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THE PREVALENCE, BELIEFS, AND INSTRUCTION OF USING HOMEWORK
MATERIALS AS REPORTED BY PHYSICAL EDUCATORS IN ARKANSAS

**THE PREVALENCE, BELIEFS, AND INSTRUCTION OF USING HOMEWORK
MATERIALS AS REPORTED BY PHYSICAL EDUCATORS IN ARKANSAS**

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor in Philosophy in Kinesiology

By

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August 2012
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Abstract

The purpose of the study was to find out the prevalence of physical educators assigning homework to their classes (17.4%) and to identify factors that are related to whether physical educators assign homework. The questionnaire was completed by 144 employed physical educators from the state of Arkansas.

Logistic regression, an independent samples *t* test, and a chi-square test were used to analyze if specific predictors, school demographics, and the personal beliefs of physical educators affected using homework in physical education. No statistical significance was found in the demographics or predictors, but nine of the beliefs selected indicated that a physical educator's beliefs towards homework may be a major factor in assigning homework. Primarily, the physical educators who assigned homework believed more strongly than others that homework could increase physical activity, make grading easier, and increase content knowledge. Physical educators who did not assign homework believed more strongly that grading homework would take too much time, as teachers they had too many time constraints, that activity homework would be difficult to prove completion, if other in-class assignments exist then it was unnecessary, and believed that homework assignments would be hated by parents and students.

This dissertation is approved for recommendation
to the Graduate Council.

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Dissertation Duplication Release

I hereby authorize the University of Arkansas Libraries to duplicate this dissertation when needed for research and scholarship.

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Chapter One

Introduction

The past decade has seen a rise in the obesity rates in the United States, and this has led to concerns about national health and the cost of health care. The number of states with obesity percentage rates over 30% has risen from one state four years ago to 12 states in 2011. This is in contrast to 20 years ago when there was not a single state with an obesity rate over 15%. Currently nine of the top ten most obese states are located in the South, with Arkansas ranking number nine in its combination of adult and childhood obesity percentage rates. The 2011 percentage rate for childhood obesity in the state of Arkansas is at 20.1%, and it ranks as the seventh “fattest” childhood-obesity state in the nation (TFAH, 2011).

The increasing concern over obesity in Arkansas’ children has led to legislation that established better criteria for physical education in the state. In 2003, Arkansas Act 1220 was created. The act stated that new attempts need to be made to include additional physical activity in the overall curriculum. The act also looked at enforcing the existing requirements of physical education, improving the quality of curriculum and the training of physical educators (Department of Education, 2003).

At the time of the act going into place, secondary physical educators required licensing in the state, but due to the budget adjustments needed, elementary schools were given seven years to hire licensed teachers. Currently, a move by school administrators is under way to have the licensure requirement removed from implementation in 2012. With a last minute warning given to physical education advocates and university professionals, requests to keep the licensure requirement was expressed in letters to state officials (D. Woods, personal communication, July 11, 2011).

Due to the increase of preventable diseases among children in relation to decreased physical activity, the Center for Disease Control and Prevention (CDC) has called for physical educators to find ways to increase students' understanding and potential for life long physical education activity that extends beyond the classroom (CDC, 2000). The CDC has also recommended that physical educators promote physical activity at home by assigning physical homework that can include friends, family, or alone (CDC, 1997).

The purpose of homework has always been to enhance a student's level of academic achievement. Although the volume and depth of research on the subject is limited, there have been numerous studies on its ability to raise achievement (Doyle & Barber, 1990). Theorists, in support of the use of homework, point to research that involved public and private schools, and the correlations of higher achievement in private schools with the amount of assigned homework (Hoffer, Greeley, & Coleman, 1985; Jensen, 1986). Several larger-scale inquiries have also reported that homework does have a measurable effect on students' ability to increase their standardized test scores and course grades, even when potential intervening variables such as ability and socioeconomic status are controlled (Keith, 1982; Keith & Page, 1985). These findings lead to the belief that the more time a student spends on a task, the better he/she will be at achieving success with that task. Homework then allows students to better grasp the material and achieve academic success in that area. A study involving high school participants supported this claim by linking increased study time to significantly improved student course grades (Foyle, 1984).

The historical use of homework materials has probably existed almost as long as education itself. Most of the known dogma in the use of homework has been established over the past hundred years. The popularity of homework with teachers, administrators, lawmakers, and parents, has fluxed back and forth over the past century based on issues in America's society

and politics (Vatterott, 2009). In the transition from the 1800's to the early 20th century, the attendance of children in the primary grades 1 through 4 was not consistent due to required work at home. The subjects of these grade levels were reading, writing, and arithmetic. During this time there was not much homework assigned to children in primary grades (Gill & Schlossman, 2004). Older grades did see increase in homework due to the need to memorize on a constant basis. After several World Wars, homework eventually fell out of favor and the public claimed it stole time away from children (Vatterott, 2009).

