

GRADING FORMATIVE ASSESSMENT
IN MIDDLE SCHOOL PHYSICAL EDUCATION

A Research Paper Submitted
In Partial Fulfillment of the Requirement
For EDMA 5683

Amy L. Bostock
Northwest University
Masters in Teaching Program
July 2010

Abstract

Grading Formative Assessment In Middle School Physical Education

Weekly fitness is a required element in the physical education (PE) program at Jackson Middle School (JMS). Solely participating in this activity is not enough to receive 100% at JMS. The agreed upon goal and vision of the PE department is to give students the skills to value physical health and fitness, and to give students the skills to maintain an actively fit lifestyle outside of PE. The controversy arises within the question of whether or not the PE students should be graded on their weekly fitness days or their semester fitness testing. As educators, are we encouraging physical fitness or causing the opposite effect on students? Although the current grading procedures at JMS may be deemed as most objective, one might question whether or not the students are being allowed to reach their true potential and whether or not they are benefiting from the current method or grading.

This research project used a qualitative case study methodology. The study focused on the behavior and effort levels of and 8th graders in PE at JMS. I mainly focused on observations, surveys and interviews to gather the data needed to answer my research questions. In light of my research being carried out, the research questions regarding the formative-performance based assessment experience of low and high achieving middle school students in PE was answered. Additionally, the conclusions I came to were that the majority of middle schoolers are not intrinsically motivated enough to participate in fitness days or testing without being graded. Also, various

fitness testing standards were studied, and I concluded that the rigor in which JMS PE program is designed with is a bit discouraging to the average PE student. Lastly, the overall riding question on whether fitness testing should be graded at all was attempted to be answered, by deciding that the Presidential PE Standards are catering to the naturally athletic student and the Fitness Gram Standards are more appropriate for the average PE student.

Table of Contents

Introduction.....	1
Literature Review.....	2
Research Questions.....	8
Methodology.....	8
Data.....	11
Data Analysis.....	17
Implications/Recommendations.....	21
Conclusion.....	22
References	23
Appendices	26

List of Tables

Table 1:	Female Fitness Gram Standards.....	26
Table 2:	Male Fitness Gram Standards.....	27
Table 3:	Male Presidential Fitness Standards.....	28
Table 4:	Female Presidential Fitness Standards.....	29

List of Figures

Figure 1:	Student Fitness Testing Results Graph.....	16
Figure 2:	Student Fitness Results for Pushups Graph.....	17

Introduction

Since the school opened in 1994, all Physical Education (PE) students at Jackson Middle School (JMS) participate in some type of weekly cardio respiratory fitness activity. The dreaded lap run, mile run, pacer test, gate run, and the Jackson relay are all examples of cardio testing. Grading for fitness testing is completely objective. If a student does not reach the set standard for their gender and/or grade, then the student's overall PE grade will be affected. No matter a student's effort or improvement, if they do not meet the set standard the student will not get an 'A.' For example, to receive a 100% for the weekly fitness day, all 6th graders need to achieve at least 8 laps in about 30 minutes in the lap run, 7th graders need to achieve 9 laps, and 8th graders need to get 10 laps in the allotted time.

At first glance, this grading process may seem to be the most objective and the simplest way to grade a student in PE, but, one might ask, are PE students reaching their true potential and benefiting from this method of grading? Do students put forth the same effort in an activity if they know they are not being graded? How much value does grading place on an activity? Is there a bias placed on the more athletic student who find fitness testing easy? Should physical education students be graded on performance or on effort and personal improvement? These are all questions that are a part of an ongoing debate within the PE staff at JMS.

In this study, I looked into the experiences and opinions of students and teachers regarding grading in physical education. I also looked into the concept of students' intrinsic motivation within physical education. This study explored elements of grading

in a physical education setting, and what method benefits a student's growth and fitness level. I hypothesized that physical education should not be heavily graded on performance but rather on effort and personal improvement. The first step I took towards reaching any conclusion was to review important literature on the subject.

