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THE APPLICATION OF INSTRUCTIONAL DESIGN PRINCIPLES IN THE DEVELOPMENT OF SPORTSMANSHIP EDUCATION SOFTWARE AND ITS IMPACT ON CHILDREN'S ACQUISITION OF SPORTSMANLIKE ATTITUDES AND BEHAVIORS

by

Michael J. Petersen

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Instructional Technology

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2012

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ABSTRACT

The Application of Instructional Design Principles in the Development of Sportsmanship Education Software and Its Impact on Children's Acquisition of Sportsmanlike Attitudes and Behaviors

by

Michael J. Petersen, Doctor of Philosophy

Utah State University, 2012

Major Professor: J. Nicholls Eastmond
Department: Instructional Technology

Millions of people, young and old, participate in sporting events in the roles of athlete or spectator or both. Sportsmanship affects the experience of both groups of participants. There is an absence of evidence showing that software that is designed using a set of research-based rules, can make a lasting, or even short-term difference in (a) the acquisition of sportsmanship knowledge and attitudes, and (b) the way children respond when placed in sporting situations, either as athletes or as spectators.

The purpose of this study was twofold. First, determine whether schoolchildren, grades three through five, who use STAR Sportsmanship, a computer-based software program that was designed using a set of research-based rules and is rich with visual/ auditory examples and nonexamples, will (a) acquire more sportsmanship knowledge and attitudes, and (b) exhibit more sportsmanlike behaviors than those who do not use the

software. Second, determine how those two outcomes would be impacted if all visual/ auditory examples (modeling based) were removed and replaced with auditory-only examples (lecture based).

Through the use of a pre-post questionnaire of attitudes, and then with observations of behavior while youngsters were engaged in athletic events, changes in sportsmanship knowledge and attitudes were measured. This study compared questionnaire response levels and observation data of participants who either received no treatment or were assigned to use either a modeling-based or a lecture-based version of software that was developed to teach sportsmanship attitudes and behaviors to children.

In regards to sportsmanship attitude and understanding, there was no measurable difference when comparing the pooled treatment group scores with the control group. The modeling treatment appeared to have a small effect when compared to both the lecture group and the control group. Furthermore, the findings showed some differences in measured attitudes and understanding between the grades, with the highest levels of sportsmanship understanding in those at the fourth grade.

In regards to behavior, placement in either treatment group of the control group did not make a statistically significant impact. Grade placement, however, did however appear to make a significant impact.

(102 pages)

PUBLIC ABSTRACT

The Application of Instructional Design Principles in the Development of Sportsmanship Education Software and Its Impact on Children's Acquisition of Sportsmanlike Attitudes and Behaviors

by

Michael J. Petersen, Doctor of Philosophy

Utah State University, 2012

Millions of people participate in sporting events as either athletes or spectators, or both. The presence or absence of sportsmanship they experience can affect them in both negative and positive ways. The purpose of this study was to determine whether schoolchildren who use a computer-based sportsmanship education program would learn and exhibit more sportsmanship than those who did not use the software. It was determined that younger children were more affected by the software than the older children were.

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Michael J. Petersen

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CHAPTER I

INTRODUCTION

Given the estimated 48 to 51 million American children who participate in competitive sports each year, a popular debate has arisen concerning the influence that organized sport participation plays in the growth and development of caring attitudes in young people (Coakley, 1996; Gough, 1998; Shields & Bredemeier, 1995). Children's involvement in sport has been linked positively to self-concept (Marsh, 1998), self-esteem (Kavussanu & Harnisch, 2000), body image (Miller & Levy, 1996), achievement attitudes (Curry, Snyder, Cook, Ruby, & Rehm, 1997), and general mental health (Steiner, McQuivey, Pavelski, Pitts, & Kraemer, 2000).

In spite of the many virtues that athletic participation can foster in individuals and communities, it must be acknowledged that athletic environments wherein poor sportsmanship abounds, negative consequences can also be fostered. While it may be difficult to prove whether or not the occurrence of misbehavior or unsportsmanlike practices has increased over the past 50 years, it is certain that inappropriate behaviors have become more widely known in our media-saturated society when measured against commonly accepted norms of civil behavior.

Although a universally accepted definition of sportsmanship has neither been established nor accepted, the educational software evaluated in this study defines sportsmanship as "being kind to others during all you say and do during sports." It should be noted that athletic participants includes athletes, officials, and spectators.

By virtue of the numbers of athletic venues, the proliferation of news reporting in

our 24/7 cable news environment, as well as changing notions of acceptable behavior for both fans and players, egregious examples of poor sportsmanship have become more widely publicized and displayed than was witnessed in previous generations.

In December of 2010, two widely reported incidents exemplify the sportsmanship issues that have become prevalent in society. During a high school basketball game in Florida, the team captain of DeSoto High School basketball team became enraged when he was called for a technical foul. He attacked the referee, pushing him twice and finally tossing him to the ground (NESN.com, 2010). When the Boise State University (Idaho) kicker missed two important field goals, the fans became frustrated and unleashed their anger. The Ada County Sherriff's department received reports of obnoxious, harassing telephone messages directed at the player. Additionally, dozens of pages filled with ugly name calling, jabs, and taunts were posted on Facebook (USAToday.com, 2010). These are just two examples, but there are many more, some resulting in bodily injury and even death, as will be discussed in the Literature Review section.

As large numbers of children are choosing to drop out of organized sports programs, it is obvious that sportsmanship problems are taking their toll on our children's attitudes. National Alliance for Youth Sports President Fred Engh reported in his book "Why Johnny Hates Sports," that "70 percent of the approximately 20 million children who participate in organized out-of-school athletic programs will quit by the age of 13 because of unpleasant sports experiences" (Engh, 2002, p. 3).

Carey's (2004) report based on a survey conducted by the Minnesota Amateur Sports Commission reveals similar findings. He suggested that some 45% of young

athletes have been called names, yelled at, or insulted while participating in sports; 21% say they were pressured to play with an injury; 18% say they have been hit, kicked, or slapped while participating in sports, and 8% report that they were pressured to intentionally harm others while playing sport. While participation in sporting activities is generally touted as a means for young people to relax, have fun, and acquire important social skills and attitudes, the research suggests that for many people, athletic activity actually exposed them to antisocial behaviors and values that are counter to the good sportsmanship mantra.

Over time youth sports has transformed from sandlot play with neighborhood friends into competitive athletics replete with player drafts, super leagues, politics, and economics. These new competitive athletics appear to be more concerned with winning than advancing the sportsmanship development of the athlete (B. Shulman, personal communication, July 2006). Massengale (1984) asserted that schools and society in general measure athletic success by the win loss record. Indeed, Simon (1983) suggested "When winning is everything, the destination supersedes the journey, thus diminishing or negating the intrinsic rewards of sport participation" (p. 25). Several studies actually indicated that the longer a person participates in organized sports, the less sportsmanship values are developed (Beller & Stoll, 1992; Stoll & Beller, 1994).

Green and Gabbard (1999) suggested that although society touts the idea that a variety of social skills, including sportsmanship are taught through athletic participation, formal instruction addressing the topic of sportsmanship is elusive or even nonexistent. It appears that coaches believe that sportsmanship is learned through simple participation in

athletics. Beller and Stoll (1995a) suggested:

> Morality may be perceived by coaches to be taught on the field of play, but it appears, in reality, that if morality is taught, it is not learned. Although most coaches believe they teach moral character, as with all good teaching, the methodologies, content, and application of sportsmanship need to be reexamined and reevaluated for today's youngsters. (p. 361)

Modeling is one approach to attitude formation that has been studied at some length (Bandura, 1969; Gagné, 1985). Modeling refers to the behavioral, cognitive, and affective changes that come about as examples exhibiting a particular kind of behavior are observed (Shunk, 1991). Presuming that the basis of sportsmanship is primarily an attitude, one could expect that modeling would be a methodology that could teach sportsmanship well.

Objective and Purpose

The objective of this study was to evaluate whether software that is designed using a set of research based rules, rich in examples and nonexamples, can effectively teach sportsmanlike attitudes and behaviors to children in grades three through five. Furthermore, the purpose of this study was to present an example of sportsmanship instruction that could serve as a springboard from which coaches, educators, parents and others would examine their current sportsmanship education programs and (a) consider eliminating pieces that may not be effective, and/or (b) create improved and more effective resources for teaching sportsmanship to their athletes, students, and children.

Problem Statement

While practices of teaching sportsmanship certainly go back centuries, little formal research has focused on whether educational software rich in the use of examples and nonexamples can effectively teach sportsmanlike attitudes and behaviors to schoolchildren, in grades three through five. Furthermore, there is a lack of research focused on whether the use of such educational software can affect the sportsmanlike behaviors of those children.

Prospect of Better Practice

By establishing a preferred method for teaching good sportsmanship, coaches, educators, parents and others could become more effective at teaching sportsmanship. This improved teaching practice, in turn could lead to a decrease in the number of poor sportsmanship incidents experienced by children and a lessening of the demotivating effects of bad sportsmanship toward lifetime engagement in physical activity. This study contributes to the body of knowledge regarding effective means for teaching and improving sportsmanship attitudes, and subsequent behaviors of children that participate in athletics.

Research Questions

In exploring ways to teach the attitude and behaviors of sportsmanship, the following questions guided this study.

1. To what extent do schoolchildren, grades three through five, who use the STAR

Sportsmanship software program that was designed using a set of research-based rules and is rich with visual/auditory examples and nonexamples (a) acquire more sportsmanship knowledge and attitudes, and (b) exhibit more sportsmanlike behaviors than those who do not use the software?

2. To what extent are the aforementioned outcomes impacted if all visual/auditory examples (modeling based) are removed and replaced with auditory only examples (lecture based)?

Research Methods

This study compared the number of sportsmanlike as well as unsportsmanlike behaviors that three groups of children exhibited before and after the use of different computer-based sportsmanship education applications. Results from a scenario-based sportsmanship survey were also compared among the groups.

Outline of Chapters

This dissertation follows the usual six-chapter format including introduction, literature review, methodology, analysis, and conclusions. An overview of each is provided below.

Chapter I: Introduction

In this chapter, I introduce the topic of sportsmanship, explaining the purpose of the study, the research question addressed, and the methods used in the study.

Chapter II: Literature Review

In this chapter, I review the literature that is relevant to sportsmanship and the primary methods currently used to teach sportsmanship.

Chapter III: Design and Methods

I begin this chapter with a brief explanation of my research design. Development of the treatment is discussed. The purpose of the study and the research questions are then presented, in more detail. The research design is discussed at length, including the types of data analysis used, the case definitions, and data sources. Chapter 3 ends with an overview of the data collection methods and a discussion of the data analysis methods used to answer the research questions.

Chapter IV: Results

In this chapter, I explain the results of the study based upon measurements taken before and after the sportsmanship training.

Chapter V: Discussion and Interpretation

In this chapter, I draw from the findings of Chapter IV to discuss what was observed. Additional research study options as well as limitations of the study are discussed. I conclude with an overall summary of the findings, as I interpret them.

Chapter VI: Conclusion

In this chapter, I explain the final view of the study, having examined the data and considered the implications from statistical tests. In doing so, I frame the study in terms

of its parameters, constraints and limitations, as well as factors that must be taken into account when making sense of the results. I conclude by discussing what I consider the most promising directions for future research.

It should be noted that I have employed both the first and third person narrative for this dissertation study. The first person is used as a way to humanize the content and to make the writing more direct, using active voice; the third person narration provides variety.

CHAPTER II

LITERATURE REVIEW

Research regarding sportsmanship development suffers from the lack of good instrumentation and a commonly accepted definition (Shields & Bredemeier, 1995). Many people share the "I know it when I see it" mentality when it comes to sportsmanship (Vandenabeele, 2004). Recognizing sportsmanship and being a good sport are not necessarily equivalent. Vandenabeele bemoaned his perception that most people think sportsmanship is merely shaking hands at the end of a ballgame. Leach (1998) used the familiar definition "taking defeat without complaint and victory without gloating" (p. 749) to describe sportsmanship. For the purposes of this study, sportsmanshipwais defined as athletic participants being respectful to others during sports participation. It should be noted that athletic participants includes athletes, officials, and spectators.