It was not until *Sputnik I* launched in 1957 that an increase in homework occurred for fear the nation was falling behind the Russians in education. Again, in the late 1960's and early 1970's, parents and young educators believed that the government overwhelmed our children in education as a whole, and homework was pushed back to being used sparingly. The late 1980's and early 1990's saw the government recommend homework to combat the concern of economics, and that success academically equaled success economically. Currently homework is still in debate, and in the past decade, there have been books and reports both in support of it and against it (Vatterott, 2009). Two important issues that are not being included in the debate are if homework can be used effectively, and what have been the actual research findings?

Research into the use of homework in physical education tends to fall into two separate categories. The first is early research in what is called active homework during the 1950's (Daughtrey, 1959), and the 1970's (Thompson, 1972). The second period would be in the past decade, most of which is applied research (Smith & Claxton, 2003; Mitchell, Barton, & Stanne, 2000). The use of homework activity logs in one study showed that students could continue physical activity after school hours relatively easily, and without interfering with their evening's practices/events and other homework. A survey conducted by Weston, Petrosa, and Pate (1997),

also found that parents 1) supported keeping their children active a bit longer and 2) were willing to sign a log as a form of accountability every evening (Weston et al., 1997).

The focus of the Weston et al. study was to understand how homework fits into physical education. The study asked whether homework in physical education could effectively promote health and fitness understanding and physical activity. This included after the students' classes were over for the day. Although a great goal, there still are many questions that have not been addressed. For example, it is not known how many physical educators assign homework or if any of them had formal training in the proper use of homework materials. If solid theories on the use of homework in physical education are developed, then proper experimental designs can test and find which methods are most effective.

Purpose of the Study

There were three main purposes in this study. The first was to find out how prevalent the use of homework was among physical educators. The second was to find out the reasons why homework was or was not used. The third was to find out how much a physical educator's training was devoted to incorporating the use of homework materials for instruction in physical education.

Research Questions

1. What is the prevalence of homework materials used by physical education teachers in the state of Arkansas?
2. Is there a specific set of predictors or beliefs that relate to why homework materials are used or not used by physical educators in Arkansas?
3. Has there been any formal training in the use of homework materials in the preparation or continued training of in-service physical educators?

Significance of the Study

This study 1) will offer insight into how much physical education homework is being assigned to elementary through high schools students in Arkansas, 2) evaluate and categorize the reasons why physical educators did or did not use homework materials, 3) assess the actual amount of training that physical educators received in the use of homework materials.

This study leads to the identification of instructional methods that may be lacking in the field. It prepared the groundwork for future research into more diverse ways for physical educators to deliver quality physical education programs.

Limitations

Due to the amount of time and finances available for the study, electronic methods were used to distribute the survey.

Delimitations

This study was limited to elementary and secondary physical educators in public schools in the field of physical education. All participants taught in the state of Arkansas. Results may not generalize to other state populations or nationwide.

Assumptions

1. That the participants answered the questions honestly.
2. That participants did not answer the questions differently in electronic format compared to participants that completed a paper copy.

Definitions

1. Academic achievement was defined as an outcome that may exhibit itself in one or a combination of the following ways: improved standardized scores, course grades, grade point averages, high school graduation, and college graduation (Carroll, 1989).

2. Busy work was defined as having no true educational value, but is assigned for the student to have something to do in relation to the subject matter (Jackson, 2009).
3. Homework was defined as tasks that are assigned to learners by their teachers, to be done outside of school time, and without immediate teacher direction (Cooper, 1989).
4. Physical activity homework was defined as a homework assignment focusing on the student performing some form of physical movement.

Chapter Two

Literature Review

Concerns in Health and Physical Education

Concerns exist over children reaching even the bare minimum requirement of physical activity. According to the American College of Sports Medicine, this should be at least 30-40 minutes a day (Smith & Claxton, 2000).

Many physical educators over the past decade have expressed concern over what the goal and objectives of physical education should be. Not only because it would be better defined for ourselves, but also for others observing the field from the outside, primarily administrators and parents (Smith & Claxton, 2003). Currently observing just one given physical education class could result in several deductions of what the current goal is for physical education. One might see skill development in one class, emphasis on physical fitness in another, or acquisition of cognitive skills in sport and games in yet another class. Several physical educators have stated that there is a need to reexamine our overarching goal and focus on teaching lifelong fitness (Corbin, 2002).

