amount of time that the students spent doing math with their parents and families at home. The desired results were found; the math bags provided a significant difference in the amount of time that students and their parents were spending doing math together at home.

Results

The surveys that were given to the students and their parents before and after the study were examined. Student surveys were separated from parent surveys, and pre-surveys were separated from post-surveys. Fifty students participated in the pre-survey, and 48 students participated in the post-survey (due to two students leaving the school district during the study). This represented 100% student participation in both the pre-survey and the post-survey (see Figures 1 and 2). This high percentage is due to the fact that the students completed them in class and returned them immediately.

Figure 1

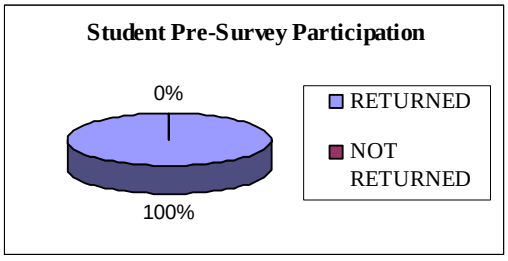
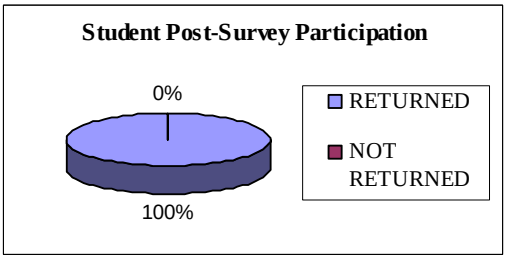


Figure 2



Of the 50 parents who were asked to participate in the pre-survey, 86% of them returned the survey; and 92% of the 48 parents returned the post-survey (see Figures 3 and 4). The students were asked to take the surveys home to their parents, and return them the next day. Since these surveys were to be done outside of the school day, they were not all returned.

Figure 3

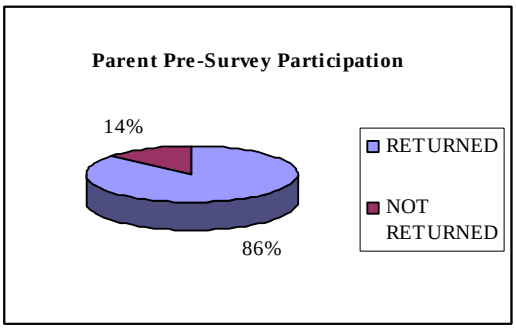
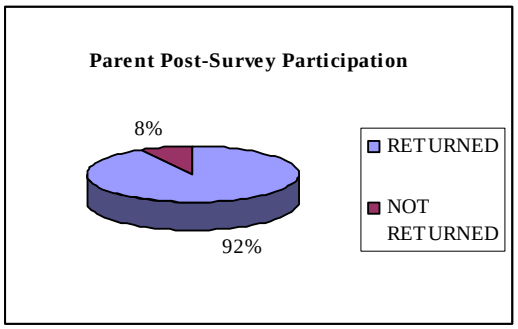


Figure 4



Results were calculated separately for students and parents. The students rated the amount of time that they spent doing math with their parents or family on a scale from zero to three. Zero represented "never," and three represented "very often." The results were graphed (see Figure 5) to show how the students' responses shifted, indicating an increase in the amount of time that they felt they were spending doing math with their parents or family. The mean was calculated on the pre-survey and post-survey, and then graphed (see Figure 6) to show the 72% increase in the mean. A t-test was done to identify if this represented a significant increase. The t-value was calculated to be 2.08. In order to have an alpha-level (or risk level) of 0.05, which is considered to be significant in this type of study, the t-value needed to be greater than 2.00. When using an alpha-level of 0.01, the t-value needed to be greater

than 2.66; therefore the t-value of 2.913 represents a significant increase in the amount of time that students are spending doing math at home with their parents or families, with a 99% chance that it was not due to random chance.

Figure 5

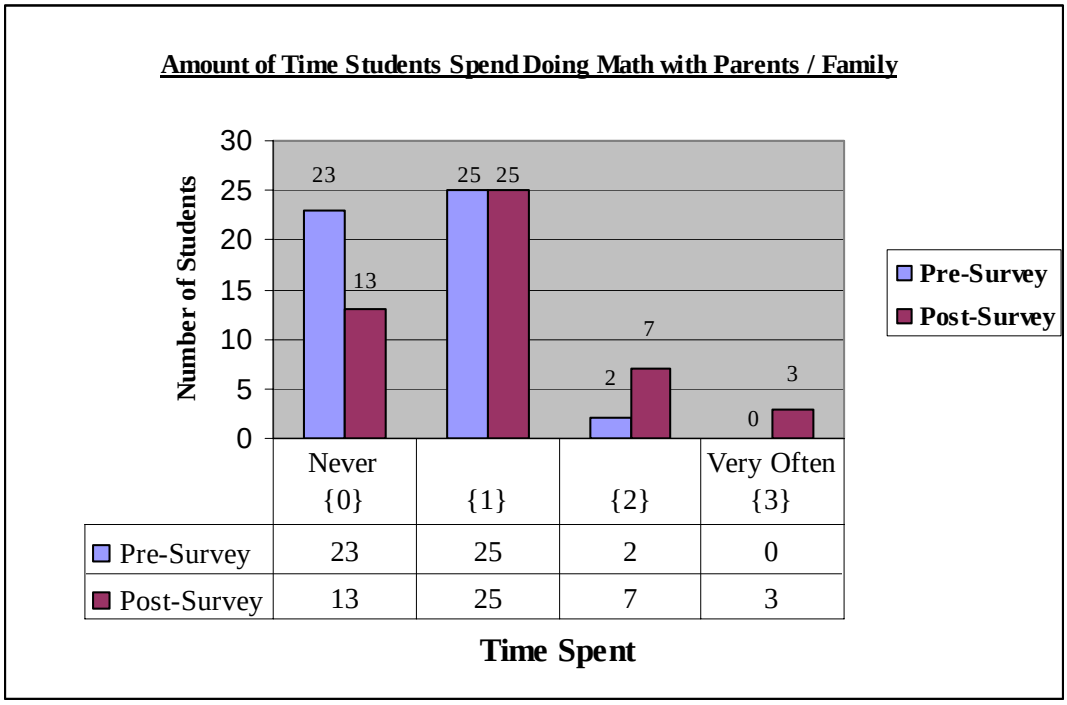
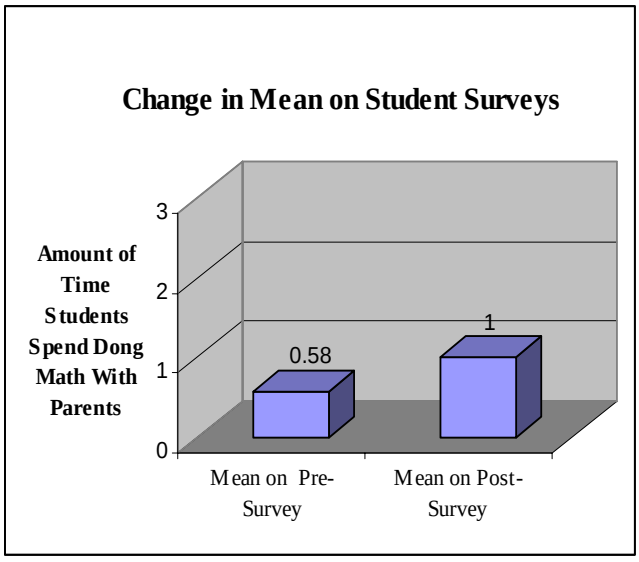


Figure 6



Similar results were found when studying the results of the parent surveys. The parents rated the amount of time that they spent doing math with their high school child on a scale from zero to three. Again, zero represented "never," and three represented "very often." One parent wrote in a "1.5" response on the post-survey instead of circling one of the four options provided; the 1.5 was used when calculating the statistics, but was put in the {1} section on the graph in Figure 7. The results were graphed (see Figure 7) to show the change in standard deviation by how the parents' responses shifted, indicating an increase in the amount of time they felt they were spending doing math with their child. The mean was calculated on the pre-survey and post-survey, and then graphed (see Figure 8) to show a 46% increase in the mean. A t-test was also done, and the t-value was calculated to be 2.08. In order to have an alpha-level of 0.05, the t-value needed to be greater than 2.00 to show significance; therefore, the t-value of 2.08 represents a significant increase in the amount of time that parents are spending doing math at home with their high school child with a 95% chance that it was not due to random chance. When the t-values were calculated in this study, the degree of freedom used was always more conservative, or lower, than the actual degree of freedom that was calculated.