In this section, I look at sportsmanship primarily as an object for thoughtful educational effort, looking first at sportsmanship programs, then specific intervention strategies, then moral training as a traditional but promising approach. After examining some ways that sports-minded individuals can go wrong in their efforts (e.g., misunderstanding sportsmanship), I then argue that it is not enough to ask youngsters to simply participate in sports without explaining or examining sportsmanlike conduct.

The Elusive Idea of Sportsmanship

A commonly accepted definition of sportsmanship is indeed difficult to find. Beller and Stoll (1993) reported that coaches argue that because every school district,

town, and culture has its own definition of sportsmanship, a common sportsmanship code cannot exist. Following are the sportsmanship definitions that are posted by three different organizations. Scoutermom.com (2012) identified sportsmanship as (a) following the rules, (b) playing fair, (c) showing respect for opponents, (d) showing respect for teammates, and (e) showing respect for officials. The Florida High School Athletic Association (FHSAA, 2012) stated that sportsmanship was: (a) a demonstration of generosity and genuine concern for others; (b) a concrete measure of the understanding and commitment to fair play, ethical behavior and integrity; (c) a blending of cheers for "your team" and applause for the "opponents," observing the letter and spirit of the rules, and showing consideration for others; (d) the "golden rule" of athletics—treating others as you wish to be treated; (e) respect for others and one's self; and (f) all this and much more. The National Federation of State High School Associations (2012) identified sportsmanship as: (a) play fair; (b) take loss or defeat without complaint, or victory, without gloating; (c)treat others as you wish to be treated; (d) respect others and one's self; (e) impose self-control, be courteous, and gracefully accept results of one's actions; (f) display ethical behavior by being good (character) and doing right (action); and (g) be a good citizen.

In an effort to understand the college athletes understanding of sportsmanship, Beller and Stoll (1993) surveyed 150 college athletes including 20 members of a Division 1A football team. In response to the question, "What is sportsmanship?" the football players offered answers such as "It's being good for our side," "It's supporting the team," and "It's speaking up for your team." When asked about "being courteous," the athletes

asked, “Why? Our opponent is the enemy.” Furthermore, they reported that fewer than 10% of the 150 surveyed athletes thought an athlete should attempt to be courteous to players of opposing teams.

To many coaches, parents, and athletes, sportsmanship is expressed by s simple handshake either before or following a sporting event. Dobbins (1995) reported that a high school athletic league prohibited its athletes from shaking hands with opponents at the conclusion of athletic events. The prohibition was in response to the fights that had broken out following the handshakes. Because parents and the community determined that sportsmanship and the post-game handshake are synonymous, a public outcry erupted. It appears that to many people, the behaviors exhibited during the game are not as reflective of sports mindedness as is the handshake.

Attempts to Address Unsportsmanship

Even without a common sportsmanship definition, society as a whole has come to recognize that unsportsmanship has crept into virtually all levels of athletic participation in America. News broadcasts and sports pages often tell stories about the violent and unsportsmanlike behaviors that professional athletes exhibit during the course of their athletic performances. Actual accounts include biting, temper tantrums, over-the-top celebrations, head butting, and more. On November 19, 2004, a brawl known as the *Malice at the Palace*, erupted between the Indiana Pacers and Detroit Piston’s basketball players and fans (Artest, O’Neal, Jackson, Wallace on Hook, 2004). It is believed that the initial offense occurred when a spectator threw a cup at Ron Artest (an extremely

aggressive player on the Pacers team) after he was unable to restrain his disgust for previous Artest's behavior towards a Piston's player. The result was several minutes of mayhem that resulted in nine players being suspended without pay for 146 games, valued at approximately $10 million in lost salary to the players. In addition, five players were charged with assault and sentenced to a year of probation and community service.

Many sports leagues, including the National Football League (NFL), National Basketball Association (NBA), National Collegiate Athletic Association (NCAA), United States Olympic Committee (USOC), and National Federation of High School Athletic Associations (NFHSAA), recognize the need to address the problems that are occurring as a result of the unsportsmanlike conduct and have begun developing education programs to teach their athletes about sportsmanship. In addition to these sports organizations, schools districts, churches, clubs and other groups have been working to develop sportsmanship education programs for their members.

Sportsmanship Programs

Utilizing the Utah State University Merrill-Cazier Library resources, I conducted a literature search using terms such as "sportsmanship," "sportsmanship curriculum," and "sportsmanship programs." The search yielded several hundred articles. While many articles contained the search words, only eight articles actually contained descriptions of sportsmanship programs. Those eight articles discussed eleven different programs with enough detail that summaries could be extracted for the purpose of this study. Those 11 programs are generally composed of methods for expounding and explaining policies that

require sportsmanship and detail punishment for failing to comply, and/or with explaining systems of rewards and punishments. One program instructs parents in stress management techniques, and another program instructs students on strategies for handling unfairness.

In addition to the traditional literature review described above, I also conducted an Internet search using the Google search engine to locate sportsmanship programs for review. The search yielded 5,000 web pages that contained the search term "sportsmanship program." Google lists its results using a proprietary system called PageRank. The PageRank system "relies on the uniquely democratic nature of the web by using its vast link structure as an indicator of an individual page's value" (Google, 2004). In this way, the more a page is referenced by other pages, the higher its ranking in a search. The first 10 sites that discussed sportsmanship programs for children (excluding collegiate programs) were carefully reviewed. Additionally, over 50 of the other programs were reviewed less thoroughly. Of the 10 that were thoroughly reviewed, I contacted three by telephone to ask additional questions.

These three programs were selected either because their websites made their programs appear to be unique or because their programs appeared to be influenced by university professors and thus could be expected to have a degree of academic rigor in the program's formulation. Finally, I interviewed the director of the local community sports program. Like the programs researched in the traditional literature review, the program descriptions found via the internet, contacted by telephone, and researched on site, consisted almost entirely of policies, rewards, schedules of meetings for

implementing the program, and written materials. The degree to which each of these components is implemented varied across the programs and was sometimes not evident from the descriptions on the Internet.

As will be discussed later, some programs included additional components, such as public service announcements and parent instruction. Most of the programs relied solely upon the idea that sportsmanship would improve if a team's good behavior was recognized and rewarded at the end of the season. Sportsmanship rewards for youth often included pizza parties, banners to be hung in gymnasiums, pins, badges, and so forth. Awards were typically given at the end of each sport season, but at least one program advocated taking action to give recognition throughout the season. The Scarsdale, New York Youth Soccer Club suggested, "In making final remarks to the players and parents prior to leaving the field, [the coach] should award one or more pins each game to players on their team, so that hopefully by the end of the season every player [on the team will have] been awarded a pin" (Memo to soccer coaches, n.d.)

While the sporting programs all seem to recognize the need for improving sportsmanship in small increments, explicit instruction, including modeling, appeared to be almost nonexistent. Table 1 includes brief description of the programs that were studied with key features that distinguish them from others.

Meetings for administrators, coaches, parents, and athletes are a vital part of the existing sportsmanship programs. The Saint Barnabas Health Care System, New Jersey website describes the contents of its meetings over the course of a season (Saint Barnabas Health Care System, 2001). At the league administrators meeting, "we will assess venues

Table 1

Sportsmanship Programs

Program Name	Location	Summary
Sports Done Right	Auburn/Lewiston School District, Idaho	School district policy, adults should model good sportsmanship
Issaquah Civility Policy	Issaquah School District, Washington	School district policy
Playing Fair	Available over the Internet for any organization to implement	Student developed rules Strategies for dealing with unfairness
Lakewood, CA Sportsmanship	Lakewood, California	Public announcements, rewards/punishment
Play Hard, Play Fair, Play Fun	Salt Lake City, Utah	Policies, rewards/punishment
Long Reach High School Sportsmanship	Long Reach High School, Columbia, Maryland	Policies/guidelines
El Paso, Texas Sportsmanship	El Paso, Texas	Parents are instructed in stress management technique
Thumbs Up to Sportsmanship	Florida High School Activities Association, Florida	Rewards
It's About Team	Minnesota	Rewards, public announcements
The Legacy Program	Minnesota	Students are taught to be referees
Good Sports are Winners	Minnesota	Rewards

utilized for league play and provide guidance for effective seating for players and spectators. We will also develop appropriate sanctions for each sport." At the meeting for coaches, officials, and facility managers, "[we] will conduct special sessions to teach de-escalation techniques, as well the sanctions of each league to ensure compliance." At the parent meeting "individuals will be trained to conduct the parent training modules at the local level." It is clear that the primary focus of these meetings is to inform attendees of

the expected behaviors of the athletes, and the consequences for noncompliance. Secondarily, attendees are instructed how to avoid situations that are conducive to unsportsmanlike behaviors.

Written material typically consists primarily of a code of conduct that identifies those behaviors that are deemed to be either appropriate or inappropriate. This material was used to communicate the expectations of the sponsoring organization to the participant. The code of conduct is presented to the coaches, parents, and athletes in many ways, including posters, flyers, student handbooks, and so forth. Less common sportsmanship program components include pledge cards on which students agree to abide by the code of conduct, parent meetings, announcements encouraging good sportsmanship made during regular school hours, announcements made by local radio stations for the general public to hear, and announcements made at the beginning of sporting events.

While many mechanisms for enhancing awareness of sportsmanship are described, in no case was a systematic or detailed explanation of method for implementation found.

Current Teaching Strategies

While it is a commonly held belief that participation in sports will build character, there is evidence to suggest that this expectation may not necessarily be true. Athletes at all levels are often instructed that they should “do whatever it takes to win.” Although not every athlete has been told to win at all costs, many have been taught that winning is the

most important part of athletics. The phrase, “Whoever said winning isn’t everything never won anything,” is regularly repeated at baseball parks, basketball courts, football fields, as well as other athletic venues. Research conducted by Beller and Stoll (1995b), Bredemeier and Shields (1995), Kohlberg (1981a, 1981b, 1984), Lickona (1991), Stoll and Beller (1994), and Stoll, Beller, Cole, and Burwell (1995) indicated that significant changes to an athlete’s competitive philosophy are unlikely to occur except through a scrupulous methodology and curriculum, extended lengths of time and a nurturing, supportive environment.

High school coach, Albert Spencer (1996) proposed the value of teaching sportsmanship through the use of thought-provoking books and movies. Books such as *Only the Ball was White* (Peterson, 1999), and movies such as *Chariots of Fire* (Puttnam & Hudson, 1981), and *Hoop Dreams* (James, Gilbert, & Marx, 1994) are among the materials he suggested that coaches assign their players. According to Spencer, the use of books and movies like these can spur meaningful discussions among coaches and players during which coaches can ask provocative questions that help athletes consider sportsmanship as well as other important topics.

Thirer (1978, 1993) conducted a study including female athletes and nonathletes. Prior to watching an assigned violent film, they each completed an attitude inventory designed to measure their aggression. At the conclusion of the film, they repeated the attitude survey. Contrary to what researchers had expected, the change in pre- to post-aggression scores was not significant. One might conclude from these results that athletes are less affected by aggressive environments than the general public.

Another method for acquiring good sporting characteristics was suggested by Gough (1997). He recommended that athletes would become better sports by merely standing in front of a mirror and repeating the phrase, “It is time to start practicing sportsmanship.” Even the NFHSAA (1995) believed significant sportsmanship improvements could be made by simply demanding that high schools make sportsmanship their number one priority.

Spencer (1996) recounted an experience during which a visiting team vandalized his team’s locker room in retribution for the loss they suffered that night at the hands of his team. Later in the season when the two teams played at the other school, Spencer’s athletic director demanded that his team vandalize the locker room as pay back. Spencer met with his team prior to the game and discussed the importance of integrity. They decided to go against the athletic director and refrain from defacing the locker room. Spencer concluded his account by stating, “Although we didn’t win the contest that evening, we did conquer something of considerably more importance.”

It could be easily argued that the edict set forth by the National Federation of High School Athletic Associations has been unsuccessful. It also seems unlikely that the methods suggested by both Spencer and Gough will have any lasting effect on the sportsmanship of their athletes.