In Corbin's article, he suggested that moves be made to provide students with the capability to maintain lifelong fitness and avoid diseases caused by inactivity. Others also expressed this same thought as a responsibility of physical educators everywhere (Mitchell, 2001). The knowledge of health and fitness that is within the field of physical education specifically be given to students in a form that they can clearly take outside of the classroom. In this form, it is worth providing for them at all possible opportunities from kindergarten through college. The main recommendation from Corbin's article was that physical education needs to assign homework. This approach will allow students to see the transition from the classroom to the application of the skill or content knowledge in the real world. Bridging the gap between

content in the classroom and its application in the real world is the inherent point of homework according to Stern (2009). In relation to this, Mitchell, Barton, and Stanne (2000) point out that assigning physical activity homework has the possibility of increasing lifelong physical activity through cognitive and psychomotor domains among all school-age groups.

In reporting on an article about high school students' perceptions of physical education, Garcia (2009) found that the majority of students surveyed were able to identify appropriate practices for physical education classes according to national standards. Yet, 86% of the students felt that their grade should solely be based on attendance, dressing out, and following the rules of the class. The majority of the students, 83%, felt there should not be assignments outside of class time. In a related article, Barney and Strand (2008), stated that because of the beliefs on what is appropriate grading in a physical education class, it is difficult for parents and administrators to judge its worth on comparison with other subject matter. On the topic of homework rejection, Barney and Strand pointed out that homework itself is a great opportunity to expand the cognitive awareness of students in the subject of physical education. Homework also has the potential to involve students in physical activity beyond the physical education classroom.

Theoretical Model

Model of School Learning

John Carroll submitted a "Model of School Learning" in 1963 that included five variables affecting achievement in students.

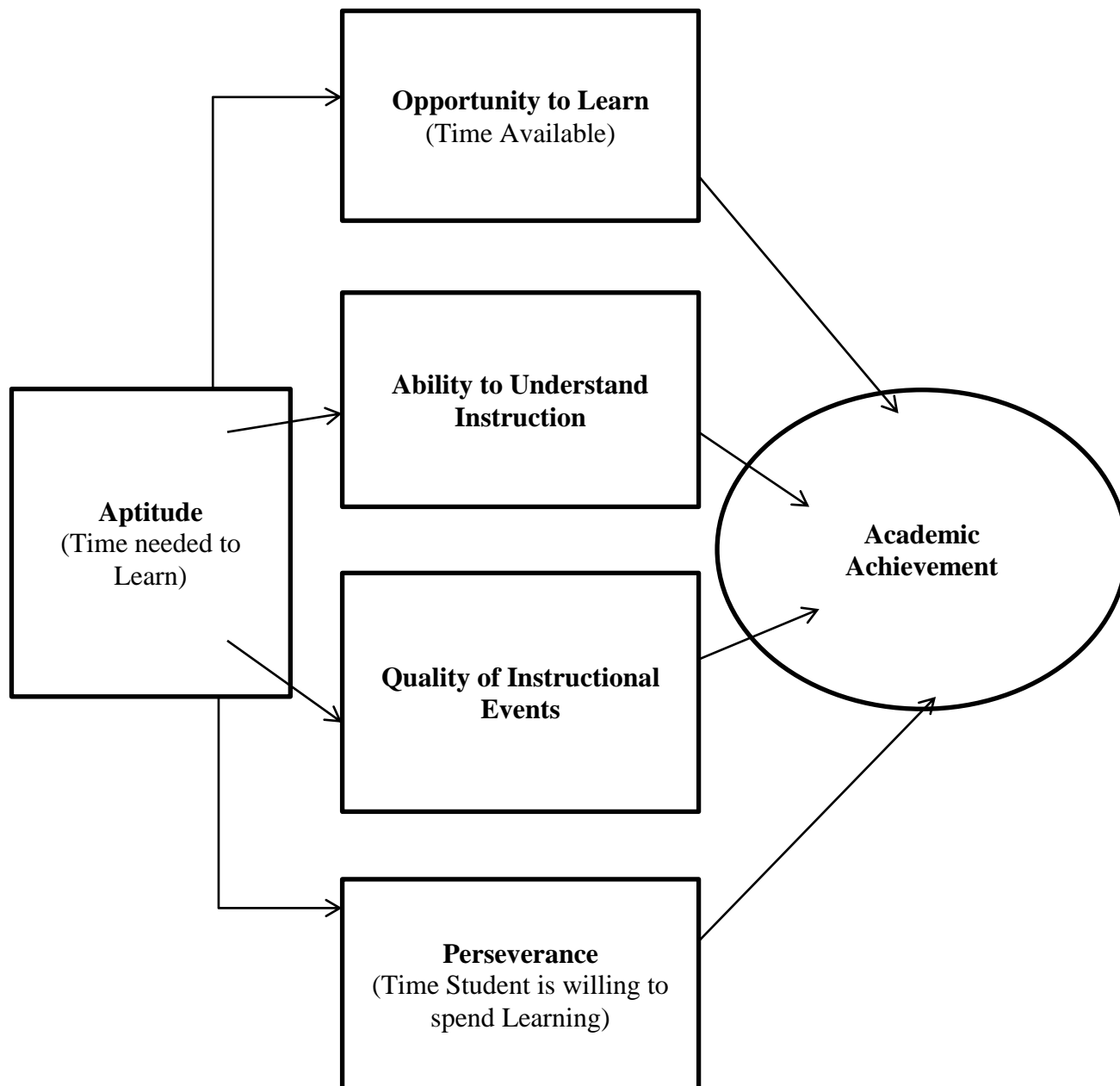


Figure 1 Carroll's (1963) Model of School Learning.
<http://it.coe.uga.edu~treeves/WebPaper.pdf>