Literature Review

Fitness testing is a required element of PE. It is also needed due to the increasingly low levels of fitness amongst today's young people. (Harris and Cale, 2006, p.201) Arem (2009) found that there are basic strategies for grading on improvement in physical education. Citing the first U.S National Physical Education Content Standard, Arem (2009) reports that students need to show a significant development of competence in motor skills and patterns of movement. The author found that an individualized two-level program is helpful to students, which enables the teacher to identify the students' skill development. Arem (2009) states that a teacher can utilize a developmental program and its key would be providing students with successful experiences through developmentally appropriate levels. Examples include, beginning level, intermediate level and advance level abilities (Arem, 2009). Students are not graded for what they can not do but are graded on what they can do and improve on. The three strategies for grading in physical education are to use a multilevel task sheet to structure activities, plug students into appropriate levels and lastly, use the task sheet results for grading.

In "The Journal of Physical Education, Recreation and Dance," Johnson (2008) focuses on overcoming resistance to achievement based grading in physical education.

The author states that student accountability, positive scoring and student mastery are methods in positively communicating how a student earned their grade (Johnson, 2008). This article provides three strategies for the implementation of achievement-based unit grading, but there are other issues to consider. Melograno (2007) mentioned how these grading issues-ingredients, weight, teacher judgments, progress, and mastery-affect the validity and interpretation of grades, even when these grades are based on standards. The author recognized that there is a resistance to grading on performance and in order to overcome this resistance to achievement-based unit grading, secondary physical education teachers should use a grading approach that emphasizes student accountability, positive scoring, and student mastery of meaningful educational outcomes.

Melograno (2007) addresses the issue of grading within the context of Standards Based Physical Education (SBPE) in the U.S. Melograno states within the Standards for Quality Assessments, in order to achieve excellence in education, school accountability models have been designed to transform high standards and expectations into rigorous assessments, such as on-demand, standardized achievement tests. Through his research, Melograno came to believe that physical education teachers need to decide the basis for grading: which ingredients to use, how factors will be weighted, the degree of professional judgment, and the relative emphasis on mastery and progress (Melograno, 2007).

In correlation with grading techniques, Biddle and Goudas (1997) present a study on three groups of teachers and their preferences for grading criteria for students in

physical education. Biddle and Cade's research found that there is a clear preference amongst teachers for working with students who show effort. This study also highlighted the psychology of assessment. The authors developed a study consisting of current university level students and teachers. A questionnaire was given to determine grading preferences. The results of the study showed a preference to grade students on student progress and effort. Scores on physical fitness test and performance of students relative to others were the least preferred options.

In addition to grading in general, fitness testing grading in physical education is a topic for heated debate. Cale and Harris' research (2009) draws on selected findings of recent fitness testing in children to explore the key issues, concerns and debates regarding fitness testing as they relate to encouraging students to develop physically active lifestyle. The findings of this study revealed that the role fitness testing plays in PE in promoting healthy lifestyles and physical activity is questionable and cannot be taken for granted. For example, little evidence was found to support the notion that fitness tests promote healthy lifestyles and physical activity, motivate young people, or develop the knowledge and skills that are important to a sustained engagement in an active lifestyle. The authors concluded that based on the evidence, much of the fitness testing carried out in PE may well represent a misdirected effort in the promotion of healthy lifestyles and physical activity, and that PE time could therefore be better spent.

In contrast, in the article "Prevalence and Correlates of Physical Fitness Testing in U.S Schools," Morrow, Fulton, Brener, and Kohl (2008) research fitness testing nationwide and discuss the prevalence of fitness testing across all school levels. Due to

the perceived lack of youth physical fitness and concerns for increased obesity, physical education teachers are interested in youth fitness and physical activity levels. The findings of this study included data from the nationally representative School Health Policies and Programs Study 2000 that was analyzed to investigate the prevalence of fitness testing and the professional characteristics of fitness test users. Data was collected with teachers of either randomly selected classes in elementary schools or randomly selected required physical education courses in middle/junior high and senior high schools. The prevalence of fitness test was found to be sixty-five percent across all school levels.

The issue of grading formative assessment like fitness testing in physical education is a passionate argument that draws out many parent, teacher and student opinions. The *Journal of Physical Education, Recreation and Dance* (2006) published an article that addressed the question "Should student fitness results be part of grades in physical education?" This article spoke to college students and professors. Dennis Docheff, a Professor in the Department of Health and Human Performance at Central Missouri State University, states that he believes fitness test scores should be included in students grades (JOPERD, 2006). Docheff's argument relates to the fact that the national standards and most state standards also include fitness enhancement as a goal. Therefore, student fitness achievement results should be part of grades in physical education.