Figure 7

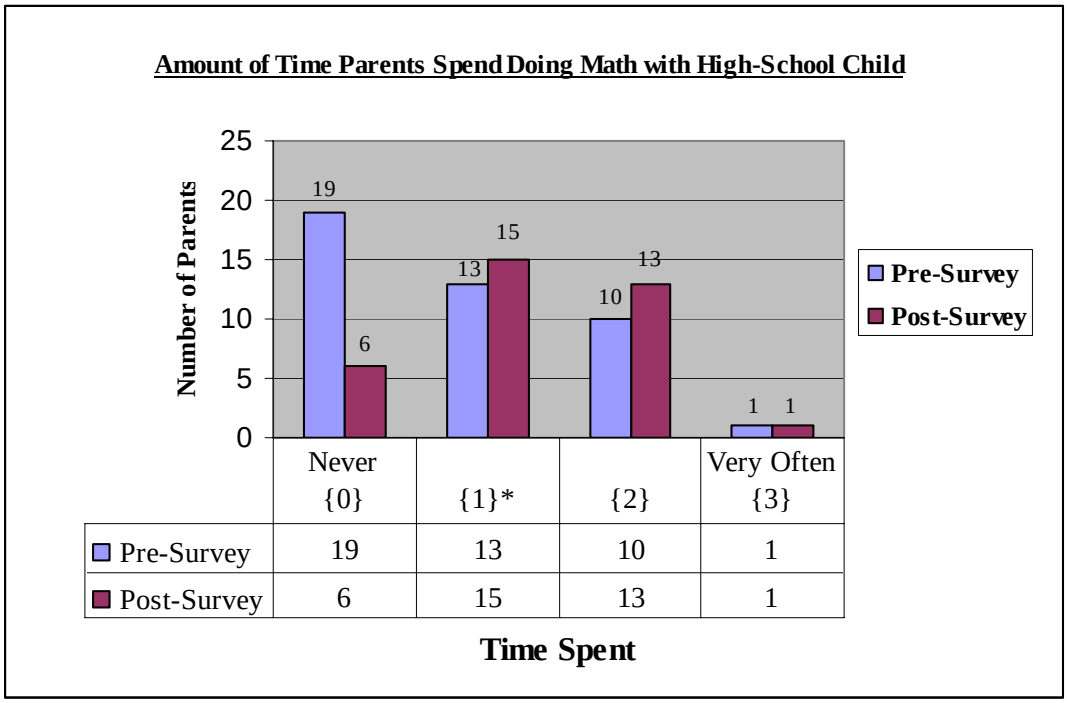
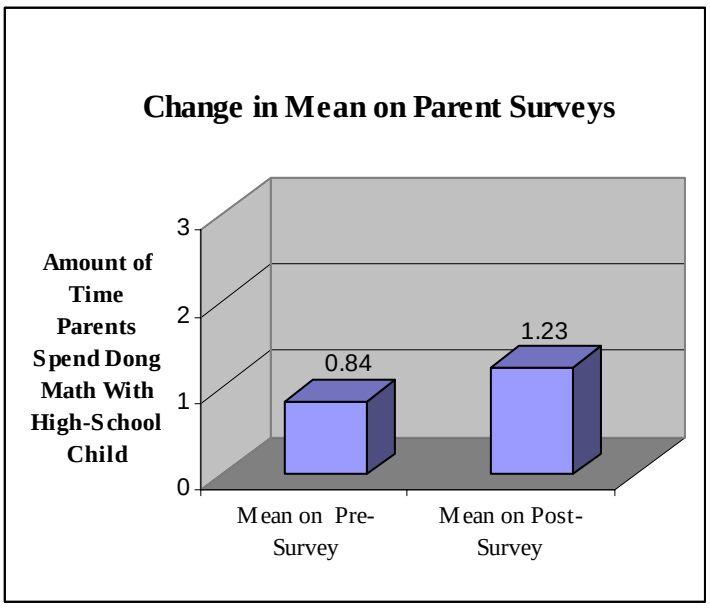


Figure 8



Discussion

The results clearly show the effects on the dependent variable; the amount of time that students spend doing math together with their parents or families. As was stated in the hypothesis, it was expected that the assigning of math bags for students to complete at home would increase the amount of parental involvement with high school mathematics students. The results of the study support the hypothesis.

There were many variables and limitations in this study, including the extent of participation and involvement that students and parents would actually have in this project. Although parent involvement was encouraged and expected, it was not guaranteed. The results of this study show that by assigning math bags to high school math students, there will be more parental and family involvement with high school mathematics students.

CHAPTER V: SUMMARY AND CONCLUSIONS

Summary

The purpose of the study was to find a way to increase the amount of parental involvement with high school mathematics students. It was expected that if the students would complete math bags at home with their parents or families, that there would clearly be an increase in the amount of time that they would spend together at home doing math. The hypothesis was accurate; there was a significant increase in the amount of parental involvement with the high school mathematics students that were involved in the study.

Conclusions

There were many interesting experiences that occurred throughout this study that cannot be identified by looking at the results, but rather by interacting with the students who were involved in this project. There was a wide range of interest that the students had in the math bags. Some students could not wait to check out their next math bag. Others carried the math bag to their locker where it would stay until it was time to return it. Although many of the activities in the math bags were completed with the students' parents as was intended, some completed the activities with paraprofessionals, friends, or siblings. The most rewarding part of this study was reading some of the math journals that the students wrote in as the math bags were completed. Many students wrote about how much they enjoyed the time that they spent with their mom or dad. In my opinion, that was truly the purpose of this study.

Recommendations

With the enormous amount of benefits that occur to students, families, and schools from parental involvement, it is recommended that math bags be assigned in high school math classes and encouraged to be completed with parents and families. However, high school students and their families have extremely busy lives, and it is important to assign homework that is valuable to the student. For those reasons, instead of having math bags for students to take home weekly, it is recommended to carefully select seven or eight activities for the math bags that are the most interesting, fun, and relevant to the desired math goals, and assign them throughout the semester.

By finding math activities to be used in math bags, or math folders, that high school math students and their parents and families can work on together at home, students, families, and schools can benefit from the rewarding time that is spent together.

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APPENDIX A:

MATH BAGS – JOURNAL ENTRY

Name of Activity:_____

Rank how fun you thought this activity was…

0	1	2	3
not fun at all			very fun

List all people that were involved in this activity. (Only list "titles", like sister (8), mom, dad, cousin (14), friend (17), grandpa, etc… INCLUDE AGES OF ALL PEOPLE UNDER AGE 20)

_____

_____

Directions were… ***easy / hard*** to understand. (Circle one.)

Write about this particular activity… Tell about the activity itself, what you liked, any improvements, the math that was involved, about the other people that participated, your time together, etc…

_____

_____

_____

_____

_____

_____

_____

_____

_____

APPENDIX B:

STUDENT SURVEY:
How much time do you spend each week doing some sort of MATH with your parents / family?

0	**1**	**2**	**3**
Never			Very Often

APPENDIX C:

PARENT SURVEY:
How much time do you spend each week doing some sort of MATH with your child?

0	**1**	**2**	**3**
Never			Very Often

WHEN INCORPORATING A PARENTAL CONTACT COMMITMENT FORM, WILL STUDENTS SHOW A DECREASE IN THEIR MISSING ASSIGNMENTS EACH SEMESTER?

By

AMANDA KATE BREMER

A. A., Bethany Lutheran College, 2001

B.S., Winona State University, 2003

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Bremer, Amanda Kate

When Incorporating a Parental Contact Commitment Form, will Students Show a Decrease in their Missing Assignments each Semester?

Capstone directed by Dr. Thomas Sherman

Abstract

Students were having difficulty completing daily homework for their mainstream classes. This resulted in students receiving lower grades in their core classes, at the high school level. The purpose of this study was to see if missing assignments would decrease if there were an increase of parental involvement in the home. The students completed a homework survey to assess how much time their parents or guardians assisted them in the home. Students and parents were given instruction of the purpose of the parental commitment form and how it would be used towards their advantage of completing their students' homework tasks on a daily basis.

Students took home a commitment form daily for duration of nine weeks. The study group consisted of mixed gender classes and eleven ninth grade students. The class sizes varied from two to five students in each class setting. The commitment form was not used the first quarter of the school year to get a baseline of how much work was completed by each student and the second quarter the data was taken to see if there was any progress towards a decrease of missing work with parental involvement.

The instructor used daily reminders to students and monthly newsletters to parents to kindly remind them of the parental form that was being in the classroom. Results from the study showed that seven of the eleven students showed a decrease in missing assignments for the quarter. The results showed that it was not statistically significant in

the t-score. According to feedback from the parents and students involved, they believed that the commitment form did help them to be more conscience of their assistance with their students on a regular basis. The students were more aware that they needed to help remind them and their parents of work that needed to be completed daily.

Years following, these students will continue to work on these skills of homework completion and organization with their parents until they graduate. These skills are essential to have and will be used throughout their lives and are important to develop on in order to benefit these students.

CHAPTER ONE: INTRODUCTION

Students in today's society are not receiving much assistance or support from their parents or guardians. Many children come into their homes every day without any type of supervision after school for them. Since there is no structure or supervision for several of these students on a regular basis, the children can go every day after school without completing homework, reading a book, or studying for a test. This influences students' average yearly progress to decline every year causing the achievement gap to slowly move further apart in the wrong direction.

Since many students in the elementary and high school levels are not receiving some type of parental support on a frequent basis, there is something that should be done to assist these students from falling between the cracks. Young adults and children are the basis of our future and everything in our power should be done to help aid them in their success.

NEED FOR THE STUDY

There are several needs for a study of this kind. In this particular case, there have been several students with special needs whom are having difficulty passing their classes in the mainstream setting. In most cases, these students are capable of completing the work that is given to them. On the other hand, there is not much parental involvement in their home environments to assist students or to assure they are successful in school.

Therefore since there is not a lot of assistance in the home, there has been a higher rate of students' not getting homework in on time and studying for tests has become obsolete. The self-esteem of these students is decreasing on a daily basis, causing more

problems in their already difficult worlds. The need for parents and guardians to step up in their roles to assist their children is a growing situation in today's society.

The problem that has been increasing over the years is that parents and guardians are not able to help out their children in their schoolwork on a consistent basis. In today's world, many families are changing. Every situation is different and unique. There are several single-family homes all over the nation. Since this is an issue in some areas, there are parents whom have to get second jobs to help keep their family above the poverty line. Even though these are common issues that are seen regularly, it is still essential for parents to have an interest in their child's education.