Three of the five variables in Carroll's Model of Learning were based on time. The outcome of Carroll's Model was Academic Achievement which focused on improved standardized scores, course grades, grade point averages, high school graduation, and college graduation. Typically in other studies (Albertini, Kelly, and Matchett, (2012); Ventura, Shute, &

Kim, (2012), only one of the five variables mentioned above selected by Carroll were used to represent academic achievement as an outcome. Therefore, Carroll included a more complete list in his theory to demonstrate the various points that create the outcome known as academic achievement. According to Carroll, academic achievement cannot simply be measured by a single item such as standardized scores. The main variable that he believed carried the most weight in the model was Aptitude. He defined it as the amount of time a student needed to learn a new task, and he believed most students were capable of learning academic tasks if given enough time. The second variable that Carroll focused on was the Opportunity to Learn. He pointed to the amount of time set aside for curriculum in a school setting is what fell into this variable. The third variable was the Ability to Understand Instruction, which included language comprehension and learning skills; linking increased learning skills to decreasing time required to learn. The fourth variable was Quality of Instruction. Carroll pointed out that Quality of Instruction could be diverse in practice, ranging from objective-based, in-class instruction to experiential field trips. The last and fifth variable was Perseverance. Carroll defined Perseverance as the commitment level compared to student available-time on task. This was measured by the amount of time a student was willing to spend learning a task needed to master the content. Reeves (n.d.) postulated that if students, in general, have the same amount of Aptitude, than the student willing to spend more time to learn the task will have higher levels of Academic Achievement.

History of Homework

Cooper (1989) defined homework tasks that are assigned to learners by their teachers, to be done outside of school time, and without immediate teacher direction. The basic idea behind homework is that it is designed for students to practice, review and drill content that has been

learned in school, as well as a chance to “amplify, elaborate, and enrich previously learned material” (Hong, 2000, p. 5).

According to Vatterott (2009), the preconceived notion of homework is rooted in the way homework has evolved over the past 100-150 years. Keeping kids on top of the need for memorization and practice with reading and arithmetic was popular before and at the turn of the 20th century. Yet, as time moved into the 1920's, children were required less and less to work at home. The belief arose that children needed time to be children, and homework was stealing time from their childhood. Public schools became under attack for the use of constant repetition as a method for learning, and that brought homework into the firestorm created between progressive and traditional educationalist (Kralovec & Buell, 2000).

In the medical profession, pediatricians were expressing their own concerns over children's health and the increasing amount of homework assignments given to students. According to Vatterott (2009), pediatricians expressed the belief that children were not getting enough fresh air, sunshine, and activity due to homework. Pediatricians believed that this would lead to children getting sick easily as well as problems like eyestrain and stress. Politically there were big movements in labor laws and unions in the 1920's. An especially notable achievement was the workweek now pushed back to 40 hours for the general laboring population. With this providing a backdrop, child labor laws regulating the amount of time children could work were evolving, and specifically cited in arguments of administrators, parents, and teachers on the subject of homework. By 1930, the founding of the Society for the Abolition of Homework placed heavy pressure to have homework removed completely from lower grades and only handed out sparsely in high schools. Unfortunately, little research was conducted on the subject during this time to show any form of support for either side (Vatterott, 2009).

The space race with the Soviet Union in the late 1950's saw a major flip in beliefs, with pressure from the government as well as concerned parents that tomorrow's workforce will not be able to handle the technological advances. It was believed that children in Russia were working harder and having stronger achievement levels in school. As a result of this belief, the American government encouraged adding more after-school academic work, and even went so far to include it as part of the national defense policy (Gill & Schlossman, 2004).

The subculture movements in the late 1960's and early 1970's saw strong public and academic attacks on the current system of homework. Although the main statements were similar to previous movements to have homework banned in the 1920, there was also a noted philosophy that there was too much pressure on children to succeed and reach achievement goals placed on them by others instead of themselves. During this time organizations such as the American Educational Research Association and the National Educational Association released statements on homework. They believed that homework did not need to be abolished, but should not reduce the basic needs to enjoy childhood or infringe on children's health. They also stated that homework should only exist a few nights a week, kept to the older grades, and at maximum only one hour to one and one half hours at a time (Wildman, 1968).