Sportsmanship Instruction Must Be Systematic and Planned

The dissemination of information through lecture and written material does not necessarily constitute instruction, which, Green and Gabbard (1998) argued may be the

missing link between sports participation and the development of sportsmanlike qualities. Indeed, they assert that if sportsmanship is to be learned, it must be formally taught.

Sportsmanship, both behaviors and attitudes can be formally taught (Green & Gabbard, 1998). Dick and Carey (1996) insisted that instruction is a systematic process, and that all components of instruction (i.e., teacher, students, environment, and materials) play roles that are critical to successful learning. Indeed, successful development and implementation of a sportsmanship curriculum requires a systematic process of creation and delivery wherein the teacher, students, material, and learning environment are purposefully orchestrated for the purpose of instruction. Moreover, "instruction demands more than the delivery of information" (Clark & Mayer, 2003, p. 60). Yet current sportsmanship training programs often exhibit this simplistic information delivery approach that "simply stating the information is enough." The following principles should always be evident in meaningful instruction: (a) activation of prior experience, (b) demonstration of skills, (c) application of skills, and (d) integration of these skills into real world activities (Merrill, 2001). Noting that most instructional design models and theories incorporate one or more of these principles of instruction, Merrill hypothesized that the amount of learning that occurs is directly proportional to their implementation.

Many of the existing programs that were reviewed contain a punishment and rewards component. Classical conditioning techniques, however, are not suitable for teaching most attitudes. Modeling is the most generally applicable and quite possibly the most effective approach to attitude learning (Gagné, 1985). Modeling refers to the behavioral, cognitive, and affective changes that come about as models are observed

(Shunk, 1991). Current programs for teaching sportsmanship uncovered in the literature fail to include systematically designed instruction and do not move beyond mere information delivery. They do not incorporate the principles of meaningful instruction as defined by Merrill (2001), and they seldom specify an order of intervention types or a plausible sequence and schedule.

Attitude Change Is the Desired Learning Outcome

If the goal of sportsmanship instruction is singularly and simply to increase the ability of participants to memorize/recall a definition (verbal learning), then simple teaching strategies (i.e., mnemonics) might be sufficient. I believe, however, that the goals of sportsmanship instruction should move beyond mere recall of a definition, and that instruction should be designed so that the attitude of athletic participants changes so that participants' actions reflect an understanding of sportsmanlike conduct. In this way, they can be expected to treat other athletes with respect and decency, and to participate in athletic events with fairness and integrity. Attitudes are comprised of three components: (a) the cognitive component is the belief or theory about an object (in regards to sportsmanship, athletes need to believe that they should treat other athletes kindly and with respect); (b) the affective component describes the feeling or emotion relative to the object (in regards to sportsmanship, athletes should positively regard their teammates and opponents); and (c) the behavioral component refers to the intention or expected outcome one will display when faced with the object (in regards to sportsmanship, athletes should expect that they will treat other athletes kindly). The presence of these three components

of attitude suggests that attitude training, and specifically sportsmanship education, is complex and requires more than mere definition recall (Gagné, 1985).

Learning Outcomes Must Drive Teaching Strategy

The learner guidance principle stated that "the purpose of instruction is to promote the active cognitive processing which best enables the student to use the most appropriate cognitive structure in a way consistent with the desired learned performance" (Merrill, 1994, p. 358). The desired outcome when implementing sportsmanship instruction programs should be that the attitude of athletic participants is aligned with the idea that participants treat other participants with respect. Learning outcomes determine the most effective strategies for teaching (Gagné, 1985); thus, with sportsmanship training, changing attitude requires specific teaching strategies.

Modeling as a Strategy for Teaching Attitudes

Modeling, or observational learning, has been classified as a uniquely important approach for teaching a variety of skills and behaviors to people (Bandura, 1969), and cognitive modeling (e.g., reasoning through appropriate action in a verbally described conflict situation) is more complex than behavioral modeling (e.g., acting in a respectful way in an athletic contest; Tharp & Gallimore, 1988). The coach who not only explains his reasons for acting respectfully toward an official who made a miss call, but also shows an example of respect, is more effective than the coach who relies on the example as the singular teaching method. Certainly, modeling is one of the critically important conditions for attitude learning and change (Gagné, 1985). As described earlier, the

existing sportsmanship programs that have been reviewed lack effective instructional design, and perhaps more importantly, they seldom include the critical component of modeling.

Sportsmanship Education Research Is Lacking

While many empirical studies attempt to understand and ascertain the effectiveness of certain teaching interventions in moral development (Green & Gabbard, 1999), very few empirical studies investigate general sportsmanship education. Among the existing research is the work of Giebink and McKenzie (1985). They applied three teaching strategies—instructions and praise, modeling, and a point system—to the curriculum of a physical education softball class. They then examined the effect that each of the strategies had on the children's sportsmanship behavior. They showed that the application of the strategies increased sportsmanship behavior while decreasing the unsportsmanlike behaviors on the softball field. They were unable, however, to show that the improved sportsmanship behavior was carried over to the basketball court.

CHAPTER III

DESIGN AND METHODS

Purpose of the Study

The purpose of this study was to determine if children who receive systematically designed sportsmanship education developed to teach sportsmanship attitudes and behaviors gain more knowledge and exhibit more sportsmanlike behaviors than either (a) children who receive a lecture based intervention developed to teach sportsmanship attitudes and behavior or (b) children who are exposed to neither modeling nor lecture based interventions.

Research Questions

The following research questions guided this study.

1. To what extent do schoolchildren, grades three through five, who use the STAR Sportsmanship software program that was designed using a set of research-based rules and is rich with visual/audotory examples and nonexamples (a) acquire more sportsmanship knowledge and attitudes, and (b) exhibit more sportsmanlike behaviors than those who do not use the software?

2. To what extent are the aforementioned outcomes impacted if all visual examples (modeling based) are removed and replaced with auditory only examples (lecture based)?

Research Design

Choosing a School

After LetterPress Software, Inc., developed the software, I spoke with Brian Shulman, President of LTS, about my desire to use the STAR program in my dissertation study. He generously contacted the superintendent of the Opelika School District, located in Opelika, Alabama, who agreed to let me conduct my study at the Morris Avenue Intermediate School.

I made two site visits to the school to oversee and monitor the research activities. Each site visit lasted 3 days, during which time the basketball tournament was played and recorded and the Sportsmanship Survey was administered by the classroom teacher or other member of the school staff. Data from the video-taped games and surveys were collected after the two visits were completed. The treatment took place at the end of the first visit, under the direction of the school's computer teacher. See Table 2 for a complete listing of each research event and the person responsible to administer each event.

Choosing Classrooms and Children Participants

The Opelika School District superintendent requested that the Morris Avenue School physical education specialist involve six classes (two each of third, fourth, and fifth grade) in the study. The P.E. specialist chose the classes based on the ease of scheduling them into his teaching assignment. Two classes from each grade were included in the study and two were not.

Table 2

Research Events and the People Involved in Administering Them

Activity	1st visit activity	Administered by	2nd visit activity (1 month later)	Administered by
1	Basketball tournament	School P.E. specialist	Basketball tournament	School P.E. specialist
2	Sportsmanship survey	Classroom teachers	Sportsmanship survey	Classroom teachers
3	Treatment	School technology specialist	Treatment	School technology specialist

The teachers from the six participating classrooms gave each of their students an informed consent form to take home to obtain parental approval. The teachers told the children that they would receive a "fun" pencil when they returned their informed consent form within three days. All of the children that returned the consent form by the requested day received the pencil and were included in the study.

One hundred and five children participated in the study. Approximately 75% of the students in each of the two selected classes participated. I did not attend to the demographics of the participating children, but based upon the reported school statistics, 58% of the children at Morris Avenue Intermediate School are classified Black (African American), 40% are Caucasian (White), and 2% are Asian/Pacific Islanders. Additionally 53% of the students are female and 47% are male. Only children who had returned the form by the date of the study were allowed to participate. All six of the classroom teachers, grades 3-5, were female and the physical education specialist was male.

Assignment of Children to Treatment Groups

Members of each class were assigned to one of three groups. The children who

returned the participation form were assigned to a group using a systematic assignment process. The children's names were listed in alphabetical order. The first child was assigned to the first group, the second child to the second group and so forth until each child had been assigned to a group (i.e., Adams = group 1 [lecture], Baker = group 2 [modeling], Carlson = group 3 [control]), etc.). Each class was divided using the same process.

One hundred five children across grades 3 (*N*=31), 4 (*N*=42), and 5 (*N*=32) participated in the study. Using the method described, 39 students were assigned to the lecture treatment group, 35 to the modeling treatment group, and 31 to the control group.

The Independent Variable

The independent variable, or the treatment, for this research, is the STAR Sportsmanship software program. STAR Sportsmanship is a fully animated, online, educational software program designed to teach children, ages 6-14, the principles of sportsmanship. STAR Sportsmanship defines sportsmanship as "being kind to others in all you do and say during sports." It should be noted that athletic participants as well as spectators can and should exercise good sportsmanship. This definition is the foundation of the instruction. STAR Sportsmanship also teaches a four step process that athletic participants and spectators can follow to mirror the actions of the "good sport."

Inasmuch as most definitions, such as this definition of sportsmanship, are best taught as concepts (Merrill, Tennyson, & Posey, 1992), instructional designers attempted to adhere to accepted rules for teaching concepts when designing and developing STAR

Sportsmanship. Furthermore, the steps that athletic participants should follow when confronted with situations that require a sportsmanship decision are also taught through concept teaching.

Development of the STAR Sportsmanship Program

The STAR Sportsmanship Software was designed and developed as a commercial product by LetterPress Software, Inc., for Birmingham, Alabama based Learning Through Sports, Inc. (LTS). LetterPress Software, Inc., is an instructional design and development company located at Utah State University's Innovation Campus in Logan, Utah.

Instructional designers at LetterPress, worked with LTS staff to understand important sportsmanship issues. LetterPress designers then determined the teaching strategies appropriate to the content. Finally. LetterPress developers, including artists, script writers, computer programmers, and audio engineers developed the STAR Sportsmanship program

In 2005 The Alabama State Legislature, Council for Leaders in Alabama Schools (CLAS), and the State Superintendent of Education required every Alabama fourth grader to receive access to STAR Sportsmanship. After a year of research and pilot testing, additional STAR programs were developed and the STAR program was expanded to include every K-12 student and coach in Alabama public schools for the 2006/07 school.

In addition to Alabama, STAR Sportsmanship Programs have been used in Florida, Illinois, Mississippi, Pennsylvania, and Texas,

Teaching the Definition of Sportsmanship

The concept of sportsmanship, "being kind to others in everything you do and say during sports," is primarily taught through Flash™ animations which depict animated sports participants behaving in sportsmanlike and unsportsmanlike ways. Each scenario is narrated by an animated coach who describes the scenario and identifies the example as a sportsmanlike or unsportsmanlike. Instances (both examples and nonexamples) that teach the sportsmanship definition include: (a) a young female spectator who yells at a referee; (b) a young male athlete who after running the football into the end zone, taunts the crowd; (c) a young female athlete who respectfully hands a basketball to the referee at the end of a play; and (d) a young female athlete who helps an injured player off the ground.

Teaching the Steps of Good Sportsmanship

The STAR Sportsmanship program teaches a four-step process to help students react appropriately when confronted with situations that require a sportsmanship decision. The expansion (what it stands for) of the acronym STAR is: stop, think, act, and replay.

The four steps are primarily taught through Flash™ animations scenarios, which depict sports participants progressing through the STAR process when they are confronted with a situation that requires them to make a sportsmanship decision. Each scenario is narrated by an animated coach who (a) described the scenario, (b) made commentary as to whether the character correctly followed the STAR guidelines; and (c) stated the consequences of the character's adherence or nonadherence to the guidelines.

For the purpose of the study, a lecture-based version of STAR Sportsmanship was

created. Whereas the original STAR Sportsmanship includes animated examples that depict sportsmanlike and unsportsmanlike behaviors, as well as the STAR Guidelines, the lecture-based version contains no modeling animations and relies solely on the coach's didactic teaching. The coach's lectures were constructed to include not only descriptions of sportsmanship and the STAR processes used by athletic participants to exhibit good sportsmanship, but also descriptions of the modeling animations that are central to the modeling-based program. Both programs are presented interactively and required approximately twenty-five minutes for students of this age and ability to complete. Figures 1 through 5 illustrate elements from the actual program.