The critical issues are what determines achievement in fitness and how much of the grade should be based on fitness. Including fitness as part of the grade does not mean that students must meet unreasonable fitness standards-running the mile in six minutes flat to get an 'A' does not cut it anymore! However, teachers

should be able to establish minimal standards of fitness. They should also assist students in reaching these standards, while encouraging others to reach goals that go well beyond the minimum. Many teachers are quick to grade on "behavior," which has little to do with the objectives of physical education. Yet, something as crucial as fitness does not receive much attention when communicating student achievement to students and parents; that is the purpose of grades-to communicate achievement in school. Grading in physical education should include all of what is taught in class-skill, knowledge, and fitness. (JOPERD, 1997, p. 8)

In contrast to Docheff's beliefs, Gemetta Neal, a graduate student in physical education and human performance from Central Connecticut State University, states that fitness tests results should not be included in students grades (JOPERD, 2006). Neal believes that requiring fitness test scores be included in grades discourages students from physical fitness.

Grading personal fitness will only decrease student participation. Yes, we have standards we must adhere to, but we also need to be aware of variations in fitness and ability levels. Physical education should be fun, yet challenging, and it should build self-esteem and confidence. It should focus on improving current fitness levels, not grading them. A grading system that incorporates a student's fitness level (as opposed to the amount of improvement in that level) would only put a negative spin on these emotions. We need to keep in mind that fitness means different things to all of us; therefore, improvement and lifelong activity, not a grade, are the most important elements of overall fitness. (JOPERD, 1997, p. 9)

If we do not include fitness scores in a student's grade, the question becomes, will students have enough intrinsic motivation to put forth the same effort even though they are not being graded? Current studies suggest that the specific outcome of a competition (a win or a loss) differentially affects intrinsic motivation by highlighting the informational rather than the controlling aspect of the reward of winning (Garn and Sun, 2009). These studies showed that winning in a competitive situation increased intrinsic

motivation relative to losing. From a physical education standpoint, the win or loss should be paralleled with passing or failing fitness tests (Wiersma and Sherman, 2008).

James R. Whitehead and Charles B. Corbin (1991), conducted a study that compared effects on exercise intrinsic motivation and physical self-worth of taking either the President's Challenge or the Fitness Gram fitness test series. Three teachers administered the series to seventh and eighth grade students. Results showed that while in that experiment, receiving high percentile scores increased intrinsic motivation while receiving low percentile scores decreased it. In other words when students earn 97% on a fitness test they are more motivated compared to if they earned 73%. These results support the theory-based predictions of the Fitness Gram protagonists while casting doubts on claims of the President's Challenge advocates.

In review, the overall findings of my literature review leave me questioning what is truly the correct methodology for grading PE students. There is a definitely a line drawn in the imaginary sand of physical education that is placing educators, students, and parents who do not think fitness levels should be included in grades and on the other side educators, students and parents who agree that physical education student fitness levels should be included in their overall letter grade.

Based on this literature review, I am still left with the following questions. What truly benefits the physical education student by encouraging them to be physically active for life? Should fitness test results be a part of PE students' final grade? Is the PE standard at JMS catering to the athletic student? Where do staff at the middle school

Presidential standards. As seen in the appendices, the Fitness Gram Standards are Fitness standards that are considered less rigorous than the Presidential standards. For example, if a 8th grade male student ran an 8:00 mile, according to the Fitness Gram Standards he would receive a 10/10. According the Presidential Standards this same student would receive a 7/10.

I collected data by interviewing my sample student and fellow colleagues, and by creating and distributing student and staff surveys. I also gave a survey that allowed the students to give their opinion on how PE students at JMS are graded. For my project I recorded and transcribed the information I received from my sample. To determine if students are intrinsically motivated more by one standard over another, I also implemented both the Presidential Challenge and the Fitness Gram standards for middle school. Implementing these two radically different fitness standards allowed me to see if students are affected by the level of rigor in the expectations laid upon them. Additionally, I implemented the pacer fitness test that was not graded and then on a separate occasion had the students do the pacer test again, only this time it was graded. This collection system provided source protection and anonymity by the creation of pseudonyms for the school and for every student and teacher who was involved. (See appendices for surveys and transcripts of both student and teacher interviews, and results from the two pacer fitness tests)