STATEMENT OF THE PROBLEM

The statement of the problem is as follows. When incorporating a parental contact commitment form, will students show a decrease in their missing assignments each quarter throughout the school year? This is important to find out what instructors can do to assist these families who are in need of consistent education. In many situations, parents are not aware of what they can be doing to assist in their community and schools.

This is an increasing problem and measures will be taken to see if parents are willing to take time to commit each evening to help their students prepare for the following day of school. It will also determine if there are strategies or opportunities the parents or guardians are looking for so they have a better understanding of how they can assist their child at home. It could be organizing or understanding the curriculum that is being brought home.

STATEMENT OF THE HYPOTHESIS

The hypothesis of this problem would be that with the increase of parental involvement of a commitment form the amount of homework assignments will decrease. By having parents working consistently with their students will allow them to be more organized and turn more work in on a consistent basis. Students need to have contact with their parents or guardians to encourage and support them in their educational success.

VARIABLES

When looking at this study, there were several variables to carefully assess before completing the experiment with the students. They included the independent, dependent, control, and moderator variables. These important pieces of information were used to break down what was going to be looked at during the experiment with the students.

The independent variable was the parent sign off sheet. The sign off sheet was something that was used between the student, parent, and teacher. The sheet was given to the students on a Monday and was to be returned the following Monday with the previous week's information recorded on it. The sign off form consisted of a simple chart that asked the parents to do several tasks with their students every evening (Appendix C).

The parents were to encourage their children to read for thirty minutes daily and then sign off on their sheets. These tasks included checking their assignment notebook and making sure assignments were complete for the following day. Even though these students just entered high school, there is a need for a parent or guardian to be involved in their learning process. Having this document for the students was used as the independent variable because it is the item in the study that was the changed for the students and their parent or guardian.

The control in the experiment is the first quarter tally of the missing assignments (Appendix D). These assignment numbers were gathered from all mainstream teachers that the student was in class with throughout the semester. This did not include late assignments, just the ones that were not turned in at all during the course. The students and parents who were monitored stayed the same through the entire project through case management.

The dependent variable is the difference in the missing assignments from first quarter to the second quarter (Appendix D). This piece of information is the focus of the study. This value is affected by what happens with the independent variable which is the parent commitment form and the amount of missing work that the students did not turn in. The last variable is the moderator variable, which includes a variable of secondary interest. In this particular study, it includes the sex of the teacher, and the behaviors of the students, teacher, and parents. These are things that there is no control over and nothing can be done to change those variables in the study.

LIMITATIONS AND DELIMITATIONS OF STUDY

When looking at the limitations and delimitations of this project, there are several. The restrictions that come along with this type of study include that the population size is very small. Having a special education caseload, teachers only have a small group of students they work with over the entirety of the school year. The family background is also a concern. If the family is made up with a single parent group it may be difficult to work with their children due to work schedules and other family obligations. Another restriction of this project is that students enter and leave the program frequently. Some students come from out of state and then migrate back to the southern area at various

times of the year. Another limitation to the experiment is that there is a chance that students will not show their sign off sheet to their parents on a daily basis as a result it does not get completed.

CHAPTER TWO: REVIEW OF LITERATURE

There have been a numerous studies done over the years in the area of parental involvement. Much information that has been gathered is from various sources of journals and magazine articles that focus on several topics in the area of parental involvement. The areas that will be discussed in the literature section are the risk factors that students have been facing for many years. It is essential to see where the problems begin so solutions can be made. There is the concern in school districts nationwide that there is not enough parental involvement in the schools, therefore causing high school dropouts to increase and state test scores to fall.

The second section of information is on the parents of today's children have not been informed of what to do to participate in school programs. Parents are unsure of what is required or what can be done to ensure their child is receiving as much assistance as possible in their elementary and secondary training. This is an increasing concern for students because in many cases parents are not able or willing to assist their students in the problem areas.

The next area of information is the benefits that parental involvement can offer the students in our nation's schools such as improving participation in the school building in their district. It is important that the community and school districts offer support to the

parents of our students. The parents need to become aware of how their involvement in the school will help their students improve academically, emotionally, and socially.

The last area of literature is how parental involvement can be incorporated into the schools to benefit the students as much as possible. There have been several studies of different methods, models, and approaches that can benefit the parents and their ability to become more involved in their student's education.

RISK FACTORS

In today's society parental involvement is one of America's rising concerns among our youth. There are several reasons why a student may be having difficulty in school, but having a parent guide the next generation is becoming an increasing problem. Factors taken into consideration are coming from a single-parent or stepparent family, maternal employment, low parental aspirations and expectations, strict or permissive parenting style, poor monitoring, and low involvement in the school setting.

According to *Risk Factors for Adolescent Academic Achievement* by Lynn Magdol, family structure affects absences and behavior problems in school. If parents are not monitoring their students' behavior and progress in their educational setting, there is a better chance of those students running into problems along the way. These problems may be related to drug use, violence, or decrease in school progress (Magdol, 5). There has been a link between the amount of parental involvement in a student's life and dropping out of school. Those who drop out of school have reported that there has been less parental monitoring in their activities both in and out of school as well as communicating with their children (Ekstrom, 1986).

Parents who do help their students with school work, attend parent-teacher conferences, and participate with their children in extracurricular activities have children who are more successful in their academics (Magdol, 5). These activities are essential for students to have because their parents are an important asset to their future.

PARENTING GONE WRONG

Parents may not set high standards for their children. If this is a factor in the student's life, there will be less academic success for them. High school dropouts reported to have lower expectations from parents during their schooling (Ekstrom, 1986). These factors are great risks for students to have because they are not being encouraged to reach their full potential.

One important factor that may need to be addressed in several school districts is that parents are not sure how to participate on a high level in their own child's school. There are several things that may be difficult for parents. As parents may be employed and working under strenuous conditions. Other problems may be that parents are not sure what they can do to assist their child in school. Several of these parents may have not completed an education as well and are unsure of what can be done to help their children.

School districts expect parents from different cultures and backgrounds to understand the importance of being involved in their child's education. Cultures around the world may have different perspectives on what they are suppose to do. Parents may not be aware that parent-teacher conferences are essential in a child's learning. Also, figuring out what can be done in the home environment is as important as getting them to school on a regular basis. Many parents are not sure what that involvement entails. It is

the schools, community supports, and volunteers' responsibility to inform parents of their responsibility in being involved.

Some districts are offering different steering committees to assist parents in helping with their child's education. Unfortunately, parents are being burdened with too many responsibilities and little support where they should not be expected to be experts on the subject. Instead, school districts can provide workshops, parenting classes, and other support services to help parents promote the social and emotional development of their children. The guidance that is offered for parents would be more beneficial if it helps parents with their primary task, parenting. This is the foundation of all student success (Elias, Schwab, 39-41).

Teaching parents how to assist their students is beneficial in getting them involved with their child's education. This needs to be engrained early on in parents' quest to support their student's education. It is important having the parent there to motivate and provide expectations for the next generation. This information to parents needs to continue not only through elementary, but into the secondary levels of education as well. Studies have shown that parental involvement drops off after the early grades. In a study by Deborah Cohen, there were 42 % of parents with students in grades three to five that were highly involved. These parents attended plays, sports, and volunteered in the school in various committees. This number dropped to 24 % of parents involved in the secondary grades of sixth through twelfth. It is thought that parents believed their children were more self-sufficient as they continued through high school, but there was still a need to have parents there to support their young adults (Cohen, 1994).

BENEFITS

There are several key benefits to having students with increased parental support in the home. Parents who are holding up high expectations for their children usually have shown great success during their school years. It has been shown that students who were high achieving, the parents were involved by communicating frequently to their offspring, providing strong encouragement in their academics, set specific limits, and monitored how their child spent their time. Offering them a nurturing environment also was noted (Jennings, 1990).

According to Joyce Epstein of John Hopkins University, teachers who encouraged parental involvement on a regular basis showed several benefits in their parenting to their children. This showed parents that there was a greater interest in their children and the parents felt more comfortable to approach that classroom with more ease. It was essential for parents to feel comfortable in the environment to get involved (Epstein, 2000).

To build those relationships with the parents and offer the support, the University of Illinois developed the seven P's of school and family partnerships. This plan of action offers strategies and materials to increase the awareness of parent-teacher relationships, therefore building a stronger willingness to become involved with the schools (Patrikakaou, Weissberg, 1999).

The seven P's are as follows. It is essential to show that partnership is a priority to the teachers and parents. It is important to have a home-school relationship and communicate in the school's mission statement that the parents are involved in collaborating what is best for their children. The second is planned effort. Assess at the beginning of the year what the concerns and goals are of the parents, as well as what they

can do to contribute to their child's education. The third is to have proactive and continuous communication. Communicating on a regular basis will show commitment to their child in a powerful way. Let the parents know what is going on ahead of time so they feel involved in the partnership. The fourth is being positive. Teachers can be communicating to the parents not only when something negative happens. Letting them know that their child is performing well, even if it is something little can be a benefit to those parents. Being personalized is essential. By sending out a flyer in the mail every couple of months, does not make them feel anymore important. By giving the parents something of their own, a quick call to plan a teacher conference or a simple thank you. The fifth is to give practical suggestions. It is important to give suggestions of what might work at home regarding the academics. These may include having the family cook dinner together other tasks that may assist with the student's education. The final piece of this development was program monitoring. Give an evaluation or a parent feedback sheet to ask what they think was good or should be changed (Patrikakou, Weissberg, 1999).