The 1980's saw the trend continue with the support of homework again swinging in favor of adding more at the end of the day. Most of this was driven by the government and the creation of new public policy (A Nation at Risk, 1983). The report stated that it believed the continuing lack of excellence in schools was the reason why the country's economy was stagnant. This saw a publication from the U.S. Department of Education in 1986 that recommended an increase in homework to solve the problem and insure economic success. Several researchers and authors noted that a trend was appearing in our history with education. Any time concern was expressed over the need for increased achievement and excellence in

school there would always be a call for more homework. This recommendation was due to the belief that students would then spend more time on task, and more time should equate to more knowledge (Conners, 1992).

Moving into the 21st century, there has been more research on the subject of homework and its relation to achievement. Possibly the most notable research between homework and academic achievement was done by Cooper in 1989. Unfortunately, only in the past decade with additional research into homework have these findings been discussed. Cooper's findings showed little strength, except in certain situations, between homework and academic achievement. The arguments of homework have increased among parents, administrators, and teachers due to the recent publication of several books, most notably Kralovic and Buell's The End of Homework: How Homework Disrupts Families, Overburdens Children, and Limits Learning, published in 2000. Although many educators, administrators, and teachers may feel they are making new arguments either for or against the use of homework have been expressed previously throughout history (Vatterott, 2009).

The Dogma Behind Homework Beliefs

In the argument on homework there are pretty much four distinct camps. The first being those who are solidly for homework existing in school due to its believed benefits for students. Although specific research supporting homework is listed later in this text, there are many claimed beliefs in homework that have yet to show any form of a foundation in the research literature to date. The second camp is completely on the other end of the spectrum, pointing out how homework has ruined additional learning times and developmental growth by going beyond the scope of the school's responsibility. This current camp of anti-homework has grown in strength in the last decade with the book by Kralovic and Buell. Again, there is not much research to support their claims either, except on some situations involving elementary school

children, but they do use social theories to make their point. The third camp is those who really have no idea or notion about homework, how it should work, and be applied; and therefore can be whisked about by whatever stronger camp is present, which has happened a few times this decade with movement changes. The last and final camp, described as those familiar with the process of using homework to supplement the learning experience. Typically, teachers of various age levels tend to fall into this category. Notably they are supportive of homework if it is of quality and substance, is not busy work to keep students doing something on the topic at all times or assigned merely to create a grade.

According to Vatterott (2009), there are several beliefs in homework that are consistently listed by supporters of homework. Although, there may be some valid points to these specific beliefs, Vatterott points out that they are not always true or reasoned out well. Vatterott created five categories of homework beliefs.

The first is the belief that the role of school is to extend learning beyond what is done in the classroom. She points out that this means that teachers are allowed some control over student's lives once they leave the official school, and that this is for educational purposes to make a better person. Traditionally stated with this belief is that homework keeps children out of trouble in the afternoons and weekends. However, Vatterott is quick to state that this belief questions the capabilities of the parents to provide what is best when school finishes for the day. It also raises the question of how much moral education and policing should the school be doing?

The second belief that Vatterott brings up is that the intellectual activities of doing homework is far more valuable than other things they could be doing, especially since the alternatives are probably not stimulating their thinking. Vatterott points out that this belief comes up often in debates on homework but downgrades other activities in a person's development that might be important. Even if students are just hanging out, there is some value

to their social development, and the leisure pursuits of play cannot be thrown out so easily. Like the prior belief, it does again question the capabilities of the parents to handle their children's free time after school.

The third belief that is popular and possibly the strongest among administrators and parents is that homework teaches responsibility. At the time of Vatterott's book, there was a lack of research that showed responsibility as being a benefit of homework. Although this may seem like a valid point, Vatterott expresses her concern that responsibility may actually just be the nicer way to say obedience. With most teachers, students literally have no other option but to do their homework or fail. In some cases, teachers even feel disrespect if the students choose not to do their homework. Vatterott argues that homework should not be designed as a method to teach responsibility if it is forced on the students and if there is not an alternative. She also points out that this also applies to the idea that it teaches time management, but refutes that it does this in any way. She argues that if students must put off play to do homework, and enforcing occurs by parents, than this is not time management but just doing one thing regardless of what else you may have wanted to or needed to do.

Vatterott's fourth belief is the idea that plenty of homework is a sign of a properly rigorous curriculum. According to Jackson (2009), there is a common positive belief among people that more homework equates to a tough school that will be good for their children. This belief holds regardless of the homework's length or type of homework. Jackson's research showed that the more homework a student was assigned, the more a parent thought that the school was providing a challenge for their child, even though they knew it could be busy work. Vatterott notes that people often believe that the mind has similar properties as a muscle, meaning more work equates to more gains. Yet, Vatterott notes, as with any other muscle over

fatiguing is possible. Unfortunately, the quality of the homework is never as important as the quantity.