Figure 1. Modeling-based program: A child helping a member of opposing team (sportsmanlike action).

Figure 2. Modeling-based program: A child shouting at the referee (unsportsmanlike action).

Figure 3. Modeling-based program: A child returns the ball to the referee (sportsmanlike action).

Figure 4. Lecture-based program. The coach lecturing.

Figure 5. Lecture-based program: The coach lecturing with PowerPoint.

The Dependent Variables

The dependent variable of sportsmanship attitude was measured through the use of a 12-question survey. The survey was conducted pre (to establish a baseline) and post-treatment. The survey and observations are discussed later.

Development of the Sports Survey

The Sports Survey is a questionnaire made of 12 questions, which are based on the STAR Sportsmanship Software. Nine of the questions are scenario based and place the student in possible sports situations (refer to Appendix A to see the entire survey). The remaining three questions are knowledge questions. The purpose of the questionnaire was to assess the children's intended behaviors, or, what they believed they would do in these sports situations.

The survey was not pilot tested or examined for reliability and validity prior to its use with the subjects. Reliability refers to the idea that the test will produce similar results when given to another group in the same population (Nunnally & Bernstein, 1994). The Kuder-Richardson 20 (KR-20) was used to measure the survey's reliability because each item on the Sportsmanship Survey was scored dichotomously (Sheskin, 2004), meaning there was one correct and three incorrect answers for each question. The correct answers were scored as one while the three incorrect answers were scored as zero. To determine the reliability of the Sportsmanship Survey the (KR-20) was run after the survey was delivered, but before the data were analyzed, and yielded a respectable level of reliability ($\alpha = .716$).

Validity refers to the idea that the survey actually assesses what it is supposed to assess. There are several kinds of validity including, face, construct, and content (Nunnally & Bernstein, 1994). For the purposes of this pilot study, I was most concerned with content validity, meaning that the survey needed to actually measure attitudes about sportsmanship. To help overcome that concern I assembled a panel of four professional educators who met on several occasion to work with me to develop the Sportsmanship Survey based on the content included in STAR Sportsmanship. The background of the educators varied as one has a PhD in research evaluation, another has an EdD in educational leadership, another has a PhD in instructional technology, and another has an M.S. in instructional technology.

Students were required to complete the survey at the beginning of the study and then again at the conclusion of the study after the intervention. No student identifiers were gathered to link student pretest scores to their posttest scores; therefore, paired data from pretest to posttest were unavailable, making the more powerful direct paired pre to post analysis impossible. This lack of identifiers meant that analysis of change from pretest to posttest was performed with the posttest as a dependent variable and the pretest as a covariate in an analysis of covariance (ANCOVA). With this method the analysis measured change for the total of all participants together, as well as by treatment group , by grade, and finally by the interaction of group and grade and not changes in matched pair scores. Using the ANCOVA in this way increases the likelihood that any differences in mean scores are a result of the intervention and not of pre-existing differences between groups pretest scores before the intervention.

Administration of the Sports Survey

Following the instructions as outlined in Appendix B, the classroom teacher or other school staff member read aloud the Sports Survey instructions to the students. The instructions informed the children that they were participating in a sports survey. The children were told that (a) their names were not to be included on the survey, and (b) there were no right or wrong answers on the survey, but rather that their responses should reflect their opinions. After reading the instructions, the teacher then read each scenario aloud, with its accompanying questions and answers.

Observation of Tournament Play

The children comprising the control groups (i.e., those that received neither treatment), selected from the two third grade classrooms, were escorted by a staff member to the outside blacktop basketball courts to participate in a competitive basketball game. The staff member selected two team captains from each class. The captains were invited to take turns and thus select team members from their own class group until all the children had been selected. The two teams from the same class played against each other on one court, while, simultaneously, the two teams from the other class played against each other on another court nearby. The two winning teams from the two classes then played a championship game. Players on the championship team were awarded a coupon for a free ice cream cone, redeemable at an international fast-food restaurant located in the town.

The tournament play and awards were intended to create a legitimate reason for playing the game, and to elicit sportsmanlike and unsportsmanlike behaviors from the

participants. It was anticipated that the children would become more excited during the championship game because they (a) had already won one game, (b) were playing in front of an audience (the two teams that had already lost a game), and (c) were anxious to win a prize. The physical education teacher and his assistants acted as referees for all games.

The procedure was repeated with each of the two experimental groups from the third grade classes and with the fourth and fifth grade classes. All games were held during the two days prior to treatment and then again three weeks posttreatment. The championship games were video recorded from a single camera that I ran from a mid-court position. Each game lasted approximately 12 minutes.

Development of Observation Protocol

To develop the observation protocol I listed each behavior (sportsmanship related) I saw (refer to Appendix C) while watching the eighteen videotaped basketball games. I then classified each of the observations into nine unique sportsmanlike or unsportsmanlike behaviors.

Scoring the Behaviors

I recruited three friend teachers, all with elementary school teaching experience, to watch the videotaped games and count the sportsmanship behaviors (sportsmanlike and unsportsmanlike) they observed using the Behavior Observation Protocol (Appendix D). Believing that elementary school teachers would know how to perform such a task, I did not provide training for them. The completed forms were returned to me about 4

weeks later. A quick review of the completed forms revealed that there was very little inter-rater reliability between the three teachers. Realizing my mistake in omitting sufficient training, I then recruited three new observers with similar qualifications to watch the taped games. I held a 30-minute training session and described the behaviors they would likely see. I also explained the importance of accuracy in their observations and recordings.

The reviewers were asked to watch the video recording of the competition independent of each other and to simply count the unsportsmanlike and sportsmanlike behaviors that they witnessed. Reliability between raters was addressed by having each of the three reviewers review and score all of the recordings independent of each other. This procedure was used to increase confidence in the agreement of the counted behaviors. During a 30-minute training session, each reviewer was given (a) a DVD that contained video footage of the 18 championship games, (b) a set of Behavior Observation Protocols (Appendix D), and (c) written instructions for categorizing and counting the children's behaviors (Appendix E). After a quick review of the data sheets, I could see that there was considerably more reliability between observers than had been evident by the original raters.

Commentary on Reviewers

As described earlier, three professional schoolteachers were recruited to view the DVDs and record their findings. The reviewers received minimal training. Unfortunately, the low results of the interrater reliability test for this analysis meant that any data emerging from their reviews would have been unreliable and uninterruptable. I was then

compelled to enlist three new raters. The second set of three was made of three undergraduate students. Like the first reviewers, they were trained to understand the forms they were to use, and to understand the behaviors they were to identify. Unlike the first group, they were also reminded of the importance of the accuracy in their identifying and recording the behaviors. I also explained to them that unless their results were similar to the other reviewers, I would be compelled to conduct the reviewer process again. It is my belief that the first group of reviewers became bored while viewing three hours of videotaped basketball games of elementary school aged children. While it is likely that the second group also became fatigued, their respect for graduate student researcher, I believe, compelled them to take the task more seriously and act more conscientiously than the first group. After a review of the observation forms submitted by the second group of raters, I could tell there was sufficient consistency between their scores to proceed with the analysis of the data.

Using the second group of raters I tested for inter-rater reliability, using a two-way mixed model, average measures. This intraclass correlation coefficient was used because I had a fixed set of raters and I wanted the ratings of the judges averaged together (McGraw & Wong, 1996; Wuensch, 2010). The inter-rater reliability on the observation protocol showed excellent agreement across the judges, $\alpha = .864$.

Statistical Procedures

Results were analyzed with the help of Statistical Package for the Social Sciences™ (SPSS™ 17.0) and G*Power (3.1) using standard statistical tests and analysis

procedures. Because these dichotomous values on the survey were used, no individual question was analyzed. Instead, student responses were graded and a total score of all correct answers was obtained. On the observation protocol total scores for the scale and sub-scales (sportsmanlike and unsportsmanlike behaviors) were used in the analysis.

Exploratory statistics were run in order to begin to understand the data better and to begin understanding how participants scored over all. The main statistical procedure run on the data was the analysis of covariance (ANCOVA). Statistical significance for all inferential tests was determined using an alpha level of 0.05. In other words, the alpha level of 0.05 allows researchers to recognize that, although rare (less than one chance in twenty), it is possible to obtain group differences that are large simply due to chance. This is also called a Type 1 error (Cohen, 1988).

The ANCOVA model incorporated grade and treatment group as factors, which gave the impact of treatment group, grade, and the interaction of grade and treatment group on the total student posttest score when accounting for the total student pretest score. This experiment compared all posttest means to determine if the mean differences for grade and group, when controlling for the student pretest scores, were statistically significant. After the ANCOVA was run, pairwise post hoc comparisons between individual groups and grades as well as interaction effects between groups by grades were conducted. Finally, using means and standard deviations, effect sizes were calculated using Cohen's d to measure the magnitude of differences between treatment groups, grades and treatment groups by grade. The primary reason effect sizes were measured is because the number of subjects does not influence them. Furthermore, effect

sizes “are a simple way of quantifying the difference between two groups (Coe, 2002). This three-step procedure was conducted for both the survey as well as the behavior observations. Note that the behavior observations analysis was conducted in two parts; sportsmanlike behaviors and unsportsmanlike behaviors.

CHAPTER IV

RESULTS

Before the ANCOVA was run, the data first had to be examined for normality. If the data violate assumptions of normality, the ANCOVA results may be inaccurate. To determine the normality of the data a Shapiro-Wilk test was run on pre and post totals by grades as well as by groups. The significance values indicated that the majority of the data was not normal.

Although the Shapiro-Wilk indicated nonnormality for the majority of the data ($p < .05$), Smith (2003) asserted, "Results between parametric and nonparametric tests are no different because standard statistical techniques are incredibly robust in practice despite the violation of underlying assumptions" (p. 64). I conducted additional tests to determine whether the data were robust to violations of normality. A paired sample *t* test (parametric) and a paired sample Wilcoxon signed rank test (nonparametric) were run on the pre and post survey total results. Furthermore, a one-way ANOVA (parametric) and a paired samples Wilcoxon signed rank test (nonparametric) was run on the pre and post survey results for both grade and group. Because the parametric and nonparametric tests yielded similar significant results ($p = .81$ and $p = .54$), it was concluded that the data were, in fact, robust to violations of normality. The planned ANCOVAs were, therefore, run and are discussed later in this section.

Sportsmanship Survey Results

As described in the Assignment to Groups section, 105 children participated in

the study. Thirty-nine students were assigned to the lecture treatment group, 35 to the modeling treatment group, and 31 to the control group. See Table 3 to see the numbers of participants by grade and treatment group.

The survey contains 12 questions. Each question has four choices, one that is correct (depicts sportsmanship) and three that are incorrect (depicts unsportsmanship). Thus, the higher the score, the greater the number of sportsmanship answers the student selected on the survey. Participant's scores can range from 0 to 12. Note that the highest possible score on the survey is 12 yet 5 of the 6 the standard deviations are 3.23 or greater, indicating large fluctuations of scores within the groups. This pattern of fluctuations indicates that the participants had large variability in their understanding of sportsmanship prior to the treatments as well as after the treatments. The standard deviation (SD) and means of the pre and post survey results are shown in Table 4.

The primary reason for using the ANCOVA is to compare scores with an adjustment for pretest conditions. Stated another way, the ANCOVA "increases the power of the *F* test for a main effect or interaction by removing predictable variance associated with the CV from the error term" (Tabachnick & Fidell, 2007, p. 195).

Table 3

Subjects by Treatment Groups and Grades

Grade	*N*	Treatment 1 (lecture)	Treatment 2 (modeling)	Control
Grade 3	31	11	10	10
Grade 4	42	15	14	13
Grade 5	32	13	11	8
Total	105	39	35	31

Table 4

Pre and Post Mean Scores and Standard Deviations by Treatment Groups

	Lecture		Modeling		Control	
Score	Mean	*SD*	Mean	*SD*	Mean	*SD*
Pre	9.67	3.36	9.53	3.24	9.86	2.28
Post	10.13	3.23	9.80	3.60	9.23	3.26

As shown in Table 5 neither the pretest nor group assignment significantly impacted the posttest scores ($p = .37$ and $p = .64$). Furthermore, the interaction effect of group and grade did not impact the posttest scores ($p = .47$). The grade of the students' did however, significantly impact the posttest score ($p = .05$). Refer to Table 5 to see the impact the covariate (pretest) had on the dependent variable (posttest), as well as the main effects and interaction effects on the dependent variable (posttest).