Having parents assisting at home with their children is essential so those students are aware that they have the support that is needed. By having parents set limits and expectations there have been studies that show that those students have shown greater success in and outside of school. A study that was completed examining whether parental involvement had any influence on the achievement of secondary students showed that the effects were stronger for credits and curricular placement (Catsambis, 1998).

INVOLVEMENT/VARIOUS APPROACHES

Several schools are incorporating different models or methods that could increase parental involvement with different family status and culture. It is important that schools

take initiative and figure out ways that will work best in their district. A couple of them may include the Berger's Role Categories, Levels of Parent Involvement, Language Minority Parent Involvement, and the Comer Model.

Berger's Role Categories is presented as having six roles that parents should or can play in their involvement with their child's school. They include parents as teachers of their own children, parents as spectators, parents as employed resources, parents as temporary volunteers, parents as volunteer resources, and as policymakers. The focus of these categories is to allow parents to know what they can do at home, at school, or other institutions. For example, parents are encouraged to volunteer in the school buildings by doing various tasks. These tasks may include monitoring a classroom or cafeteria, or even helping out in the student's classroom. These categories also focus much on parent education and the activities that may exist in today's schools (Lunenburg, Irby, 2002).

The Levels of Parent Involvement show where and what parents are responsible for completing. These levels are not considered to be hierarchical. Most parents are in Level one, which is traditional. This level includes parent-teacher meetings and volunteers in the school system. The second level is receiving information. This means they are receiving newsletters about their students, budget, curriculum, and other activities. Level three is involvement in school. This area includes paid volunteers such as tutoring, hall monitors, and cafeteria helpers. The last level is decision making where parents are in direct participation in curriculum development, program evaluation, and hiring staff (Lunenburg, Irby, 2002).

These levels are used to determine where there is need in each school. It shows where the percentage of parents would fall in the ranks and what is to be done about increasing parental involvement in those needed areas.

In Comer's method it is stated, "It takes a village to raise a child." This quote is essential when looking at how students are brought through school. Everyone needs to add and participate in educating all of the students. It is vital to bridge the gap between the school and parents. Activities such as home-school visits and lunches to recognize parent volunteers are necessary. Parents work together in organized workshops to create a welcoming environment.

CHAPTER THREE: METHODS AND PROCEDURES

These methods and ideas to encourage parental participation are necessary to have in every school in the nation. By using resources and ensuring that parents are able to get involved with their child should continually be worked on various skills to make a better situation for families of all sizes, race, ethnicity, and economic status.

OVERVIEW

When looking into the various methods and procedures to complete this experiment it was important to find the way that would be most beneficial to the students. This included incorporating an idea that could be used for all of the students that were being serviced. An overview of the whole process was to find a way to see if students showed an improvement of work ethic if their parents were more involved in their academic improvements. It was decided that having a daily record of parental involvement would be the most beneficial route to assisting students with special needs.

RESEARCH DESIGN

The research design of this project is as follows. After looking at several pieces of research, research showed that having a parent involved on a regular basis can improve the academics and work ethic of students of any kind (Jennings, 1990). It was important to find something that was easy to do, and something that parents could take a few minutes with their child to do next each night. The parent commitment form was compiled of activities that could be done with the students from finishing their homework, to cleaning out their backpack (Appendix C). It was decided that this program would start out by only running for one semester. If there were an improvement, the project would continue throughout the remainder of the year.

SELECTION OF SUBJECTS

When selecting the students it was very important that it was done randomly or with the same group of students for the entire testing period. All of the students that were placed on the caseload have been placed on an individual education plan, which varies from student to student. In this project, it was decided not to dwell on each disability, but on number of homework assignments that were not being turned into the mainstream teachers.

Therefore, the students that were picked were chosen by the grade. All of the ninth grade students were chosen to be a part of the test. The reason behind this decision was that all of those students would be in the same classrooms for the majority of the school day. Early in high school, the majority of students are required to take the same classes. Elective classes are not frequently offered to the ninth graders. Students could be monitored in all of the same class offerings.

There were eleven ninth graders that were involved with the experiment. They included several students from various backgrounds. These backgrounds that included family structure, culture, race, and disability were included in the study. Students came from a variety of backgrounds. Some were involved in single-parent homes, multi-racial parents, families coming from different countries and cultures. This makes every student very unique in their own way. There were a wide variety of selections so they were not all the students fell within the same group. Therefore it was important to make the group a random selection.

INSTRUMENTS AND MEASURING DEVICES

The instruments and measuring devices that were used throughout the process were as follows: a parent survey was sent out to all ninth grade parents asking for their support and input in this project. They were asked several questions regarding how much they assist in their child's education. Also, they were asked what they were willing to contribute on their own time to help their students get more of their homework in during the school year. The survey explored different areas parents may be interested in helping out. For example, tutoring services or simply coming to parent-teacher conferences.

The students were given a survey asking if their parents help with their homework, if they read at night, and if their parents were involved with their daily lives. For example, asking how their day was, eating dinner together, or having a family night. These gave some indicators of how many parents were already helping out at home (Appendix A). Parents were also concerned with finding out how they can find out what needs to be completed for homework from those instructors.

The next measuring device was a parental commitment form that would be shown by the student to their parents on a daily basis. This was a chart that contained simple jobs that were to be completed which included finishing homework, reading thirty minutes, and organizing their daily work. These tools were essential in determining if the parents were following through with their commitment in their child's education. This measuring tool was to be assessed every day (Appendix C).

To assess the validity of this experiment, several points were looked into to see if the study accurately reflected the specific concepts that were being measured. In this project, the selection of students was random so there would be no bias. The characteristics of the subjects tested came from various backgrounds and parents were aware of what was to be going on throughout the process.

VALIDITY MEASURES

Items that could have had some affect on the results of the experiment are as follows. There were a couple of students who left the district after a semester, so they would not be added into the final count if this experiment would continue into other consecutive semesters. Mood changes of the students or parents depending how parents felt towards the school and how their student was doing in the classroom may have an effect on how often parents would participate. The group of ninth graders showed much more maturation over the year because they had a better understanding of the importance of their education. Another item that may affect the validity of the project is the Hawthorne Effect. The students knew that they would be graded if they did give the parent commitment forms and turned them in at the appropriate times. Therefore some students were more willing to complete the task.

RELIABILITY MEASURES

When looking at reliability measured it is discussed how reliable these measuring devices were in this experiment. The one important question that had surfaced was as follows. How do you know the parents or students are actually doing the task assigned to them? On the positive side, some parents actually took the time to sit down with their student to complete the sheet given to them for their parent commitment. By having frequent phone calls home asking if parents had any questions regarding the tasks they were given. It was important to be checking to see if parents needed any more assistance from the school to help them with the homework at home. This showed some reliability when the number of missing assignments dropped for that student in some of their mainstream classes. Another indicator was the student's grades also increased over the duration of the semester.

On the negative side, some parents did not complete the commitment forms on a regular basis causing the missing assignment count to increase. Some students openly admitted that they had shown their parents the sheet and they just simply signed off on it. They had not taken the time to complete the form accurately for their child.

It is difficult to see if this type of recording was accurate of the parents interacting with their children. It is a good start and was used to benefit some students during the duration of the semester. The other way this experiment is a reliable measure is that the same students were used throughout the entire experiment. By having the same student it was easier to see what was being done with each situation and their family.

FIELD PROCEDURES

The field procedures for this project were easy enough for the parents and students to follow on a daily basis. Once the preliminary information was gathered through the parent and student surveys; the parent commitment forms were sent with the students every other Monday. The students and parents were made aware that these forms would be coming home daily, and parents were to check with their child to make sure they were working with their student on their educational activities. Frequent reminders went home through a newsletter, teacher conferences, calls home whenever needed, and individual education program meetings.

The students would turn in their parent forms on a bi-weekly basis. This was kept track on a sheet to ensure that all of the forms had been received. The amounts of homework assignments were tallied from the regular education teachers for both quarters showing the progress from each quarter.

Information was gathered from various resources around the school building to find out the input of other teachers. Questions were asked if they were seeing an improvement of work ethic in the students on a more regular basis. It also asked the students if they were concerned about their progress in the classroom and homework completion. Parents were contacted to see what they had thought of the system and if they would be willing to continue on with the program.

CONCLUSION

In conclusion to the methods and procedures, several things arose in this experiment. These measures were put into place to master various areas of learning that is essential to be a successful student as well as building relationships within the family.

By making parents accountable for working with their students they seem to show immense improvement because the parents were aware that someone would be asking what they had done. It was important to have the parents be involved in more than one way to build those relationships not only with the student, but also with the school their students attend. Having the support of the parents in the school setting is essential for students who have a difficult time in the educational setting.

The commitment form outlined what activities could be done in the home environment. Research shows that many parents are unaware of how they can help their students to achieve their goals (Jennings, 1990). It can be as easy as sitting down with them to ask them how their day was or coming to parent-teacher conferences. The purpose of having the forms was to remind the students as well to be accountable and responsible for their own education.

Having just one more person to monitor their progress and help them learn the purpose of homework, daily reading, and excellent work habits can assist those students in becoming better adults in the future. These skills are the pieces that will be necessary into making that transition into adulthood easier.

CHAPTER FOUR: RESULTS AND DISCUSSION

Looking at the various data that was gathered, several pieces were looked at when analyzing the information to see if there was a statistical significance in this experiment regarding parental involvement. Information that was included were the student and parent survey, amount of times parents completed their commitment on the daily forms, and the difference in amounts of homework from one quarter to the next. The statistical

analysis including the t-score will explain if this experiment supported the hypothesis.