The last belief mentioned is one that Vatterott considers subconscious; that teachers are good if they give out homework and that students are good if they complete it. This belief relates back to the last two on the need to teach responsibility and that homework must mean a better learning experience. There are not many people who would admit that quantity on anything is the same as quality, yet in homework this tends to be the case. Many parents will recall an assignment that they had to do in school and tell their children that they should not question it, but at least in the end they will learn some valuable quality character trait. Arguably one of the reasons why this is the case is that many parents do not know how to measure homework quality. Since many parents have difficulty gauging the quality of homework than quantity substitutes as a form of measurement.

The Love and Hate Relationship

Julian Stern, a popular British author on the subject of homework, believes homework is a necessity and that teachers, administrators, and parents need to be actively involved to assure quality. Stern has written several books on the topic, and although he is pro-homework, he has made it clear that busy work or additional work merely to simply assign a grade is ineffective. In his book Getting the buggers to do their homework (2006), he wrote a chapter on specific reasons why everyone loves or hates homework from multiple perspectives.

Stern points out that it is easy to hate homework, simply because everyone would rather be doing something else. This easily applies to students and teachers who lose valuable leisure time to homework and its grading. In addition to this the breaking down of the barrier that is between school and the haven that is home automatically sets up mistrusts on the assignments since teachers cannot monitor their students and they cannot see how long assignments truly take

students to complete. The following 20 reasons to hate homework are listed in bullet form due to their ease of understanding.

Why We Hate Homework (Stern, 2006).

“Time Hates

- It takes up a lot of time.
- It takes away from time spent on fun things
- It feels like it takes far more time than doing other things.
- It takes additional time to prep and drains energy
- It leads to additional time worrying.

Mistrust Hates

- Breaks down the separation of the classroom and home.
- Teachers are usually clear that they mistrust that students will do their homework.
- Teachers express mistrusts when receiving homework that the work is original.
- Parents show their mistrusts that their children will do their homework.
- Students do not trust that the homework they get assigned has an educational point.

Administrative Hates

- Homework is hard to organize in preparation to work on well.
- It can be difficult to organize so that the homework gets to school.
- Homework is often handed out at the end of a session and therefore not always clears.
- Checking and grading homework cause it to be hated by teachers.
- Teachers are often inspected and held accountable for its implementation in many schools.

Punishment Hates

- Teachers often associate homework as a type of punishment.
- Parents associate homework as a type of punishment.
- In some inquires, teachers would prefer to do away with mandatory homework than have a pay raise.
- Homework is associated with punishment by students.
- Students may prefer punishment, like detention, than spend time completing homework.”

Figure 2: Quoted from Stern (2006)

Although the hate reasons do lead to a strong understanding on its problems, Stern argues that it is not enough to toss out the use of homework as a whole. He points out that there are some valid reasons to support the continued use of homework. Most importantly, when using homework effectively it is a chance for students to learn something of serious substance and

demonstrate the knowledge for others. It gives the chance for the school to show that it has relevance in the lives of the community and the home. Whether school can really make a difference in the real world is a question sometimes raised by parents and students. The following is a list of 20 loves for homework.

Why We Love Homework (Stern, 2006).

“Applied Love

- Homework can carry a fascination into a lifelong hobby or even career.
- It generates meaningful conversation.
- It can generate meaningful argument and a chance to understand and express one’s beliefs.
- Homework generates most of the most memorable work.
- Homework often becomes memorable for other family members as well.
- Teachers do tend to enjoy well done homework.
- Homework is a chance to get lost in work.
- Homework is a chance for teachers to see their teaching work beyond them.
- Homework allows the world beyond the classroom to do some teaching.
- Homework allows for exploitation of all school resources, like libraries.

Individual Loves

- It has a chance to promote individual pride and success.
- Homework gives students a chance to continue education and show that the teacher isn’t always necessary.
- Homework can cure boredom.
- Homework can celebrate a student’s distinct and individual life.
- Homework may solve deadline procrastination.

Inclusive Love

- Homework can enrich the curriculum by involving the students
- Homework can use the resources beyond the school.
- Homework exploits people, inside and outside the school, as potential resources.
- Homework can create encouragement from beyond the school.
- If used effectively for this method, homework can create positive connections across the school by combining various subjects and grades. “

Figure 3: Quoted from Stern (2006)

Stern's thoughts on the subject are not completely founded on research, but they do carry some merit. Stern makes it clear that all of these hates and loves could be reduced or enhanced by how the homework is applied. He states that homework must, above all, be useful. That it

should be used to continue the learning process in every way. If, homework does not continue the learning process, than it is just busywork and leads to the hatred of homework. Additionally homework needs to be relevant. It needs to makes sense to parents and students on how it relates to the topic or risk being discarded as superfluous. His final point is that it is homework, and that should not be just a label that means it is to be completed at home. Instead, it should be used as a way to utilize and relate to the world beyond school, and provide a chance for the topic to demonstrate its adherence to actual use in the world.