Analysis/Validity

Since I conducted a qualitative case study, the nature of my analysis consists of multiple literature, observations and surveys within which I looked for patterns

pertaining to the success of physical education students and the system of accountability that is fair to students. I anticipated looking for an increase or decrease in motivation throughout fitness testing from the students 6th grade year to their 8th grade year. Intrinsic motivation became a huge factor regarding whether or not students grade/effort improved or became worse in the time span from 6th to 8th grade. I talked to a variety of individuals from different ages and gender groups, as well as different biases pertaining to the topic of the methodology of grading in physical education. As the researcher, I came into this study uncertain what I believed regarding the issue of grading in Physical Education. I would consider myself more athletic than the average student, so I found myself to have the tendency to lean toward more rigorous standards regarding fitness testing.

Data

Student Surveys: These are all of the questions I handed out to students, and all of the answers they wrote to the questions. All the students are 8th graders, and I differentiated between the genders because there are different PE standards according to both age and gender.

1. What do you think about the way PE students are graded?

Student 'A' Female: I think we are graded fairly because it's mostly graded on participation. All you really have to do to is come to class and get 5 points a day.

Student 'B' Female: I think we are graded fairly because everything is based on participation and effort.

Student 'C' Male: I think it is fair.

Student 'D' Male: I think the grades are graded accurately.

Student 'E' Male: It is horrible and should be based on effort and not some standard.

Student 'F' Male: I think PE students shouldn't be graded on how well they do because some people aren't physically fit as others.

Student 'G' Male: I think it is a little unfair because what if someone is not as fit as someone else coming into PE.

Student 'H' Female: I feel that PE students are graded harshly but in a good way. Having to be pushed is a good way to grow.

2. How would your effort level change if you knew you were not being graded on a class activity? (specifically a fitness activity)

Student 'A' Female: I'm motivated to try my best everyday and work hard no matter what the activity is.

Student 'B' Female: I don't think my effort level would change, depending on the activity is how hard I would participate.

Student 'C' Male: I think I would not try as hard as I do when I am graded.

Student 'D' Male: I would never try as much as I do now.

Student 'E' Male: I would try harder and be more competitive.

Student 'F' Male: My effort level would probably go down knowing they I don't have to try as hard to get a good grade.

Student 'G' Male: I would try less, because there is not a grade attached to it.

Student 'H' Female: My effort level wouldn't change because I like to be a show off and be one of the top students. If I do poorly on anything in PE, I feel bad for not trying.

3. How do you think PE students should be graded?

Student 'A' Female: They should be graded on participation! And also if they give effort in fitness testings.

Student 'B' Female: I think that students should be graded on how hard they try and on how much they participate on everything, even fitness days.

Student 'C' Male: The way they are now.

Student 'D' Male: I think on how well they did on fitness testing.

Student 'E' Male: On effort.

Student 'F' Male: I think PE students should be graded on the amount of effort given.

Student 'G' Male: If they try and not mess around they should get 100%, if they mess around they lose points.

Student 'H' Female: I think students should be graded on how much effort you put into that day. If the student doesn't try at all, they should receive a zero for the day.

Teacher Surveys

1. How should students be graded in PE that will allow them to be both challenged and successful?

Teacher 1: Students should be graded in a variety of areas including their written work like journals, daily participation and effort points, and fitness scores from both fitness days and semester fitness testing.

Teacher 2: PE students should be graded on participation, effort and improvement in fitness days and testing.

2. What do you think about the current method PE students are graded here?

Teacher 1: JMS PE standards were created to form a PE program that has rigor and will challenge students mentally and physically. We have a reputation of being a program that is not an easy 'A', which is something I think many PE programs lack. Students have the opportunity to be graded in various areas besides fitness days and testing.

Teacher 2: I think the current grading procedures at JMS are detrimental to encouraging students to enjoy physical education and want to be fit. The current standards cater to the athletic student and do not allow struggling students a chance to receive an 'A' grade in PE.

3. How and why would you change the grading technique?

Teacher 1: We shouldn't. If we were teaching math, would we change the math standards so the student who was not good in math could be more successful? NO, standards are in place for a reason and students are forced to actually put in work to earn their grade.