According to the student survey 64 % of students took home their homework on a daily basis. At least 25-50 % of the parents helped their students with their homework each evening. Students felt that when their parents helped them with their homework it assisted them sometimes. In the area of daily reading, the students had the most difficulty completing this assignment. About 42 % of students never read at home and about 18 % read on a regular basis. When asking questions on a regular basis about their student's school day about 66 % of parents did that with their students (Appendix A). This information was essential to see how much parents were contributing with their students to make sure their educational experience was successful.

The parental survey asked several questions regarding what they would be willing to commit to when their student was in school. All of the parents filled out a survey that gave an idea of what they would be interested in trying during the school year or items that were already being addressed. For example, what sources the parents received to keep them updated on school events, various forms of testing, becoming a parent volunteer, or attending conferences. By having this information, the case manager could contact these parents and ask for their commitment not only on the forms for the experiment, but in other areas of the school.

On average, the parents whom said they would commit to assisting their child held to the challenge. There were several occasions where the sheets were lost by students and could not be turned into the case manager, causing a limitation of data that was received. The data shows each bi-weekly period with the amount of times parents signed off on the parent commitment form for their child. It is seen to have a trend of

later in the semester of decreasing in the amount of parents staying involved with the project (Appendix C).

Appendix D shows how many missing assignments were counted for both quarters in the first semester. Each student is identified with a number and if there was an increase or decrease of missing assignments from the two quarters that was evaluated. The count of work was gathered from each of the general education teachers, and was then compiled to see if there was any change. The students were aware of the challenge they had for the quarter and were willing to work hard to get their homework in for the semester.

ANALYSIS

Looking at the statistical analysis, many factors were taken into consideration. Before the parental involvement was factored into the experiment the average amount of missing assignments were seventeen for the students depending on their situation. The median was seven for the amount of missing work and the most frequent amount of missing assignments was two for the students. After the parental contact form was put into effect, the numbers changed only slightly. The average number of assignments was thirteen, the median was seven, and mode was nine assignments. It has shown some decrease in the numbers, but nothing of great significance.

Other statistical pieces included the variance of the data which was 625.5, which made the standard deviation 25.0. When figuring out the t-score of the information, it was calculated to be .32, which shows no great significance. Although there is no great statistical difference in the current findings, the raw data shows a trend. The trend is that

the amount of missing homework assignments has been decreasing and would be expected to continue the fall if the experiment was continued for a longer period.

After the data and results had been analyzed, the scores were analyzed to see if the hypothesis that was stated supported the information or did not. The question was stated as follows: When incorporating a parental contact commitment form, will students show a decrease in their missing assignments each semester?

HYPOTHESIS TESTING

The hypothesis is that the students would show a decrease in those missing assignments. Based on the research and trends that have been found in the past through various other projects it showed that having a parent involved would benefit those students and increase their academic achievements. According to the recent data collected from this experiment, the t-score shows that there is no statistical significance with the current data, meaning that there was not enough evidence or large significance that would increase that score to make it more accurate.

However, the raw data collected throughout the project shows that there is a trend in a decrease of missing assignments. Seven out of the eleven students showed a decrease in the missing assignments over the course of the following quarter. Students who showed a decrease had parents who committed themselves to helping their students make these changes to better their education.

This could have been strengthened if the project had been extended over a longer period of time showing the trends continue. Another item that could have strengthened the data of the hypothesis was having a larger population of students participating.

Having such a small group really relied on what those few students were doing with their parents.

According the statistical analysis of data it would not strongly support the hypothesis that was stated. The numbers are not strong enough to support the statement statistically. If this experiment were to be completed again, the time would be extended for the gathering of data as well as receiving more feedback on what to change from parents and students. This may include having parents come in for a meeting to explain their concerns and questions they have regarding this particular study.

CHAPTER FIVE: SUMMARY OF RESULTS

The summary results, conclusions, and recommendations will be included in the last chapter of the capstone project. The next steps for this experiment will be discussed along with other closing thoughts and information. Parental involvement will also be a very important piece to consider when working with students with special needs.

The summary of the results include that a parent commitment form was put into place for a quarter to determine if there was a decrease in homework assignments when parents were more involved in their child's education. Although there was raw data that indicated a decrease in missing work, the overall statistics showed no significant change. It did not support the hypothesis that was given, but with additional testing there may be more positive answers to the question given.

In conclusion to this experiment there have been several ideas or concerns arise. In my classroom, this proved to be a great learning experiment. Our district was concerned about the amount of time parents were actually engaged in their child's

learning. Especially once a student reaches high school some of that parental involvement can decrease. By implementing a parent commitment form it gave the parents and the classroom teacher a conversation piece. It also offered a way for parents to get involved in a non-direct way, even if they were unable to attend conferences on a regular basis.

The results of the experiment found that the information did not follow the hypothesis that was originally asked. Even with a trend in the raw data collected, there was not enough information to conclude a positive hypothesis. There are several things that can be taken into consideration and recommended to improve the outcome of this experiment.

RECOMMENDATIONS

It is recommended that the amount of time students and parents participated in the study continue over a longer period of time. Having only a semester to make the transition was not enough time to see a larger difference. In some cases it takes an extended period of time for students and or parents to get used to something new in their environment. In the area of special education, it is difficult to get large numbers of students because they are divided equally among the staff for caseloads. Another recommendation for this study would have a larger population of students. A question that arose after the experiment was complete was: if more resources were given to parents on how to get involved, would they use it to their advantage? This is something that I am looking into in my own classroom. It is possible that I may continue to send out a quarterly classroom updates including different ways that parents can access our school in a positive way to assist their students.

The rest of the experiment would remain the same. It is a great experience to look and follow various types of families with their increase of involvement over time with their children. It is essential to have parents understand the importance of continually assisting their children although their schooling experience.

With providing information to parents on what to do to be involved can impact on how a student learns in school. Incorporating new ideas regarding parental involvement and using the research that is out there for us to use with our students is essential to providing them with the best educational experience. With additional work in the classroom, it is hoped that new ideas evolve to assist students who have learning disabilities to enrich their lives with the help of their parents.

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APPENDIX A

STUDENT SURVEY

1) Do you take homework home on a daily basis?

Never Rarely Sometimes Always

2) Do your parents help you with your homework?

Never Rarely Sometimes Always

3) Does it help when your parents help you at night with your homework?

Never Rarely Sometimes Always

4) How often do you read every night?

Never 30 Minutes 1 hour 1 hour plus

5) Do your parents ask questions on a daily basis about your school day?

Never Rarely Sometimes Always

APPENDIX B

Student Survey Results

Question	Never	Rarely	Sometimes	Always
Do you take homework home?	8 %	8 %	25 %	64 %
Do your parents help you with homework?	0 %	25 %	50 %	25 %
Does it help when parents help you with homework?	8 %	33 %	50 %	8 %
Do your parents ask you about your day?	25 %	8 %	33 %	33 %

**Twelve students participated in the student survey.

APPENDIX C

Parental Commitment Sign Off Sheet

	1/15/05	1/16/05	1/17/05	1/18/05	1/19/05
Complete Homework					
Clean out backpack					
Check Planner					
Read 30 minutes					
Parent Initials					

APPENDIX D

Decrease in Missing Assignments

Student Name	1st Quarter No Form Used	2nd Quarter Form Used
Student #1	2	6
Student #2	3	7
Student #3	23	15**
Student #4	4	4
Student #5	2	1**
Student #6	14	9**
Student #7	2	5
Student #8	92	65**
Student #9	10	9**
Student #10	10	9**
Student #11	7	0

APPENDIX E

Percentage of Parent's Commitment

STUDENT	Parent Committed	12/6/04	12/20/04	1/10/05	1/24/05
Student #1	Yes	80 %	100 %	50 %	20 %
Student #2	Yes	71 %	50 %	0 %	20 %
Student #3	No Return	No Return	20 %	0 %	No Return
Student #4	Yes	No Return	20 %	18 %	No Return
Student #5	Yes	0 %	90 %	80 %	30 %
Student #6	No	No Return	20 %	No Return	No Return
Student #7	Yes	83 %	100 %	No Return	78 %
Student #8	Yes	83 %	100 %	No Return	No Return
Student #9	Yes	100 %	100 %	10 %	40 %
Student #10	Yes	100 %	10 %	80 %	40 %
Student #11	Yes	No Return	20 %	0 %	0 %

RESULTS FROM PARENT CONTACT SHEET!
1st Semester 2004-05 School Year

WILL TARGETED HOMEWORK ACTIVITIES IMPROVE READING PERFORMANCE?

Can evidence be provided to support the practice of using targeted homework activities to improve reading performance?

Jeffery Allen Cole

A Capstone submitted to the Faculty of the Graduate School of Winona State University

in partial fulfillment of the requirement for the degree of

Master of Science

Department of Education

April 2006

This capstone entitled:

Can evidence be provided to support the practice of using targeted homework activities to improve reading performance?

Author: Jeffery Allen Cole

Has been approved by the Winona State University Department of Education by:

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CJ Boerger	Amanda Bremer
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Cheryl Moertel	Dr. Thomas Sherman Faculty Advisor
	_____
	Date

The final copy of this capstone has been examined by the signatories, and we find that both the content and the form meet acceptable standards of scholarly work in the above mentioned discipline.

Cole, Jeffery Allen (M.S., Education)

Can evidence be provided to support the practice of using targeted homework activities to improve reading performance?