Inferential post hoc pairwise comparison tests were run and effect sizes were calculated for treatment groups, grades, and interaction effects of treatment group by grade. A Bonferroni adjustment for multiple comparisons was used and is reflected in the significance level for all pairwise comparisons. As shown in Table 6 neither treatment (lecturing and modeling) made a statistically significant impact.

Although the ANCOVA indicated that the grade factor was statistically not significant, post hoc pairwise comparisons were run to determine if closer examination might show that the grades might make a significant impact. As shown in Table 7 the difference between the fourth and fifth grades is statistically significant.

Although the ANCOVA showed no significance for the interaction effects, post hoc pairwise comparisons were run to determine if closer examination would show

Table 5

ANCOVA: Sportsmanship Survey

Source	Type III sum of squares	*df*	Mean square	*F*	Sig
Modeling	10116.471a	10	1011.647	92.274	.01*
Pre_Total	9.058	1	9.058	.823	.37
Group	9.771	2	4.885	.446	.64
Grade	69.470	2	34.735	3.168	.05*
Group X Grade	38.998	4	9.749	.889	.47
Error	1041.529	95	10.963		
Total	11158.000	105			

* Significant at the $p < .05$ level.

Table 6

Pairwise Comparison of Survey by Group

						95% Wald confidence interval for difference	
Group	Group	Mean difference	Std. error	*df*	Bonferroni Sig.	Lower	Upper
Lecture	Modeling	.30	.74	1	1.00	-1.47	2.07
Lecture	Control	.77	.77	1	.97	-1.08	2.61
Modeling	Control	.47	.79	1	1.00	-1.43	2.36

Table 7

Pairwise Comparisons of Survey by Grade

						95% Wald confidence interval for difference	
Grade	Grade	Mean difference	Std. error	*df*	Bonferroni Sig.	Lower	Upper
Grade 3	Grade 4	-.43	.75	1	1.00	-2.22	1.37
Grade 3	Grade 5	1.57	.82	1	.16	-.38	3.53
Grade 4	Grade 5	2.00	.78	1	.03*	.14	3.86

*Significant at the p<.05 level.

significance between the interactions. As can be seen in Table 8, none of the interaction effects were statistically significant.

Table 8

Pairwise Comparisons of Survey by Grade and Group

Group x group	Group x group	Mean difference	Std. error	*df*	Bonferroni Sig.	95% Wald confidence interval for difference	
						Lower	Upper
Grade3 x lecture	Grade3 x model	-.89	1.39	1	1.00	-5.33	3.56
	Grade3 x control	.53	1.38	1	1.00	-3.87	4.94
Grade3 x model	Grade3 x lecture	.89	1.39	1	1.00	-3.56	5.33
	Grade3 x control	1.42	1.41	1	1.00	-3.10	5.94
Grade3 x control	Grade3 x lecture	-.53	1.38	1	1.00	-4.94	3.87
	Grade3 x model	-1.42	1.41	1	1.00	-5.94	3.10
Grade4 x lecture	Grade4 x model	.84	1.19	1	1.00	-2.97	4.65
	Grade4 x control	2.26	1.20	1	1.00	-1.56	6.09
Grade4 x model	Grade4 x lecture	-.84	1.19	1	1.00	-4.65	2.97
	Grade4 x control	1.42	1.22	1	1.00	-2.48	5.33
Grade4 x control	Grade4 x lecture	-2.26	1.20	1	1.00	-6.09	1.56
	Grade4 x model	-1.42	1.22	1	1.00	-5.33	2.48
Grade5 x lecture	Grade5 x model	.94	1.29	1	1.00	-3.19	5.08
	Grade5 x control	-.50	1.43	1	1.00	-5.08	4.09
Grade5 x model	Grade5 x lecture	-.94	1.29	1	1.00	-5.08	3.19
	Grade5 x control	-1.44	1.47	1	1.00	-6.14	3.26
Grade5 x control	Grade5 x lecture	.50	1.43	1	1.00	-4.09	5.08
	Grade5 x model	1.44	1.47	1	1.00	-3.26	6.14

The effect size comparisons were made to more closely measure the magnitude of the impact that treatment group membership had on the mean scores of the sportsmanship survey. G Power 3.12 was used to calculate effect sizes based on means and standard deviations using the Cohen's d effect size. As shown in Table 9, there was no measurable difference between the pooled treatment groups and the control group (*d* = .0). However, in comparison to the control group, the modeling treatment had a greater effect (*d* = .19) on the mean score than the lecture treatment (*d* = -.18). In other words, although group membership showed no significance on the ANCOVA test, the effect size differences indicate that modeling group membership had a small measurable impact.

In the social sciences, a Cohen's d effect size of 0.2 to 0.3 might be considered a "small" effect, around 0.5 a "medium" effect and 0.8 to infinity, a "large" effect.

Inasmuch as the previously mentioned ANCOVA indicated that grade made a significant impact on the post mean scores, post hoc tests were run to determine the magnitude of the impact that student's grade placement played. Once again, G Power 3.12 was used to calculate effect sizes based on means and standard deviations. As shown

Table 9

Post-Hoc Effect Size Comparisons by Group

Comparison groups	Mean	*SD*	*d*
Pooled treatment groups against	9.66	3.56	0
control	9.66	3.33	
Lecture against	9.05	3.5	-.18
control	9.66	3.33	
Modeling against	10.33	3.56	.19
control	9.66	3.33	
Lecture against	9.05	3.50	.36
modeling	10.33	3.56	

in Table 10, the modeling treatment had a large effect on the post test for the 3rd grade (*d* = .96, practically a full standard deviation).

In summary, the ANCOVA tests indicated that neither treatment (lecturing and modeling) made a statistically significant impact on the survey. Additional statistical testing however revealed differences between fourth- and fifth-grade scores. Effect size differences indicate that membership in the modeling group had a small measurable impact, especially for the 3rd grade.

Observation Results

As described earlier, prior to receiving training and following completion of the sportsmanship training, the students participated in basketball tournaments and their sportsmanlike and unsportsmanlike behaviors were counted and recorded. Each of the recorded behaviors is described in the Observations Section. Unlike the survey analysis,

Table 10

Post-Hoc Effect Size Comparisons by Group and Grade

Comparison croups	Mean	SD	*d*
Grade 3 lecture against Grade 3 control	8.90 8.78	3.67 3.96	.03
Grade 3 modeling against Grade 3 control	12.38 8.78	3.54 3.96	.96
Grade 4 lecture against Grade 4 control	10.86 11.08	2.25 2.02	-.10
Grade 4 modeling against Grade 4 control	10.79 11.08	2.67 2.02	-.12
Grade 5 lecture against Grade 5 control	7.23 8.85	3.72 3.67	-.44
Grade 5 modeling against Grade 5 control	8.27 9.85	3.77 3.67	-.16

the observation analysis were conducted at the team level; therefore, the n drops from 105 to 27.

Frequencies were tallied for each behavior; thus, scales could not be normalized and were, therefore, kept separate. Furthermore, inasmuch as six unsportsmanlike behaviors and only three sportsmanlike behaviors are included on the observation protocol, comparisons between the number of unsportsmanlike and sportsmanlike behaviors that occurred were not made. Separate ANCOVA, inferential post hoc tests, and effect sizes were run on both unsportsmanlike and sportsmanlike behaviors.

As shown in Table 11, more unsportsmanlike behaviors occurred during the post treatment observations than in the pretreatment observations for both treatment groups as well as the control group. More sportsmanlike behaviors occurred during the post treatment observations than in the pretreatment observations for both treatment groups but not for the control group.

Table 11

Unsportsmanlike and Sportsmanlike Behaviors: Mean and Standard Deviations by Group and Pooled Total

	Unsportsmanlike behaviors		Sportsmanlike behaviors	
Group	Mean	*SD*	Mean	*SD*
Lecture pre (*n* = 9)	5.11	4.78	.67	1.32
Lecture post (*n* = 9)	9.56	4.95	1.67	2.18
Modeling pre (*n* = 9)	6.33	2.40	1.00	.71
Modeling post (*n* = 9)	11.78	6.87	1.67	1.50
Control pre (*n* = 9)	6.56	3.88	1.11	1.17
Control post (*n* = 9)	7.11	3.48	.67	.71
Pooled treatment pre (*n* = 9)	6.00	3.72	.93	1.07
Pooled treatment post (*n* = 9)	9.48	5.44	1.33	1.59

As can be seen in Table 12, the third and fifth grades displayed more instances of unsportsmanlike as well as sportsmanlike behaviors in the post observations than in the pretreatment observations. However, both unsportsmanlike and sportsmanlike behaviors occurred less frequently in the fourth-grade posttreatment observations.

Tests on Unsportsmanlike Behaviors

As shown in Table 13, both the grade, and group factors significantly impacted the number of unsportsmanlike behaviors that occurred during the post observation (p = .02 and .02). Furthermore, the interaction effect of grade and group also impacted the number of unsportsmanlike behaviors that occurred during the post observation (p = .001).

The ANCOVA showed that the group factor made a statistical significance on the number of unsportsmanlike behaviors that occurred. Post-hoc pairwise comparisons were

Table 12

Unsportsmanlike and Sportsmanlike Means and Standard Deviations by Grade and Pooled Total for Pre- and Posttreatment

	Unsportsmanlike behaviors		Sportsmanlike behaviors	
Grade	Mean	*SD*	Mean	*SD*
3 pre (n = 9)	2.78	2.39	.56	1.01
3 post (n = 9)	9.44	4.72	2.33	2.18
4 pre (n = 9)	8.00	3.61	1.11	1.36
4 post (n = 9)	7.22	4.38	.44	.53
5 pre (n = 9)	7.22	2.91	1.11	.78
5 post (n = 9)	11.78	6.55	1.22	1.09
Pooled treatment pre (n = 18)	6.00	3.72	.93	1.07
Pooled treatment post (n = 18	9.48	5.44	1.33	1.59

Table 13

ANCOVA: Unsportsmanlike Behaviors

Source	Type III sum of squares	*df*	Mean square	*F*	Sig
Model	578.72a	9	64.30	5.75	0.01*
Unsportsmanlike Pre_Total	33.31	1	33.31	2.98	0.10
Grade	118.73	2	59.37	5.31	0.02*
Group	106.69	2	53.34	4.77	0.02*
Grade X Group	369.84	4	92.46	8.27	0.01*
Error	190.03	17	11.18		
Total	3196.00	27			

* Significant at the $p < .05$ level.

run to see which of the groups had a significant number of unsportsmanlike behaviors. As shown in Table 14 both treatments (lecturing and modeling) made a statistically significant impact when compared with the control. All pairwise comparisons were adjusted for multiple comparisons using the Bonferroni adjustment.

The ANCOVA showed that the grade factor was statistically significant. Inasmuch as three grades are included in this study, post hoc pairwise comparisons were run to determine which of the three grades made the most significant impact. As shown in Table 15 the difference between the third and fourth, as well as the fourth and fifth grades is statistically significant.

Although the ANCOVA showed no significance for the interaction effects, post hoc pairwise comparisons were run to determine if closer examination would show significance between the interactions. As can be seen in Table 16 there were statistically significant differences between several of the grade and group interactions.

Table 14

Pairwise Comparisons of Unsportsmanlike Behaviors by Group

Group	Group	Mean difference	Std. error	*df*	Bonferroni Sig.	95% Wald confidence interval for difference	
						Lower	Upper
Lecture	Modeling	-1.53	1.29	1	.24	-4.62	1.56
Lecture	Control	3.26	1.31	1	.04*	.14	6.39
Modeling	Control	-4.79	1.25	1	.01*	1.80	7.79

* Significant at the p<.05 level.