Teacher 2: Grades should be based on participation, effort and student improvement in fitness to allow students who are not naturally athletic to be successful in PE

4. Should a student's fitness results be included in their grade? Why or why not?

Teacher 1: Yes fitness results should be included in a student's grade, fitness testing accounts for only 20% of students' grades and students have plenty of opportunities to improve their fitness throughout the year to increase the letter grade. Students also have a variety of other categories in our program such as activity, nutrition and fitness journals, daily participation points and unit tests to improve their PE grade.

Teacher 2: Scores from fitness testing should not be included in a student's grade, but if that is the only way to get students to try their hardest on fitness, then we need to change our standards from the Presidential standards to the Fitness Gram Standards. This is middle school physical education, not a high school advanced fitness course. We need to be doing everything we can to encourage an active lifestyle outside of PE, not causing students to groan every time they hear the word fitness.

5. How do grading fitness tests encourage students to be physically active for life? Or does it?

Teacher 1: Without a grading fitness testing, students would not put forth the effort needed to reach their full physical potential. This standard allows them to see the fitness levels they can truly reach, which will hopefully inspire and motivate them to be fit outside of the PE program. Most kids at this age do not have enough self discipline to be motivated intrinsically to participate in fitness testing at their full capacity. For many students this is the only fitness they get and without being graded they are not going to try, therefore will not get any true fitness.

Teacher 2: Grading students on fitness testing discourages them to continue to be physically active outside of PE. The average student who may not be involved

with extracurricular sports outside of PE becomes discouraged with the athletic standard being forced upon them from the Presidential Standards.

Figure 1 shows the results from two Pacer fitness tests given to the 8th grade students. For the first Pacer, the students were told that they would receive a grade according to their score. For the second Pacer test, the students were told that the fitness test would not be graded. The two fitness tests were given two months apart. The Pacer test is a fitness test of cardiovascular endurance. During this fitness test, students run to a designated line 20 meters from the start line. The test involves the continuous running between the two lines in time to recorded beeps. Students must reach the line before the beep and may not leave the line before the beep. The time between recorded beeps decreases each minute (level) requiring an increase in pace.

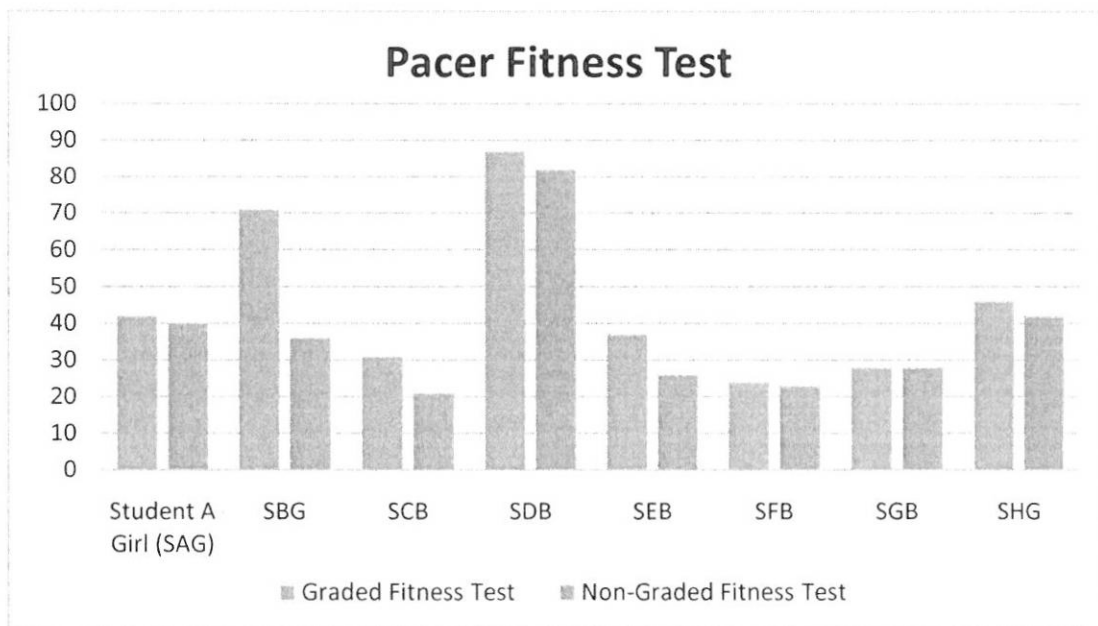


Figure 1: Student Fitness Testing Results Graph

Figure 2 shows the eight students and their pushup fitness tests documented from their 6th grade to their 8th grade fitness test.