Capstone directed by Dr. Thomas Sherman

Abstract

Targeted homework activities are frequently used to support reading strategies being taught in the primary classroom. These activities are used to develop vocabulary, decoding skills, and to promote comprehension. Also, involving parents in the learning process is often linked to overall student achievement. The research conducted within this paper has attempted to determine if homework lessons can be associated with an improvement in reading scores (i.e., Guided Reading level). The students sampled in this investigation were provided with supplementary homework activities in addition to the lessons being taught in Guided Reading sessions. An established control group did not receive said activities and were simply asked to read books, from Guided Reading sessions, with an adult at home. Running Records were registered for every student involved in the study on a weekly basis. Reading levels were then charted on both groups for the duration of 16 weeks. The results of the study found no correlation between homework activities and improved reading scores. In fact, students in the control group showed more improvement than those active in the homework study.

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CHAPTER:

Can evidence be provided to support the practice of using targeted homework activities to improve reading performance?

CHAPTER ONE

The value of homework continues to be a topic of debate for American schools, especially in the elementary grades. Proponents suggest that homework increases chances of student success, reinforces skills imbedded in the curriculum, and improves attitudes about school (Westchester Institute for Human Services Research 2002). These activities are also intended to promote personal responsibility and involve parents in the learning process. Herein lies the problem. When does parental involvement become interference? And do negative attitudes about homework outweigh any short-term effects? Opponents such as Harris Cooper argue that in elementary school, homework has no effect on achievement (Cooper 1989).

Statement of the Problem

It is widely accepted that parent involvement in the learning process is important. There is a direct association between reading success and the shared reading experiences of parents and children. Far too many parents have yet to heed such advice. Then there are some parents that ask for more homework, often teaching dated strategies that they learned in elementary school. The dilemma for an educator is the form in which parents are asked to participate in schoolwork. Families are either not participating in reading activities, or may be impeding on the skills being taught in class.

Purpose of the Study

The purpose of this research project is to address the validity of homework as a useful tool in improving reading scores. This article will also serve as reference for three intervention strategies: (a) parent involvement, (b) shared reading, and (c) targeted homework. The action research question is: Can evidence be provided to support the practice of using targeted homework activities to improve reading performance?

Statement of the Hypothesis

The research will show that reading scores will improve as a result of the increased shared reading experiences, more than the extended homework activities.

Limitations and Delimitations of the Study

The children participating in this study are first grade students in Southeast Minnesota. All are between the ages of 6 and 7, living in the greater St. Charles area. The students share the same teacher, classroom environment, and requirements/procedures.

Ten students were selected to be participants in the study from a classroom that contained 18 children. They were chosen on the basis of age, gender, and an approximate developmental level. Although every effort was made to produce a homogenous grouping, there were limitations that included socio-economic background and prior subject knowledge.

CHAPTER TWO

Review of Related Literature:

There have been a number of research projects in recent years concerning appropriate practice in language and literacy instruction. This growing body of work suggests that shared storybook reading provides a potential powerful context for facilitating linguistic growth in young children (Kaderavek, Justice 2002). There is empirical evidence showing that the relative frequency of shared reading experiences is a direct indicator of later reading success. These successes include vocabulary acquisition, comprehension, and reading fluency. For instance, in a narrative review of three decades of literature, Scarborough and Dobrich (1994) showed a positive, significant relationship between the frequency of parent-child shared book reading and children's subsequent reading skills (Kaderavek, Justice 2002) .

In a 1993 article that appeared in *Reading Research Quarterly*, Monique Senechal and Edward H. Cornell presented an extensive study on the learning processes involved in vocabulary development. In their study, they focused on vocabulary development through shared reading and suggested that picture-book reading is the foremost activity associated with vocabulary development (Senechal, Cornell 1993). The results of the research contributed some interesting insight into child participation in the reading experience. It is often assumed that interaction from the child during shared reading is an effective strategy in vocabulary learning. Senechal & Cornell propose that reading a book through the author's language and illustrations is as effective as presenting children with questions and review.

In 1998 the *International Reading Association* (IRA) & the *National Association for the Education of Young Children* (NAEYC) formulated a joint position statement concerning developmentally appropriate practice in language and literacy instruction. Among its key points, the statement emphasizes:

- *Young children need to engage in learning about literacy through meaningful experiences.*

- *Reading and writing should be viewed as a continuum; children do not progress along this developmental continuum in a rigid sequence.*

Meaning, not sounds and letters, drives children's earliest experiences with print (Neuman, Roskos 2005), but in an era of high stakes testing "drill and practice" routines are often the norm. Susan B. Neuman & Kathleen Roskos argue that this type of instruction may inevitably consign children to a narrow, limited view of reading that is antithetical to their long-term success not only in school but throughout their lifetime. This instruction might actually undermine, rather than promote, the very goals of improving literacy learning (Neuman, Roskos 2005). On the other hand, adult-child interactions during storybook reading should be reciprocal, dynamic, and mediated by children's maturing linguistic capabilities (Kaderavek, Justice 2002). Although specific skills like alphabet knowledge are important to literacy development, children must acquire these skills in coordination and interaction with meaningful experiences (Neuman, Bredekamp, & Copple 2000).

Targeted homework activities are often used to supplement reading skills being introduced in the classroom. Teachers are becoming increasingly more anxious about student test scores, and parents are being asked to drill children with arbitrary skills they do not remember because they are taught without meaningful experience. Research done at the University of Michigan has shown an increase in the amount of homework given to children ages six to eight. Only a third of children six to eight spent any time at all on studying in 1981 (RAND Corporation 2003). Between 1981 and 1997, for example, the amount of homework given to children six to eight nearly tripled from 44 minutes to more than two hours a week (Westchester Institute for Human Services Research 2002).

Some say that homework should be abandon at the elementary level because it produces no immediate effects. The *National Parent Association* and the *National Education Association* (2002) state that for children in grades K-2, homework is most effective if it does not exceed 10-20 minutes each day (Westchester Institute for Human Services Research 2002). Many experts recommend that the amount of homework should depend on students' developmental levels and the quality of support at home. They suggest about 10 minutes of homework a night beginning in the 1st grade with an additional 10 minutes each year (WIHSR 2002).

Parental involvement in the learning process is essential. Educators focused on school renewal are finding that strengthening parents' involvement in their children's education just may be the "missing link" for improving student achievement (Allen 2005). Although schools encourage parents to participate in their child's academic career, there is a danger. Parental involvement, however well-meant, often becomes parental interference. Parents can confuse children if the teaching methods they employ differ from those of teachers (Cooper 1989).

What strategies are most effective in developing competent readers? Are targeted homework activities successful tools or even developmentally appropriate for emergent readers? The answers to these questions may hold the key to future academic success for students. Then again, parents and teachers may want to simply revisit the shared reading experience as a teaching tool in itself. Reading to young children promotes language acquisition and correlates with literacy development and, later on, with achievement in reading comprehension and overall success in school. The percentage of young children read aloud to daily by a family member is one indicator how well children are prepared for school (National Center for Education Statistics). Although some children read early naturally, most children do not master reading until 2nd grade, some even a bit older. And research suggests that children's bottom-up abilities (e.g., alphabet knowledge and phonological awareness) and top-down skills (e.g., knowledge and comprehension of text) may be inadequate for predicting which children will and will not become successful readers. Rather, they suggest that long-term academic success may actually be more reliably linked to a child's disposition to read and interact with books, which Whitehurst & Lonigan (1998) referred to as children's "inside-out" reading abilities (Kaderavek, Justice 2002).

Reading achievement in the earliest years may look like it's just about letters and sounds. But it's not. Reading achievement, as it becomes inevitably clear by grades three and four, is-once again-about meaning (Snow, Burns, & Griffin). Successful reading ultimately consists of knowing a relatively small tool kit of unconscious procedural skills, accompanied by a massive and slowly built-up store of conscious content knowledge (Neuman in press). It is the higher order thinking skills, knowledge, and dispositional capabilities, encouraging children to question,

discover, evaluate, and invent new ideas, that enable them to become successful readers (Neuman & Rokos 2005).

Young readers are continually being asked to master skills that they are ill-prepared for developmentally. Parents and educators may want to consider the following statement when formulating a set of reading expectations for young children, "All good things come in time." It takes 7 years for most children to have enough experience with their primary language to be able to put it all together and actually read. Earlier is not better. The best preparation for learning to read is being read to by a loving parent (Sullivan 2005).

CHAPTER THREE

Methods and Procedures:

Overview:

In an era of high stakes testing there is movement to require that children read by the end of kindergarten. By introducing formal instruction into pre-school and kindergarten reading programs, proponents suggest that the nation's enormous achievement gap can be narrowed. Targeted homework activities are just some of the supplements used in reading instruction for young children. These types of activities are a pattern of literacy learning typical of what has come to be known as early literacy instruction (Neuman, Koskos 2005).

The research conducted within this study has attempted to discover if targeted homework activities are useful or reliable tools in improving reading scores. Subjects in the study participated in Guided Reading sessions on a daily basis. Upon completion of the lesson, each child was provided a set of homework activities designed to address vocabulary, decoding, and comprehension skills. The homework activities themselves were also indications to the researcher that books were being read at home.

A control group was also established that participated in identical Guided Reading sessions. Each student met with the researcher on an individual basis and received strategy lessons. Both groups were provided consistent whole group reading instruction, small group strategy lessons, and utilized the same reading texts.