Beliefs on the Positives and Negative of Homework

As mentioned previously in this work, the battle over the use of homework is a current issue that parents, teachers, or administrators have not altered the beliefs and thoughts of the public in either direction. Although many have argued the implementation of No Child Left Behind and its increased focus on standardized testing by former president George W. Bush has caused an immediate increase in homework, even though current data does not exist to support this premise (Noll, 2010). The only result that has definitively been shown in the research and history of homework over the past 100 years is that people cannot agree on the amount that should be assigned or if it should be assigned at all. The only consistent belief in homework is that students want less of it, regardless how much is assigned.

According to an article, defending their view and their book, Kralovec and Buell (2000) state that the number one reason homework should be decreased and/or omitted is the shrinking amount of available time that families have to spend together. According to interviews conducted by the pair, they found that parents often work extensively more hours than they did 20 years ago, and now when they arrive home they often have to tackle homework with their children. This costs them time in teaching their children culture, religious beliefs, and important life skills. Kralovec and Buell also state that homework automatically creates a disadvantage to

people with lower socio-economical statuses. Some children are able to go home to well-educated parents and have easy access to a computer for looking up research on homework problems and projects, and others do not have this advantage. They state that the role of the teacher is to bridge the gap, but this may not happen when homework is an easier solution. They also point out that due to the demographics in socio-economical statuses; homework puts a larger burden on minorities, further increasing an economical and academic achievement gap.

Kralovec and Buell also point out that the work by Cooper (1989) demonstrates that homework does not contribute highly enough to academic achievement for the problems that it causes. This is reason enough to see it abolished and find another method for increasing student learning. They also note that many parents, administrators, and policy makers are concerned that our students will not be able to compete on the global market, and more homework will not only make them more academically competitive, but our country more economically competitive. Kralovec and Buell reference research conducted in 1995 by the International Third Science and Math Study that showed German and Japanese students outperforming American students, yet with less assigned homework. From this, Kralovec and Buell believe that homework is not the solution, but a search and evaluation of new ideas is essential for educational reform and success.

In answering the homework issues brought forth by many people since the original publishing of Kralovec and Buell's book, David Skinner (2004) believes that complications with homework are a bit exaggerated and students have handled homework well. Skinner believes the amount homework a student is required to do has fluxed back and forth over the past century, but he points out that the amount of commitments children are being involved in after school is truly a new variable affecting family time more than homework. Children are whisked from one after school event to another only to come home to homework late at night may actually be the cause for concern.

Skinner points out that Kralovec and Buell's book is inherently flawed, and should not be considered as part of the homework debate. The first flaw was the idea for writing the book, which both authors claimed had come from interviewing high school dropouts. The dropouts reported homework as being a major reason for dropping out of school. However, Skinner points out the lack of research to support Kralovec and Buell's contention that homework needs to be abolished. The second inherent flaw he refers to within the book is the referencing of a socialist agenda that everyone should be considered automatically equal, and that homework is increasing the academic and economic achievement gap. In theory, it would be nice if everything was equal for everyone, but it is not, and that should not contribute to the direct removal of a potentially successful method of learning.

Skinner also reviewed the 1989 studies of Cooper and points out that when comparing homework to no homework at all, 70% showed that homework was positive. The study also revealed that the average academic performance of those who did homework was higher than 55% of those who did not do homework. Skinner believes that we should not get rid of homework, but a serious look at age and grade levels may need to be done. Research keeps reporting success at the older levels, and this should be pursued so that it may be maximized. He does agree that the time needed for homework should be assessed. It is not that they have too much, but that there is little research to make accurate and broad recommendations on the amount of time students should be assigned homework.

Research on the Validity of Homework

According to Doyle and Barber (1990), there has been some concern over assigning excessive amounts of homework to elementary age students. The studies that focus on elementary students using homework due tend to be correlational in nature instead of experimental, and although they do show some weak correlations ($r = .25$), there is not a

guarantee that extending the time spent on homework task or additional homework assignments leads to improved academic achievement (Cooper, 1989).

Hong (2000) points out there are numerous articles extolling the virtues, as well as the depredations, of the use of homework in schools. She points out that these beliefs fill up mass media and applied research journals, but these reports do not have many empirical findings on the effects of homework. The studies that have performed examinations of the topic as a whole have come to three conclusions: that few studies have been conducted, most were poor in their design and methods, and that they only focused on the characteristics of homework, such as quality and feedback, as well as achievement (Cooper, Lindsey, Nye, & Greathouse, 1998; Paschal, Weinstein, & Walberg, 1984).