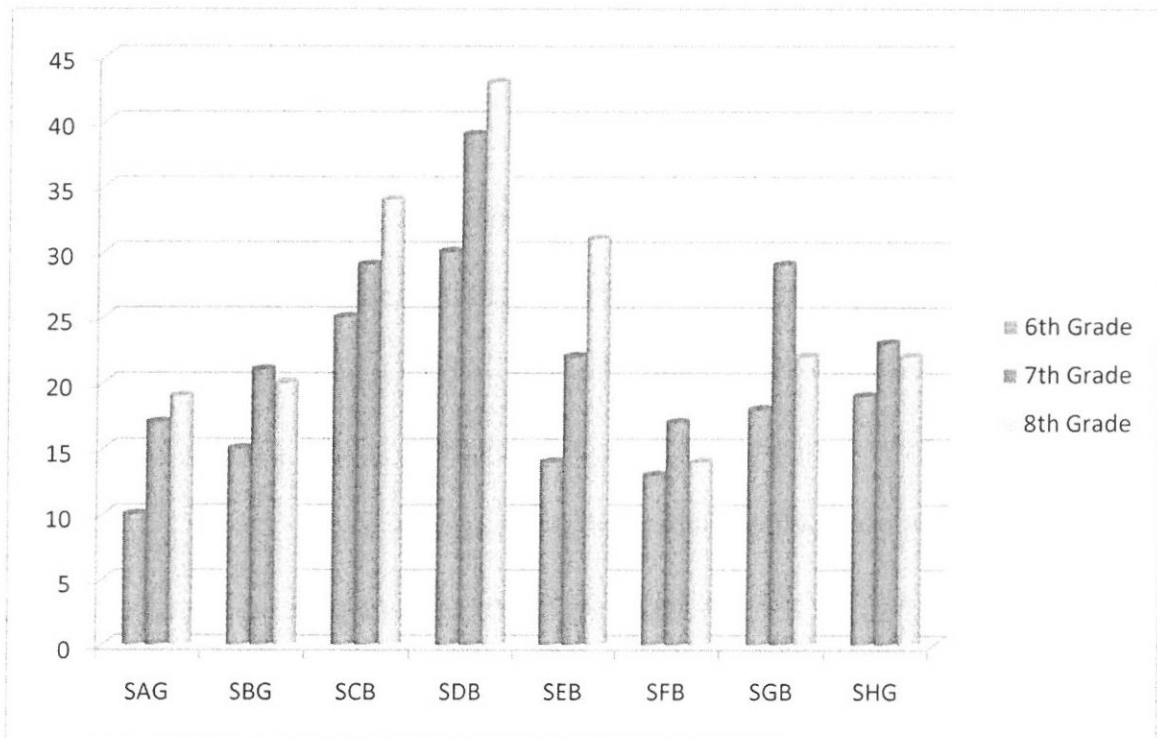


Figure 2: Student Fitness Results for Pushups Graph

Data Analysis

Before considering whether fitness testing should be included in a student's actual grade, it is important to look at how both students and PE teachers view fitness testing and fitness standards. The first student survey question asked students what they thought about the way PE students are graded at JMS. The answers ranged from Student 'A' stating that she believed the current grading procedure was fair because students are graded on participation, to Student 'E' stating he thought the PE grading method was horrible and unfair because students should not be graded according to a standard.

The answer by Student 'A' was a bit of a red flag that students may not even completely know how they are being graded in PE, even though at the beginning of the year every class period reviews physical education grading procedures and the percentages are broken down in each grading category. Every student takes the PE grading procedures home and has their legal guardian sign it and turn it in. Secondly, Student 'E' stated PE students should not be held to a standard but should be solely graded based off of effort. The entire educational system is based off of standards. Standards hold both teachers and students accountable for what is being taught. Another thought regarding PE students being solely graded on effort and improvement brings in the issue of legitimate effort. From experience, I had an 8th grade boy this past school year get four pushups on his fall fitness test and then "improved" on the spring fitness test and did five pushups. The problem with this so called improvement is every day for PE warm-ups, 8th graders do on average anywhere from ten to fifteen pushups, and I have personally seen this particular student do PE warm-ups. There is something wrong with a grading system that rewards working the system.