Twice a week a Running Records were filed for each subject. The Running Record was used to assess oral reading accuracy and rate. Rates were recorded, analyzed, and graphed. The results can be found as appendices within this paper.

Design:

This study evolved as a result of an extensive investigation of reading development in emergent readers. Also, the study demanded a review of literature concerning parent involvement in reading and homework as it pertains to reading.

A wide range of research is available concerning these three intervention strategies: (a) parent involvement, (b) shared reading, and (c) targeted homework. The action research conducted within this paper was designed primarily as a response to a study directed by Joan Kaderavek at the University of Toledo and Laura M. Justice at the University of Virginia. In a 2002 article by Kaderavek and Justice it is stated that, "Engaging children in storybook reading can be an appropriate and meaningful intervention target *in and of itself*." The control group established for this paper received reading intervention as suggested by Kaderavek and Justice.

The creation of targeted homework lessons were devised to be developmentally appropriate interventions for the subjects actively participating in this research. Keeping in mind, developmental appropriateness of homework itself has been called into question and identified in this researcher's hypothesis.

Hypothesis testing can be found in Chapter Four, Results and Discussion. Conclusions and recommendations can be located in Chapter Five.

Selection of Subjects:

Selection of students for this project was based upon a number of factors. Children receiving special services (i.e., Title I, ESL, SPED, etc.) were not included in the study. Every attempt was made to eliminate variables that could threaten the validity of conclusions drawn

from the research. The research and control groups were randomly selected and efforts were made to group children homogeneously.

Other factors considered were age, gender, and approximate emergent reading levels of the subjects. A total of 10 children participated in the study and all of the students were members of the same first grade class consisting of 18 pupils. Five of the children were girls and five were boys. All of the children were from two-parent homes and there were none receiving academic services.

Validity Measures:

Unfortunately, in cases concerning social and cultural research, there is an inherent subjectivity in assessing the validity of any experiment. There are very few tools that can measure abstract concepts accurately.

With that said, the Guided Reading model developed by Irene C. Fountas and Gay Su Pinnell has supplied teachers and parents with a relatively consistent device in which to measure a child's "reading temperature." By using the Guided Reading model and utilizing Running Records to measure reading accuracy, the collection of data could be replicated quite easily.

Subject characteristics on the other hand, will vary considerably, as well they should. Children come to school with varying degrees of background knowledge, distinct socio-economic settings, and are placed at grade levels determined by age, rather than developmental level.

The testing resources used to measure subjects in this study seem to be reliable and could be applied to any setting or context. The conclusions on the other hand, will most certainly vary.

Reliability Measures:

Again, the inherent nature of observing a child's response to text is subjective. The quality of instruction, materials, and parental involvement are all contributing factors. These factors all affect the reliability and validity on a study of reading behaviors.

Independent variables such as parent involvement make it difficult to draw conclusions or make generalizations about the effects of homework on reading scores. Yet, it is a major topic addressed in this action research project. The researcher was unable to moderate parental input during homework completion or the amount of reading time provided at home for both reading groups (research and control groups).

Results may also vary considering other variables involved in this particular survey. Subjects may respond differently to a researcher of another gender, influence of peers, and the reading setting. At any rate, this research and its results will be subject to interpretation.

Field Procedures:

The most integral component to this action research project was the institution of a Guided Reading program. Materials, ancillaries, and training were all in place prior to initiating the data collection. Students and parents were also familiar with the routines and expectations of the reading program.

Children often meet with an instructor in a small group setting, but in this case students received individualized instruction. Upon completion of each lesson, the student was required to read their book at home with an adult. Twice a week the instructor recorded an accuracy rate for the reader and results were shared with parents. Student scores were placed on a continuum

numerically ranked from 1 to 15; one being an emergent reading level and fifteen representing a fluent elementary reader. In order to progress along the continuum a child must read a specific book level at 92% accuracy two times. There was a conscious effort to read with children at an instructional level as opposed to reaching a frustration point.

The second step in the process of initiating this study was to create targeted homework activities that were appropriate and meaningful. Homework packets were created for each book used in Guided Reading sessions. Students active in the research group took home packets as a supplement to the book they were required to read. Homework was then collected from the research group on the following day. As a note, homework was returned at a rate of 100%. (Homework Samples - Appendix B-J)

Finally, reading scores were collected, analyzed, and graphed. Each subject's progress was monitored on an individual basis, and represented as a score within the group that they were initially identified. Comparisons between the research group and the control group can be found in the appendix. (Appendix A)

CHAPTER FOUR

Results and Discussion:

Although the study was able to record measurable growth in all subjects, the probability of replicating these findings is not significant. The probability, assuming the null hypothesis, is 0.743. As a result, student reading scores revealed that targeted interventions had little or no effect on performance. In fact, children that were active subjects in the research improved at a slower rate than participants in the control group. The research group exhibited a mean score of 20.4 (Table 4.1).

Table 4.1

RESEARCH GROUP

Student A	Student B	Student C	Student D	Student E
3	4	4	2	2
5	6	6	4	3
5	7	8	5	4
7	8	9	5	5
20	**25**	**27**	**16**	**14**

95% confidence interval
Standard Deviation = 5.59
Median = 20.0

A mean score of 21.6 was recorded for the control group (Table 4.2).

Table 4.2

CONTROL GROUP

Student F	Student G	Student H	Student I	Student J
3	4	2	2	4
4	6	4	3	6
6	8	5	5	8
7	9	6	6	10
20	**27**	**17**	**16**	**28**

95% confidence interval
Standard Deviation = 5.59
Median = 20.0

All students showed improvement. The largest gains were made by Student J (control). This student advanced six reading levels in a four month period. The smallest improvements were made by Student D and Student E (research), both advanced three levels.

There is no indication that these outcomes are substantial and few correlations can be drawn from them. With that said, it seems reasonable to conclude that these homework activities did not improve reading scores.

Procedures:

Data collection for this particular study continued for a period of four months. During this four month time frame 20 benchmark scores were recorded for each subject. An aggregate score was then obtained for both research and control groups to be analyzed, charted, and graphed. (Appendix A)

Prior to instituting the designed treatment, a collective reading mark of 15 was entered as the embarkation point for both groups. Every student's score was represented within an assigned group and numerically ranked from 1 to 15. During the second month of the study, the two groups converged for a final time with a collective score of 25. The results that followed were cause to be speculative.

It appeared as though reading scores for control subjects had improved at a somewhat higher rate than for students receiving targeted homework interventions. A t-Test confirmed that these findings would be difficult to replicate, but there appeared to be a trend. This trend could supply credence to the initial hypothesis that reading will improve based upon increased shared reading experiences. It may also call into question the employment of homework interventions for emergent readers.

Variables:

Homework in and of itself is difficult to measure and the environment in which it is completed is impossible to control. These challenges were evident early in the data collection process. Variables were numerous, the least of which was the amount of parental direction each

student received. It was clear that there was a discrepancy in the quality of completed assignments.

Four months of analysis was constrained by parent involvement, institutional services (i.e., Title I, SPED, etc.), and the social structure of the classroom. Certain students were engaged simply by the reading process itself, but in some cases there was a lack of motivation entirely. One must then take into account the maturation rates of all children. Theses subjects were all six years of age when interventions were put in place. Upon completion there were five children that were seven years old. Some would not be seven until the school year concluded.

It should be stated that children do not develop systematically along a uniformed continuum, nor do they receive the same degree of support at home. This action research project was unable to account for these discrepancies and the quantified effects will most certainly vary.

Hypothesis Testing:

Observational records were recorded to detail reading behaviors and Running Records were used to register student accuracy rates. A student t-Test was then applied to the reading scores in an effort to test the researcher's hypothesis. The results of the t-Test can be found below:

STUDENT t-TEST RESULTS

t = -0.339

Standard Deviation = 5.59

Degrees of Freedom = 8

CHAPTER FIVE

Summary and Conclusion:

Involving parents in the learning process is substantive in developing an early literacy model for young children. There are few that would argue the converse. The subjects involved in this survey received guidance in varying degrees, but all displayed marked growth in respect to reading. In fact, control and research groups progressed at a remarkably similar rate. The rate of advancement was 127% for the research group and the control group recorded 154% improvement in reading scores. Despite the fact that the treatments were dissimilar, there was a common denominator. Every child participated in the shared reading experience with an adult reader.

The outcomes of this project suggest to this researcher that the shared reading experience itself is a powerful reading intervention. It provides young readers with a fluency model and facilitates linguistic growth, vocabulary acquisition, and comprehension. This is but a reiteration of the hypothesis statement.

On the other hand, a summarization addressing targeted homework may offer more questions than answers. Do targeted homework activities improve reading performance? It appears that the effect is minimal at best, but there are implications to suggest that these activities were an impediment. Did reading scores improve as a result of increased shared reading experiences alone?

The homework activities may have provided useful practice opportunities, yet the research conducted here could not provide empirical evidence to support such practice.

Recommendations:

Although research subjects worked independent of each other, they all participated in the shared reading experience. This common treatment may have impacted the progress made by children actively involved in the research. It seems inconceivable to eliminate reading experiences for a select group, perhaps unethical. However, it is recommended that homework activities be isolated in some way before developing a similar survey.

Limitations of the program also included subject selection, sample size, and the duration of the project as a whole. Extended periods of data collection could present a significant shift in the trend lines, as might a larger sample of readers. The desire would be outcomes that are applicable and decided. The results of this inquiry were inconclusive.