Table 15

Pairwise Comparisons of Unsportsmanlike Behaviors by Grade

Grade	Grade	Mean difference	Std. error	*df*	Bonferroni Sig.	95% Wald confidence interval for difference	
						Lower	Upper
Grade 3	Grade 4	5.19	1.85	1	.02*	.76	9.62
Grade 3	Grade 5	.19	1.71	1	1.00	-3.89	4.27
Grade 4	Grade 5	-5.00	1.27	1	.01*	-8.03	-1.96

* Significant at the $p < .05$ level.

G Power 3.12 was used to calculate effect sizes based on means and standard deviations. As shown in Table 17 the effect sizes range from large, to extremely large, indicating that there was a large magnitude of change with not only grade but also group as well as the interaction of group by grade. The largest effect sizes were found when comparing modeling against control in the fourth and fifth grades ($d = 2.31$ and $d = 3.82$, respectively).

Table 16

Pairwise Comparisons of Unsportsmanship Behaviors by Group and Grade

Group x group	Group x group	Mean difference	Std. error	*df*	Bonferroni Sig.	95% Wald confidence interval for difference	
						Lower	Upper
Grade3 x lecture	Grade3 x model	-3.83	2.53	1	1.00	-11.91	4.26
	Grade3 x control	5.23	2.33	1	0.91	5.23	12.69
Grade3 x model	Grade3 x lecture	3.83	2.53	1	1.00	-4.26	11.91
	Grade3 x control	9.05	2.21	1	0.01 *	1.99	16.12
Grade3 x control	Grade3 x lecture	-5.23	2.33	1	0.91	-12.69	2.24
	Grade3 x model	-9.05	2.21	1	0.00 *	-16.12	-1.99
Grade4 x lecture	Grade4 x model	7.27	2.41	1	0.09	-.42	14.96
	Grade4 x control	-.40	2.41	1	1.00	-8.08	7.29
Grade4 x model	Grade4 x lecture	-7.27	2.41	1	0.09	-14.96	.42
	Grade4 x control	-7.67	2.17	1	0.01*	-14.59	-.74
Grade4 x control	Grade4 x lecture	.40	2.41	1	1.00	-7.29	-7.29
	Grade4 x model	7.67	2.17	1	0.01*	.74	.74
Grade5 x lecture	Grade5 x model	-8.03	2.58	1	0.07	-16.26	-16.26
	Grade5 x control	4.96	2.30	1	1.00	-2.40	-2.40
Grade5 x model	Grade5 x lecture	8.03	2.58	1	0.07	-.20	-.20
	Grade5 x control	12.99	2.25	1	0.01*	5.80	5.80
Grade5 x control	Grade5 x lecture	-4.96	2.30	1	1.00	-12.33	-12.33
	Grade5 x model	-12.99	2.25	1	0.01*	-20.18	-20.18

*Significant at the $p < .05$ level.

Table 17

Post-Hoc Effect Size Comparisons for Unsportsmanlike Behaviors by Groups and Group by Grades

Comparison groups	Mean	*SD*	*D*
Pooled treatment groups against control group	10.67 7.11	5.92 3.48	.73
Lecture against control group	9.56 7.11	4.95 3.48	.57
Modeling against control group	11.78 7.11	6.87 3.48	.86
Lecture against modeling	9.56 11.78	4.95 6.87	.37
Grade 3 lecture against grade 3 control group	8.33 5.00	3.06 1.00	1.47
Grade 3 modeling against grade 3 control group	15.00 5.00	1.00 1.00	10
Grade 4 lecture against grade 4 control group	8.00 10.67	4.58 3.06	.67
Grade 4 modeling against grade 4 control group	3.00 10.67	1.00 3.06	2.31
Grade 5 lecture against grade 5 control group	12.33 5.67	7.10 3.06	1.22
Grade 5 modeling against grade 5 control group	17.33 5.67	3.06 3.06	3.82

Tests on Sportsmanlike Behaviors

As shown in Table 18, grade was the only factor that significantly impacted the number of sportsmanlike behaviors that occurred during the post observation (p = .04). Furthermore, the interaction effect of grade and group was not statistically significant. Although the results of the ANCOVA showed that the groups did not make a statistically significant impact on the number of sportsmanlike behaviors, due to the exploratory nature of this study post-hoc pairwise comparisons were run to see if a closer examination of the group factor would produce the same result. As is shown in Table 19, neither the treatment nor the control groups were significantly different.

Table 18

ANCOVA, Sportsmanlike Behaviors

Source	Type III sum of squares	*df*	Mean square	*F*	Sig
Model	30.83a	9	3.43	1.66	0.18
Unsportsmanlike Pre_Total	0.17	1	0.17	0.08	0.78
Grade	16.04	2	8.02	3.88	0.04*
Group	6.16	2	3.08	1.49	0.25
Grade X Group	8.51	4	2.13	1.03	0.42
Error	35.17	17	2.07		
Total	114.00	27			

*Significant at the $p <. 05$ level.

Table 19

Pairwise Comparisons of Sportsmanlike Behaviors by Group

						95% Wald confidence interval for difference	
Group	Group	Mean difference	Std. error	*df*	Bonferroni Sig.	Lower	Upper
Lecture	Modeling	.00	.539	1	1.00	-1.29	1.29
Lecture	Control	1.00	.539	1	.191	-.29	2.29
Modeling	Control	1.00	.539	1	.191	-.29	2.29

* Significant at the p<.05 level.

The ANCOVA showed that the grade factor was statistically significant. Inasmuch as three grades are included in this study, post-hoc pairwise comparisons were run to determine which of the three grades made the most significant impact. As shown in Table 20 the difference between the third and fourth grades is statistically significant.

Although the ANCOVA showed no significance for the interaction effects, post hoc pairwise comparisons were run to determine if closer examination would show

Table 20

Pairwise Comparisons of Sportsmanlike Behaviors by Grade

Grade	Grade	Mean difference	Std. error	*df*	Bonferroni Sig.	95% Wald confidence interval for difference	
						Lower	Upper
Grade 3	Grade 4	1.89	.54	1	.01*	.60	3.18
Grade 3	Grade 5	1.11	.54	1	.12	-.18	2.40
Grade 4	Grade 5	-.78	.54	1	.45	-2.07	.51

* Significant at the $p < .05$ level.

significance between the interactions. As can be seen in Table 21 none of the grade and group interactions were statistically significant.

G Power 3.12 was used to calculate effect sizes based on means and standard deviations. As can be seen in Table 22 the majority of the effect sizes range from small to large. The largest effect sizes were found when comparing modeling against control in the third and fifth grades ($d = 1.13$ and $d = 1.80$, respectively) and lecturing against control for the third grade ($d = 1.21$).

In summary, more unsportsmanlike as well as sportsmanlike behaviors occurred during the post treatment observations than during the pretreatment observations for both the third and fifth grades. Small effect size measurements indicate that membership in the modeling group had a small measurable impact.

Summary of Results

In regards to the acquisition of sportsmanlike knowledge and attitudes as taught by the software, and measured by the survey, placement in either treatment or control

Table 21

Pairwise Comparisons of Sportsmanship Behaviors by Group and Grade

Grade x group	Grade x group	Mean difference	Std. error	*df*	Bonferroni Sig.	95% Wald confidence interval for difference	
						Lower	Upper
Grade3 x lecture	Grade3 x model	.33	0.93	1	1.00	-2.65	3.32
	Grade3 x control	2.67	0.93	1	0.16	-.32	5.65
Grade3 x model	Grade3 x lecture	-.33	0.93	1	1.00	-3.32	2.65
	Grade3 x control	2.33	0.93	1	0.45	-.65	5.32
Grade3 x control	Grade3 x lecture	-2.67	0.93	1	0.16	-5.65	.32
	Grade3 x model	-2.33	0.93	1	0.45	-5.32	.65
Grade4 x lecture	Grade4 x model	.00	0.93	1	1.00	-2.99	2.99
	Grade4 x control	-.33	0.93	1	1.00	-3.32	2.65
Grade4 x model	Grade4 x lecture	.00	0.93	1	1.00	-2.99	2.99
	Grade4 x control	-.33	0.93	1	1.00	-3.32	2.65
Grade4 x control	Grade4 x lecture	.33	0.93	1	1.00	-2.65	3.32
	Grade4 x model	.33	0.93	1	1.00	-2.65	3.32
Grade5 x lecture	Grade5 x model	-.33	0.93	1	1.00	-3.32	2.65
	Grade5 x control	.67	0.93	1	1.00	-2.32	3.65
Grade5 x model	Grade5 x lecture	.33	0.93	1	1.00	-2.65	3.32
	Grade5 x control	1.00	0.93	1	1.00	-1.99	3.99
Grade5 x control	Grade5 x lecture	-.67*	0.93	1	1.00	-3.65	2.32
	Grade5 x model	-1.00	0.93	1	1.00	-3.99	1.99

*Significant at the $p < .05$ level.

Table 22

Post-Hoc Effect Size Comparisons for Sportsmanlike Behaviors by Groups and Grade by Group

Comparison groups	Mean	*SD*	*D*
Pooled treatment groups against control group	1.67 .67	1.82 .71	.72
Lecture against control group	1.67 .67	2.18 .71	.62
Modeling against control group	1.67 .67	1.50 .71	.85
Lecture against modeling	1.67 1.67	2.18 1.50	0.00
Grade 3 lecture against Grade 3 control group	3.33 .67	3.06 .58	1.21
Grade 3 modeling against Grade 3 control group	3.00 .67	1.73 .58	1.80
Grade 4 lecture against Grade 4 control group	.33 .67	.58 .58	.59
Grade 4 modeling against Grade 4 control group	.33 .67	.58 .58	.59
Grade 5 lecture against Grade 5 control group	1.33 .67	1.53 1.16	.49

group did not make a statistically significant impact. Grade placement, however, did show a significant impact. Effect size differences indicate that membership in the modeling group had a small measurable impact, especially for the third grade.

In regards to the change in behaviors, more unsportsmanlike, occurred during the post treatment observations than in the pretreatment observations for both treatment groups as well as the control group. More sportsmanlike behaviors occurred during the post treatment observations than in the pretreatment observations for both treatment groups but not for the control group. Placement in either treatment or control group did not make a statistically significant impact. Grade placement, however, did make a significant impact.

CHAPTER V

DISCUSSION AND INTERPRETATION

General Discussion

The children at Morris Avenue Intermediate School participate in daily physical education, conducted by a veteran physical education specialist. The children play a variety of sports/games as part of their regular physical education program. Basketball is not part of their regular physical education program. The physical education specialist suggested several sports that could be played for the research including four square and baseball. However because basketball is easily adaptable to small teams of two to five players, because it there is continuous need of an official, and because it can be an intense activity which causes players to interact with each other in close proximity, it was determined that basketball would make a good fit for the observations. From the initial meeting with the physical education specialist it was obvious that he had been very successful at gaining and retaining the children's attention. They were generally polite toward him, typically using respectful phrases such as "yes sir," and "no sir." They seemed to follow the directions of the physical education specialist and his assistants. Furthermore, the children appeared to enjoy their physical education experience.

When I queried selected students about their enjoyment of the physical education activities, they always responded in the affirmative. All tournament games were officiated by either the physical education specialist or the assistant physical education specialist. The basketball games were played on blacktop courts located next to the

playfield behind the school building. Although there were three courts, the games were restricted to two courts, because there were only two officials available to serve as referees. The games were played and video recorded in April and May of 2007. Perhaps because the temperature increased as the day went on, the children appeared to become more subdued during the afternoon basketball games than they were during those played in the morning hours. Tournament instructions were explained to the children before each tournament was played. The children were told that the tournament winners for each grade and group would be awarded gift certificates for ice cream cones to be used at a local fast food restaurant.

Overview of Observed Behaviors

The researcher viewed all of the videotaped basketball games and recorded 173 instances of sportsmanlike (16) and unsportsmanlike behavior (157). The like instances were then grouped together so as to form a category of behavior (e.g., congratulate opponent). It was clear that the children at all three grade levels exhibited far more observable unsportsmanlike behaviors than sportsmanlike behaviors during the tournament play. It was anticipated that there would be something close to an equal number of sportsmanlike type behaviors and unsportsmanlike type behaviors. Careful review of the observations however, showed that there were three frequently encountered sportsmanlike type behaviors (congratulate opponent, help/console/encourage opponent, and help/console/encourage teammate) and five unsportsmanlike type behaviors (celebrate after score/win, celebrate when opponent turns the ball over, challenge referee,

critical of teammate, express anger at opponent success, and ignore injured player).