Another issue that was brought up in the student responses to question one was the issue of many kids not being athletically inclined and therefore has a disadvantage in PE. Student 'F' stated in his response to question one that students should not be graded on how well they do because some people are not as physically fit as others. In analysis of this statement, I acknowledge that there are varying levels of fitness in every person. I also would like to point out in relation to the teacher response to question three of how and why one would change the grading technique, in academic classes

such as math, we do not lower or change the standards in order to make a student feel better or in order for them to receive a higher grade.

Although Students 'G' and 'F' proclaimed that they believed that PE students are graded too harshly and fitness testing results should be based on improvement and effort. These students also admitted in response to student question three, that if they knew they were not being graded on a class activity, specifically a fitness test, their effort level would decrease and they would not try as hard because there is not a grade attached to the activity. These statements bring into light that without grading fitness testing, the average student would not put forth their best effort. This information is evident in Figure 1 in the data that documents the pacer which is a cardio respiratory fitness test. During this fitness test, students run to a designated line 20 meters from the start line. The test involves the continuous running between the two lines in time to recorded beeps. Students must reach the line before the beep and may not leave the line before the beep. The time between recorded beeps decreases each minute (level) requiring an increase in pace. Looking back on the data in Figure 1, seven out of eight student scores decreased when they knew they were not being graded. The eighth student's score remained the same.

The issue of intrinsic motivation is a relevant topic when discussing the data. The main extrinsic motivation in PE being a student's grade, is eliminated if fitness testing is not graded. As seen before in the pacer test, the average student effort level decreases when not faced with the accountability of a grade being attached to a fitness test.

Additionally as seen in graph two in the data, in relation to the students' pushups in

grades 6th-8th and the Presidential Fitness Standards which they have been graded according to, the students' effort level has dropped tremendously from 6th grade to 8th. This is common among many middle school students, but it does affect their grades, and not grading fitness tests is not the way to 'fix' the motivation issue. Teacher '1' actually was one of the founding teachers of the PE department when the school opened in 1994, so he helped create the 'rigorous' PE grading system at JMS. Compared to teacher '1,' teacher '2' is a female teacher who has been at JMS for six years. The main points that are disagreed upon between these two colleagues is the issue of the current grading fitness tests being a discourager to students instead of the goal of the PE department which is to increase knowledge of physical health and fitness and encourage a physically active lifestyle outside of PE. Teacher '1' is adamant that fitness testing should be included in the final grade, to hold students accountable for their fitness and to build fitness. Teacher '2' states that the current JMS PE standards cater to the athletic student and do not take into account that these middle school PE classes are required classes and are not electives, therefore the standards should be more applicable to the general population, compared to an advanced fitness class in high school. Additionally, teacher '2' states that by grading fitness tests, students hate fitness and may be discouraged to continue fitness activity outside of PE. Both of these teachers are highly respected at JMS and both give valid points regarding grading fitness testing.

Implications/Recommendations

This qualitative study shows that there is a variety of research, thoughts, and opinions regarding whether or not fitness testing results should be included in a PE student's grade. Based on the facts, students need to be held accountable for their fitness, and without standards students are left with no guide for fitness, and a lack of intrinsic motivation will hinder students' true fitness potential. Jackson Middle School's fitness standards are currently the Presidential Fitness Standards. In order to encourage fitness and not cause frustration by setting too high of fitness standards, JMS should utilize the Fitness Gram Standards. "The Presidential Fitness Test is a recognition type of program where only 2 out of 10 students "pass" the test and directly "compete" with other students as opposed with themselves. This does not motivate nor inform 80% of the students tested how to be healthier or improve their fitness levels" (Kier, 2008). Additionally, PE is not glorified recess, so accountability of students' fitness should be held by grading fitness testing. Fitness testing should still be included in students' grades due to the admitted lack of intrinsic motivation in the average student when a grade is not attached to a fitness activity. Students also voiced their concern for the opportunity to be graded on legitimate effort and improvement. This concern should be met, but also the rigor of the JMS PE program needs to be upheld by holding the students to the set standard of the Fitness Gram Fitness Standards. Those opposed of grading fitness testing, should be reminded that this is not the only assessment tool used in PE (Mohnsen, 2006, p.24). Students have other grading categories to excel in. While fitness testing remains a controversial aspect of the PE world, the issue of intrinsic motivation

raises a whole new set of questions that can be addressed regarding the work ethic of our current generation and how without some type of extrinsic reward the average student has no incentive to complete a task.