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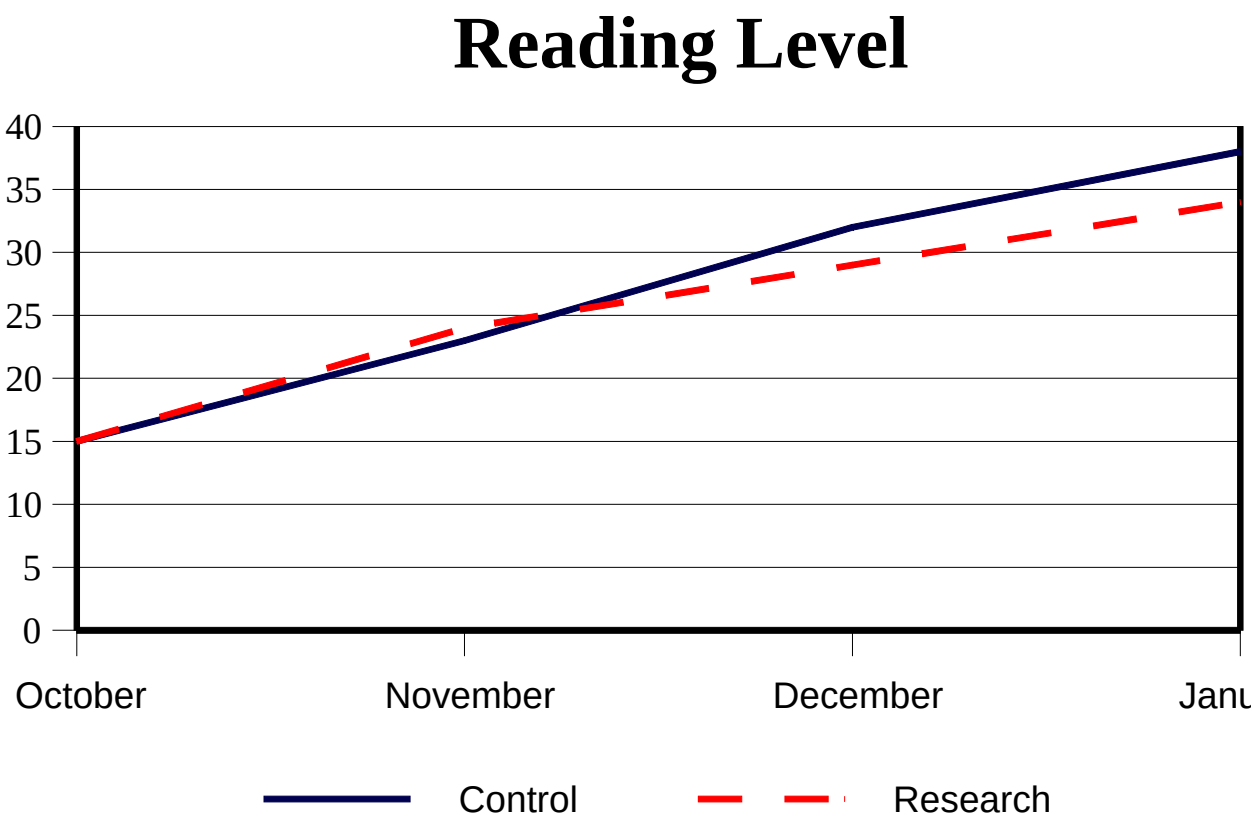
APPENDIX A

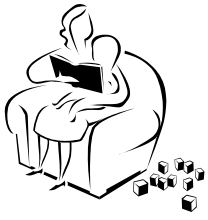

Reading Level
40
35
30
25
20
15
10
5
0
October
November
December
Janu
Control
Research

APPENDIX B

Emily's Reading Log

October 3rd to the 7th, 2005

Book Title	Date	Reader (parent,student,etc.)



APPENDIX C

Homework
A Guide For Using Leveled Readers

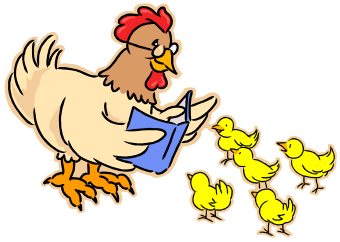
Step #1 Look at the pictures in the leveled book with your child.

Step #2 Have your first grader read the leveled book to you.

Step #3 Talk about the story.

Step #4 Select **ONE** of the homework activities to complete.

Step #5 Place the finished homework activity in the blue folder.



Return the leveled book and homework binder to the book bag.
Send the book bag to school.

APPENDIX D

CARS

The following sentences are in the wrong order. Number them so they are in the right order.

_____ I like big cars.

_____ I like fast cars.

_____ I like slow cars.

_____ I like small cars.

_____ I like all kinds of cars.

_____ I like old cars.

_____ I like new cars.

APPENDIX E

A SALAD FEAST

Fill in the blanks with the correct letters. The words in the list on the right provide a clue to the answer.

1) dro _	fall
2) _ ix	blend
3) _ lice	cut
4) _ ix	put in
5) di _ e	chop
6) pou _	spill out

7) pl _ p plunk

APPENDIX F

DAD

G S G P P W D H W C
O N L N L K V H O O
L E I E I T C O R O
M B T V E T Z F K K
B E Q W I P A M I I
A A H V B R I E N N
Y O G L G U D N G G
G N I S S E R D G N
S H O P P I N G W E
M J A F F T F N S M

COOKING **DRESSING**

DRIVING **EATING**
SHOPPING **SLEEPING**
WORKING

APPENDIX G

Writing Homework

_____

name

Help your first grader create a salad recipe. Then ask your child to illustrate the recipe.

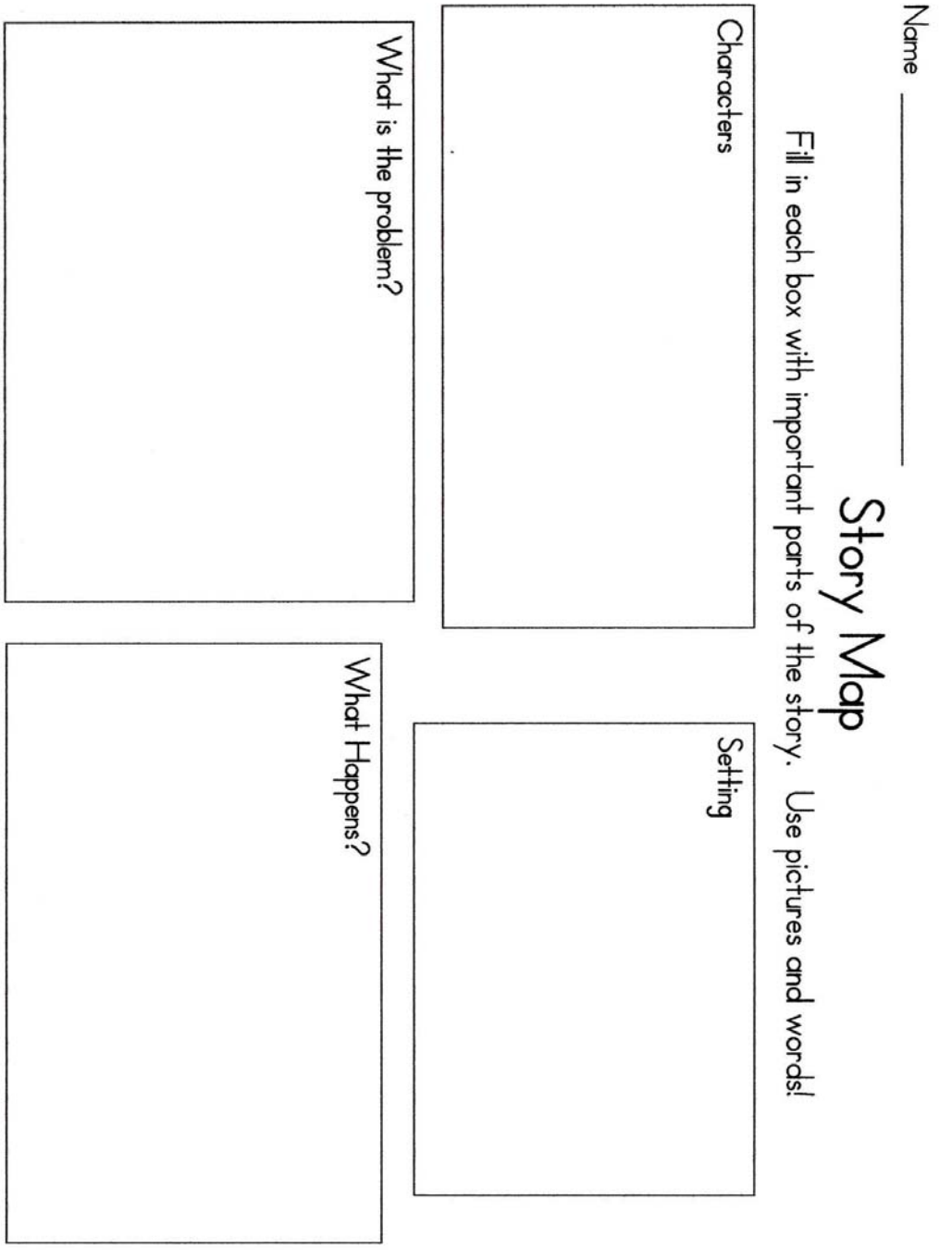
_____

_____

_____

_____

APPENDIX H


Name _____
Story Map
Fill in each box with important parts of the story. Use pictures and words!
Characters
Setting
What is the problem?
What Happens?

APPENDIX I

Name _____

Sequence

Order the events of the story by filling in the circles. Use pictures and words!