The reviewers also found instances of players exhibiting sportsmanlike behaviors and instances of players acting in unsportsmanlike ways. Each category of behaviors is described below.

Sportsmanlike Behaviors

Congratulate opponent. There were eight instances of players congratulating their opponent for either scoring a basket or for winning the basketball game. On these occasions players could be heard exclaiming comments such as “Nice shot!” to their opponents.

Help/console/encourage opponent. There four were instances of players helping/consoling/encouraging an opponent. This was typically displayed either through helping an opponent who had fallen to the ground during play, or by shouting phrases of encouragement such as “Way to go!” to an opponent.

Help/console/encourage teammate. There were four instances of players helping/consoling/encouraging a teammate. This was typically displayed either through helping a teammate who had fallen to the ground during play, or by shouting phrases of encouragement such as “Great shot!” to a teammate.

Unsportsmanlike Behaviors

Celebrate after score/win. There were 55 instances of celebrating after a score/ win. This category reflects instances when a player celebrated a score or win in an open way, rather than a private way, thus calling attention to him or herself or the team.

Celebrate after score or win behaviors included clapping, high fives, shouting, congratulating each other etc. This behavior was easily differentiated from the behavior that was rarely seen in which following a basket or win, players would quietly and discretely approach one another and give a "high five" that was clearly done so as to not draw attention to themselves.

This category of unsportsmanlike behavior is intended to mirror the sportsmanship expectations of other large, sporting associations, such as the National Collegiate Athletic Association (NCAA). According to the 2009-10 NCAA Football Rules and Interpretations manual, "Any delayed, excessive, prolonged or choreographed act by which a player (or players) attempts to focus attention upon himself (or themselves)" is deemed as unsportsmanlike. Furthermore, the NCAA has issued a Statement on Sportsmanship which reads in part: "After reviewing a number of plays involving unsportsmanlike conduct, the committee is firm in its support of the unsportsmanlike conduct rules as they currently are written and officiated. Many of these fouls deal with players who inappropriately draw attention to themselves in a premeditated, excessive or prolonged manner" (National Collegiate Athletic Association, 2009).

Celebrate when opponent turns the ball over. There were eight instances of players celebrating after possession of the ball switched from one team to the other due to occurrences such as a stolen pass, a pass that was thrown out of bounds, or the ball being stolen from the dribbler. Like the "celebrate after score/win" category, behaviors in this category were performed in an open way so as (from the raters' point of view) to call

attention to the player or the team, or to discourage the opposing team. Celebrating when the opponent turns the ball over behaviors included clapping, high fives, shouting, congratulating each other etc.

Challenge referee. There were 43 instances of players attempting to make the referee make or change a call. These behaviors were all classified as challenging the referee. The term challenge was used because it was determined that any time a player wanted a call to be made or changed, he/she was challenging the referee's initial call (or the purposeful no call). When a player stopped dribbling and yelled to the referee "he is grabbing me," the player wanted the referee to make a call. When a player yelled "Out!" or "Out on blue!" he or she was clearly attempting to have the referee make a call.

Critical of teammate. There were nine instances of players being critical of a teammate. When a player missed a basket, threw the ball out of bounds or made other similar mistakes, his/her teammates occasionally expressed disapproval. In these occasions they shouted comments such as "You missed the shot!" and so forth.

Express anger at opponent success. There were 13 instances of players expressing anger at the success of their opponent. Behaviors in this category ranged from quiet mumbles, to throwing the ball at the opponent. It is believed by the researcher that the ball was never thrown with the intention of inflicting pain, but rather out of frustration.

Ignore injured player. One of the more alarming and intriguing behaviors occurred when a player (teammate or opponent) would fall to the ground during the basketball game. The researcher had anticipated that play would stop when a player had

fall to the ground. On the contrary, coming to the aid of an injured player was observed very few times in comparison to how often a child fell. Ignoring a fallen player occurred fifteen times, and the persons ignoring could be on the same or the opposing team.

The basketball tournament was intended to incentivize the children to play hard so they could win the prizes. It was anticipated that if the children were incentivized to play hard, they would have reason and opportunity to show their sportsmanship. The tournament games were video recorded so the behaviors could be analyzed and classified, and so the reviewers could watch the games and classify the behaviors they saw.

Analysis of the videotaped games yielded a total of 173 instances of behaviors that could be classified as either sportsmanlike or unsportsmanlike. The behaviors were classified into either one of three sportsmanlike behaviors, or one of eight unsportsmanlike behaviors.

CHAPTER VI

CONCLUSION

This study showed that there is still much to be learned about teaching sportsmanship to children. While only grade level could be shown to have had an effect on attitudes and positive behaviors (sportsmanlike behavior), both grade level and treatment group (modeling and lecture), as well as the interaction between grade level and treatment group were shown to affect unsportsmanlike behavior. Some findings emerged as counterintuitive, making us suspect that the small numbers of games played (27) may have made some differences less than conclusive.

To paraphrase an old adage, "hindsight is (often) twenty-twenty." If I were to attempt this study again, I would consider making the following improvements/ modifications.

1. Gather and track student demographics (e.g. gender, ethnicity, etc.)
2. Track individual students and not just treatment groups
3. Reduce the time between first and second assessment
4. Address possible teacher influence

The effects of age and maturation may be stronger than the interventions we have devised so far. Future studies and experiments will likely find more effective ways to teach sportsmanlike attitudes in children. We can certainly hope so, because both the literature review and surveys of media indicate the strong societal need for change in the area of sportsmanship attitudes and behaviors in American as well as other societies worldwide.

Developers at LetterPress Software note that the STAR Sportsmanship software has been used by hundreds of schoolteachers with thousands of school children. When used with the supporting workbooks and activities, school administrators have reported positive changes in their schools. The success of STAR Sportsmanship has spawned several additional STAR Sportsmanship products including those that teach sportsmanship to middle school students, high school students, and coaches. The developers have not been made aware of any usability issues such as the grade appropriateness of the language or comprehension difficulties.

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APPENDICES

Appendix A

Sports Survey

Sports Survey

Instructions: Here are some sports situations and questions. This is not a test, so there are no right or wrong answers to the questions. Please think about what you would actually do if you were in the story.

Scenario 1: Imagine that you are playing in the most important basketball game of your life. The winner of today's game will play for the league championship. There are only 20 seconds left and your team is behind by one point.

1. The referee blows the whistle and says you stepped out of bounds. You know you did not. What will you do?

    a. Explain to the referee that you didn't step out of bounds.
    b. Give the referee an angry look so that he won't call you out of bounds next time.
    c. Tell your teammates the referee is unfair.
    d. Don't say anything about the call that you think is unfair and continue playing.

2. You just scored a basket to put your team ahead and the crowd cheers. What will you do?

    a. Point to the number on your jersey so everyone knows you scored.
    b. Run to your position on the court while shouting to the crowd, "We're number one!"
    c. Hustle into position to be ready for the next play.
    d. Give a high-five to a teammate on your way down the court.

3. You are playing really well but the coach pulls you out of the game. What will you do?

    a. Explain to the coach that you should stay in the game because the team needs you.
    b. Sit on the bench and hope the player that replaced you makes mistakes so you can get back in the game.
    c. Tell your teammates that if your team loses it will be the coach's fault for taking you out.
    d. Sit on the bench and plan what to do when you get back in the game.

Scenario 2: Imagine that it is the middle of baseball/softball season. It is very hot and everyone on the team feels tired and weak. Your team is 12 runs behind and it is the last inning. Your team is scheduled to play another game right after this one.

4. Even though you are far behind and the game is almost over, the coach tells you to go back into the game. What will you do?

    a. Jog onto the field but try to save your energy for the next game.
    b. Run out on the field and play hard even though it looks like the game is lost.
    c. Play but tell your teammates to save their strength, so you can win the next game.
    d. Explain to the coach that since this game is lost you should rest for the next game.

5. You are up to bat and the catcher makes fun of you and how bad your team is losing. After two strikes you hit the ball deep and run the bases. Coming into home plate you knock the catcher to the ground and score. What will you do?

    a. Dust off your uniform as you jog back to the dugout.
    b. As you jog back to the dugout yell back to the catcher, "Eat my dust!"
    c. Offer to help the catcher to his feet and jog back to the dugout.
    d. Bow to your team while standing on home plate.

6. The game is over and your team lost. As you shake hands with the other team's players the catcher shoves you. What will you do?

    a. Shove him back to show him that you are not afraid.
    b. Yell at him and tell your coach.
    c. Step up and shake the next player's hand.
    d. Walk away from the catcher and say, "I'll get you later!"

Scenario 3: Imagine you are playing against last year's soccer champions, and you really want to win this game. Your team has a chance to win and be the champions.

7. You are guarding the other team's best player and she is aggravating you. Now you are in the corner where the referees cannot see the action. What will you do?

    a. Tell the girl to back off or you are going to get even.
    b. Kick the girl in the shin to get her back.
    c. Ignore the girl and focus on the game.
    d. Explain to the referee that the other player keeps kicking you.

8. The player you have been guarding is bothering you and you really want to score a goal. Your teammate suggests you fake being fouled so you can get her in trouble and you can take a penalty shot. What will you do?

    a. Next time you are playing for the ball, fall to the ground and shout, "She kicked me!"
    b. Ignore your teammate's suggestion and keep playing the best that you can.
    c. So you don't get into trouble, ask your teammate to fake the foul.
    d. Suggest to your whole team that they look for chances to fake being fouled.

9. Following the game the teams line up to shake each other's hands. You notice the player that you were guarding against is the next player in line. What will you do?

    a. Let that player just pass by you.
    b. Shake her hand.
    c. Shake her hand but say something about the rough way she played.
    d. Spit in your hand before shaking hers.

Scenario 4: These questions do not have a story. They have no right or wrong answers.

10. Which of the following is most important while playing sports:

    a. Be friendly to others in what you do and say.
    b. Be careful to not get penalties or fouls.
    c. Do whatever it takes to win.
    d. Stand up for your team at all times.

11. Who is affected by your actions during sports?

    a. You
    b. You and your teammates.
    c. You and your opponents.
    d. You, your teammates, and your opponents.

12. What do you do when you attend a sporting event? (Circle all that apply.)

    a. Yell "Boo" when the other team scores points.
    b. Cheer when your team scores points.
    c. Yell "Boo" when your team loses the game.
    d. Cheer when players on the other team get hurt.

Appendix B

Instructions for Teachings Administering the Sports Survey

Instructions for Teachers Who Administer the Sports Survey

We thank you for assisting us in this very important research regarding students' attitudes toward sportsmanship issues. This survey is intended to assess the student's attitudes in various sports situations. We ask that you contribute to the research by administering the Sports Survey to your students as directed below.

We want your students' answers to be as truthful as possible so please make them aware of two important factors:

a) They should NOT put their name on the survey

b) They should answer the questions based on what they would ACTUALLY do and not what they think is the correct answer.

Instructions:

1. Distribute the Sports Survey (following 2 pages) to the students in your classroom.

2. Read each **SCENARIO** and instructions aloud.

3. Then read each question aloud and ask the students to select their answers.

Appendix C

Complete Listing of Researcher Observations

Complete Listing of Researcher Observations

Checked on downed opponent “are you okay?”
Checked on downed teammate
Checked on downed teammate
Cheered when opponent scored (clapped)
Congratulated opponent after scoring (“Good shot.”)
Congratulated opponent after scoring (“Nice shot Mike.”)
Congratulated opponent after scoring (high five done quietly)
Congratulated opponent after scoring (high five done quietly)
Congratulated opponent after scoring (high five done quietly)
Congratulated opponent after scoring (high five done quietly)
Congratulated opponent after scoring (high five done quietly)
Congratulated opponents after winning (shook hands after the game)
Congratulated teammate even after the loss
Encouraged teammate (Could have taken the shot but passed it to teammate).
Encouraged teammate (Good job….)
Encouraged teammate after missing a shot
Celebrated after score
Celebrated after score
Celebrated after score
Celebrated after score
Celebrated after score
Celebrated after score
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Celebrated after score
Celebrated after score
Celebrated after score (clapped hands)
Celebrated after score (clapped)
Celebrated after score (screamed “Yeah!)
Celebrated after win
Celebrated after win (winner raised his arm)
Celebrated when awarded the ball
Celebrated when opponent missed a basket
Celebrated when opponent missed a basket and turned the ball over
Celebrated when opponent stepped out of bounds
Celebrated when opponent stepped out of bounds
Celebrated when other team missed shot and went out of bounds
Celebrated when other team threw the ball out of bounds
Celebrated when the ball was turned over
Celebrated when the ball was turned over (clapped hands)
Challenged referee (complained)
Challenged referee (“He grabbed my shirt!”)
Challenged referee (“I didn’t travel!”)
Challenged referee (“I want to get back into the game!”)