Conclusion

How students are graded in PE is a heated topic for debate among students, parents, administration and teachers. Whether or not students' fitness tests scores should be graded is the main cause for argument. Through this qualitative study both teachers and students stated that students need some type of PE standards to hold both parties accountable. Recently at JMS, the standards have been switched from the Presidential Fitness Standards to the Fitness Gram Standards. Students' fitness test scores are still included in their PE class grade to motivate and hold them accountable for their fitness. Some may argue that this is an unfair method of grading that places favor on students who are athletically gifted. Others argue that PE needs rigor back in the curriculum, and standards should be high so students are challenged. This study went into depth concerning the best method for grading middle school PE students. The implications of this research show that there needs to be clear set standards and grading formative assessment in physical education is needed in order to ensure there is accountability for student fitness.

References

- Arem, G. (2009). Three Strategies for Grading on Improvement in Physical Education. *Kappa Delta Pi Record*, 45(3), 132-134.
- Biddle, S., & Goudas, M. (1997). Effort is virtuous: Teacher preferences of pupil effort, ability and grading in physical education. *Educational Research*, 39(3), 350.
- Cale, L., & Harris, J. (2009). Fitness testing in physical education - a misdirected effort in promoting healthy lifestyles and physical activity? *Physical Education & Sport Pedagogy*, 14(1), 89-108.
- Fitness Gram Standards: Middle School Healthy Fitness Zone. The Cooper Institute. 2007
- Garn, A., & Sun, H. (2009). Approach-Avoidance Motivational Profiles in Early Adolescents to the PACER Fitness Test. *Journal of Teaching in Physical Education*, 28(4), 400-421. Retrieved from ERIC database (ED EJ856387)
- Harris, J., & Cale, L. (2006). A review of children's fitness testing. *European Physical Education Review*, 12(2), 201-225.
- Johnson, R. (2008). Overcoming Resistance to Achievement-based Unit Grading in Secondary Physical Education. *JOPERD: The Journal of Physical Education, Recreation & Dance*, 79(4), 46-49.
- Kier, Justin. (2008) Physical Education: FITNESSGRAM VS. Presidential Fitness.
Message posted to
http://campbellms.typepad.com/justin_kier/2008/08/fitnessgram-vs.html

Table 4

Female Presidential Fitness Standards

6th Grade		MILE	Shuttle	SIT-UPS	PUSH-UPS	Sit Reach	Pacer
10		8:22	10.3	46	21+	14+	52+
9	85 - 70%	8:23 - 9:35	10.4 - 10.7	45 - 41	20-16	13	51-42
8	70 - 55%	9:36 - 10:43	10.8 - 11.0	40 - 37	15-11	12	41-32
7	55 - 30%	10:44 - 12:24	11.1 - 11.9	36 - 30	10-6	11-10	31-23
6	30 - 20%	12:25 - 13:35	12.0 - 12.3	29 - 27	5-3	9-8	22-15
7th Grade							
10		8:12	10.1	47	22+	15+	62+
9	85 - 70%	8:13 - 9:08	10.2 - 10.5	46 - 42	21-16	14-13	61-52
8	70 - 55%	9:09 - 10:06	10.6 - 10.9	41 - 40	15-13	12	51-41
7	55 - 30%	10:07 - 12:00	11.0 - 11.6	39 - 31	12-8	11-10	40-31
6	30 - 20%	12:01 - 13:01	11.7 - 12.0	30 - 28	7-5	9-8	30-23
8th Grade							
10		7:58	10.0	48	23+	15+	62+
9	85 - 70%	7:59 - 8:49	10.1 - 10.5	47 - 43	20-13	14-13	61-52
8	70 - 55%	8:50 - 9:50	10.6 - 10.9	42 - 40	12-11	12	51-41
7	55 - 30%	9:51 - 11:36	11.0 - 11.7	39 - 32	10-6	11	40-31
6	30 - 20%	11:37 - 12:18	11.8 - 12.1	31 - 30	5	10-9	30-23