Challenged referee (call a foul when he was grabbed from behind)
Challenged referee (call out of bounds on the other team)
Challenged referee (call out of bounds on the other team)
Challenged referee (call out of bounds on the other team)
Challenged referee (call out of bounds on the other team)
Challenged referee (call out of bounds on the other team)
Challenged referee (call out of bounds)
Challenged referee (call out of bounds)
Challenged referee (call out of bounds)
Challenged referee (call out of bounds)
Challenged referee (call out of bounds)
Challenged referee (call the ball out of bounds and said “out”)
Challenged referee (gave call for other team)
Challenged referee (Gestured to the referee like, “come on, make a call”)
Challenged referee (he had been held up by an opponent)
Challenged referee (how to make the out of bounds call).
Challenged referee (made call for other team on out of bounds)
Challenged referee (make a call for out of bounds on other team)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call for out of bounds)
Challenged referee (make a call when someone stepped out of bounds)
Challenged referee (make a call)
Challenged referee (make call a foul)
Challenged referee (Pointed at an opponent and mumbled in a complaining voice)
Challenged referee (substituting at wrong time)
Challenged referee (that he had been pushed)
Challenged referee (that the kid went out of bounds)
Challenged referee (that the kid went out of bounds (“His foot was out of bounds.”)
Challenged referee (the ball should be his and not the other teams)
Challenged referee (to call the ball out of bounds looking at referee saying “Out on red”)
Challenged referee (when he was grabbed)
Challenged referee (which way the ball should go after it was clearly out of bounds)
Challenged referee (which way the ball should go after it was clearly out of bounds)
Challenged referee (which way the ball should go after it was clearly out of bounds)
Complained when ball was turned over
Complained when ball was turned over
Complained about opponents (“they are all over me”)

Complained when opponents scored (Slapped own hands)
Complained when other team scored
Complained when other team scored
Complained when other team scored
Complained when other team scored
Complained when other team scored
Complained when other team scored
Complained when other team scored
Complained when other team scored
Complained when the ball was called out of bounds (“Aagh”)
Critical of teammate
Critical of teammate (“Come on, cut to the goal!”)
Critical of teammate (let ball go out of bounds)
Critical of teammate (missed a basket)
Critical of teammate (missed a basket)
Critical of teammate (missed a basket)
Critical of teammate (missed a basket)
Critical of teammate (missed a basket)
Critical of teammate (missed a basket)
Grabbed another player
Grabbed another player
Ignored when a boys shoe came off
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player fell down
Ignored when a player was injured (began limping and called out “ouch, ouch!”)
Ignored when a player was injured (his lip)
Ignored when a two players fell down
Ignored when a two players fell down
Ignored when two players ran into each other. One fell to the ground, the other grabbed her eye.
Ignored when two players went down hard.
Laughed at the other team when teammate did a clever move to move the ball down court
Pushed opponent to the ground
Pushed the opponent in the back
Threw ball at ground (Angry when for turnover of ball)
Threw ball at ground (Angry when got called out of bounds)

Threw ball at ground (Angry when got called out of bounds)
Threw ball at ground (Angry when other team scored)
Threw ball at opponent (Angry with opponent)
Yelled Ah when the other team scored
Yelled at opponents “don’t swat the ball”
Yelled when opponent scored a basket

Appendix D

Observation Protocol

Observation Protocol

Group _____		
Behavior	**Frequency**	**Total**
Celebrate after score/win (Clapping, shouting, etc.)		
Celebrate when opponent has turnover (Clapping, shouting, etc.)		
Challenge referee (Ask for call, inform referee of issue)		
Congratulate opponent (Nice shot!, etc)		
Critical of teammate (You missed the shot!, etc.)		
Help/console/encourage opponent (Nice shot!, etc)		
Help/console/encourage teammate (Way to go! Etc.)		
Ignore injured player (Keep playing when someone falls,		
Express anger at opponent success (Throw ball at opponent, mumble, etc.)		

Other comments:

_____

_____

_____

_____

_____

Reviewer: _____

Appendix E

Observation Instructions

Observation Instructions

Thanks for assisting me with this research project.

Please be sure to:

1. Write the number of the group at the top of the sheet in the space provided.
2. Write your name at the bottom of the sheet in the space provided.
3. Include any additional observations or comments in the space provided.
4. Watch all 18 segments and record all instances of the following 9 behaviors.

Celebrate after score/win

This category includes instances when a player celebrated a score or win in an open, rather than a private way, thus calling attention to him or herself or the team. Celebrate after score or win behaviors included clapping, high fives, shouting, congratulating each other etc. This behavior is differentiated from occasions when players would quietly and discretely approach one another and share "high-fives" done so as to not draw attention to themselves.

Celebrate when opponent has turnover

This category includes instances of players celebrating when possession of the ball switched from one team to the other due to occurrences such as a stolen pass, a pass thrown out of bounds, or the ball being stolen from the dribbler. Like the celebrate after score/win category, behaviors in this category were done in an open way so as to call attention to the player or the team, or to discourage the opposing team. Celebrate when opponent turns the ball over behaviors include clapping, high fives, shouting, congratulating each other etc.

Challenge referee

This category includes instances of players attempting to make the referee either make a call or change a call. Such behaviors are all classified as challenging the referee. The term challenge is used because it was determined that any time a player wanted a call to be made or changed, he/she was challenging the referee's initial call (or the purposeful no call). When a player stopped dribbling and yelled to the referee "he is grabbing me," the player wanted the referee to make a call. When a player yelled "Out!" or "Out on blue!" he or she was clearly attempting to have the referee make a call.

Congratulate an opponent

This category includes instances of players congratulating their opponent for either scoring a basket or for winning the basketball game. On these occasions players can be heard exclaiming comments such as "Nice shot!" to their opponents.

Critical of teammate

This category includes instances of teammates becoming critical of one another. When a player missed a basket, threw the ball out of bounds or made other similar mistakes, his/her teammates occasionally expressed disapproval. In these occasions they shouted comments such as “You missed the shot!” etc.

Help/console/encourage opponent

This category includes instances of players that help/console/encourage an opponent. This is typically displayed either through helping an opponent who had fallen to the ground during play, or by shouting phrases of encouragement such as “Way to go!” to an opponent.

Help/console/encourage teammate

This category includes instances of players that help/console/encourage a teammate. This is typically displayed either through helping a teammate who had fallen to the ground during play, or by shouting phrases of encouragement such as “Way to go!” to a teammate.

Ignore injured player

This category includes instances when a player simply ignored a downed player and continued to focus on the basketball game.

Express anger at opponent success

This category includes instances of players expressing anger at their opponent’s success. Behaviors in this category ranged from quiet mumbles; to more open expressions of frustration such as throwing the basketball ball at an opponent.

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EDUCATION

Ph.D. in Instructional Design with emphasis in computer based learning (Utah State University, 2012)

M.Ed. in Educational Psychology with emphasis in counseling psychology (Brigham Young University, 1991)

B.S. in General Psychology (Brigham Young University, 1987)

PROFESSIONAL EMPLOYMENT

LetterPress Software, Inc., North Logan, UT (Founding Partner and Vice-President of Operations, 1997 to present). LetterPress Software, Inc., North Logan, UT (Founding Partner and Vice-President of Operations, 1997 to present). As a co-owner of a small business my responsibilities are many and varied. They include: manage and organize the workforce which has ranged in size from 1 to 15 employees as contract needs have fluctuated, assist in the hiring and orientation of new employees, service the development contracts, assist in the creation and execution of the company resources budget (money, time, etc.), and a variety of marketing and sales efforts which included collateral development, trade show presentations, etc. Additionally, I have made dozens of presentations to work groups around the country regarding best practices for the development of effective training.

Accomplishments include: The design and creation of dozens of award-winning instructional products for corporate, governmental and education clients. I have played a design and/or management role in the production of over 100 software projects, including products developed for the Utah Department of Workforce Services, the University of Chicago School of Medicine, The United States Department of Agriculture, Learning Through Sports, Motorola, Xerox, Protocol

School of Washington, The Furniture Training Company, and many more.

RiverPark Instructional Technologies, Logan UT (Instructional Designer, September 1996 – April 1997) While with RiverPark Instructional Technologies, my primary responsibly was to service the contract for the United States Agency for International Development (USAID). The contract included the creation of dozens of lessons to orient new hires to the agency.

Logan City School District, Logan, UT (High School Guidance Counselor, August 1991 – May 1996) My primary responsibilities as a guidance counselor included counseling with students and parents in personal, education, and career matters. Additionally, 25% of my time was spent in Psychology, Science and Technology classrooms teaching a variety of knowledge and skills including; study skills, family relations, friend relations, tobacco and drug abstinence, etc. I conducted dozens of workshops for parents and students to help them plan and prepare for college entrance.

As part of my graduate program I was trained extensively in the new Comprehensive Counseling and Guidance movement. My understanding and insights regarding the new Comprehensive Counseling and Guidance movement helped our Counseling and Guidance department to implement and certify as a Comprehensive Counseling and Guidance program. I served on counseling and guidance boards in Logan School District and for the State of Utah. I also served as Counseling and Guidance Department head at Logan High School.

PUBLICATIONS

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MANAGEMENT/SUPERVISION

InTech Collegiate High School, North Logan, UT (2009 – Current) President, Board of Governors. The board creates vision and sets policy for this school. The mission of the school is to encourage and prepare students in grades 9-12, and especially those traditionally under- represented, to pursue and complete college degrees in math, science, and engineering in order to enhance the talent base in these fields.

Greenville Elementary School, North Logan, UT (2010 – 2011) President, Greenville Community Council. As a member of the board I participate in the development of various school plans including, School Improvement Plan; School LAND Trust Plan; Reading Achievement Plan; Professional Development Plan; Child Access Routing Plan; and Review of School Health Plans.

Cache Valley Transit District, Logan UT (2001-2008) Member of Board. Board Secretary 2001-2002, President 2006-2007. I was appointed to the board by the mayor. The board oversees the operations of the transportation district that serves Northern Utah's Cache Valley. The board creates determines the vision and direction that the district should take. The CVTD general manager answers to the board.

Logan City School District, Logan, UT (Counseling Department Head, August 1995 – May 1996). As department head I was responsible to oversee the budget of the department. I also lead in the creation of materials to aid students, parents, teachers in how to best prepare young people for life after high school. My responsibilities included counseling with students and parents in personal, education, and career matters. Approximately 25% of my time was spent in the classrooms teaching a variety of knowledge and skills including; study skills, family relations, friend relations, tobacco and drug abstinence, etc. I also assisted the school and district administrators in determining which courses should be included in the schedule.

Logan City School District, Logan, UT (Vice Chair, Comprehensive Guidance and Counseling Committee, August 1992 – April 1996) As vice chair, I was responsible to encourage counselors, teachers and school and district administration to understand and follow through with the Counseling and Guidance Program that had been adopted by the Utah State School Board and the Logan City School Board.

Utah State Office of Education, Salt Lake City, UT (Member of the State Select Committee for Comprehensive Guidance and Counseling, August 1995 – August 1996) This board was responsible for training the state's school counselors to prepare them and their schools and districts to meet new Comprehensive Guidance Program standards. We created and delivered training to counselors throughout the state of Utah.

MISCELLANEOUS

Eagle Scout recipient
Active in Boy Scouts of America (Scoutmaster)
Avid bicycler, backpacker, and snow skier
Missionary for the Church of Jesus Christ of Latter-day Saints, Japan, 1982-1984