Elementary Homework Research

Unfortunately, few studies on the relationship of homework and academic achievement have provided any conclusive data. However, there have been some statistically significant correlations with homework and academic achievement among high school and college students, yet there is little support for incorporating homework in elementary school (Cooper et al., 1998).

Some studies have reported a positive effect on homework and academic achievement (Paschal et al., 1984). Others fail to find a statistically significant effect of time spent on homework and student academic achievement (Chen & Stevenson, 1989; Cool & Keith, 1991; Smith, 1990). More recent research (Cooper et al., 1998) even pointed to a potential negative relationship between amount of homework and student attitudes towards homework. This same study also noted that academic achievement by students was more associated with the amount of homework that was completed, and it was more correlated in the later grade levels. Cooper's study also noted that about one third of the participants did not complete their assigned homework.

Homework Success

Hong (2000) notes that homework can be a potentially powerful tool for a student's academic achievement and educational advancement; however, it can also be a detractor to these goals. For the homework to be successful there are some notable points that must be met. The first is that homework is used in relation to the material learned and its academic objectives, and is used meaningfully (Cooper & Nye, 1994). The second is that the teacher should be effective at having a regular flow of assignments, with the ability to quickly grade, provide feedback, and return it to the student. Individualized feedback tends to be more effective than just a returned grade (Paschal et al., 1984). The last point being that students need to apply personal techniques that help them improve their basic capability to study (Schloss & Alper, 1995).

According to Sullivan and Bryan (1995) these personal techniques need to focus on finding a time and place for completing homework, and after finishing it, placing it in a location to remember to bring back to school. Students need to learn to handle and mitigate distractors, for example television and friends. They need to recognize when they are becoming tired and are losing focus and develop methods to handle both. Students also need to develop the skills of effective note taking and ways to improve their reading comprehension.

Parental Involvement

Parental involvement is also the key to homework success. Assigning negative grades for homework that has not been completed does not tend to result in its completion. Rather, parental control with teacher collaboration in the form of consistent communication has shown to be successful in producing homework completion (Jensen, Sheridan, Olympia, & Andrews, 1995). In a study by Johns Hopkins University (Hollifield, 1995), parents were asked about their preferred method of involvement with their child's education. Most did not report preference to being involved by volunteering at the school or participating in policy decisions, but instead

preferred to work with their children on assigned homework. When Hong (2000) was beginning to conduct her study on homework motivation and learning preferences, she received large amounts of support and involvement. Students in the study also reported that they believed they did better in school when parents were involved with their homework. Although this is not universal, parental views on homework can range from one spectrum to another. A study by Reetz (1990), revealed that parental beliefs were 1) quality teachers give out homework, and poor teachers do not and 2) some parents made it clear that homework has ruined their family life, while others disagree.

Unfortunately, the major problems that detract from parental involvement with their children's homework tend to be due to the lack of communication over assignments with teachers. Traditional methods of communicating with parents are homework checklists, newsletters, daily homework journals, parent-teacher conferences, notebooks for parent/teacher correspondence, and more recently email (Hong, 2000). In a study about increasing communication between parents of students with disabilities and their general education class teachers, several recommendations were made that can be generalized regarding parent teacher communications. Parents and teachers need to create time and opportunity for conferencing through technology. Hong recommends that teachers need to use new methods (modern technology) as a way to increase parental awareness and enhance teacher-parent communications. Jayanthi, Bursuck, Epstein, and Polloway, (1997) recommend including positive feedback in communications to keep negative emotions out of the communication.

Homework Research in Physical Education

In most subjects, homework materials are sent home to further add to the learning of a topic (Corno, 1996). Yet, this does not seem to be observed often, nor is it expected. In a study

by Tannehill, Romar, and O'Sullivan (1994), parents reported that they had never experienced, nor expect, homework from physical education classes (Kinchin, 1997).

To compound this problem there is little research in the area of physical education in relationship to homework. According to Mitchell, Stanne, and Barton (2000), the subject of homework gravitates into two major areas still in need of study. The first is that there is no theoretical model to explain the variety of homework types that are used in physical education classes to expand the content appropriately and effectively. The second is that most of the studies have no comprehension or consideration of the prevalence of homework use among physical educators. Instead, the research has focused on how individual schools and physical educators have incorporated homework into their classrooms (Hinson, 1994; Cutforth, 1995).

Case Studies

In a case study conducted by Mitchell (2001), the researcher examined the life of a middle-aged, female, high school physical educator to see how and why she implemented homework into her classes. The researcher conducted interviews with the physical educator and one of her 9th grade physical education classes. The researcher was able to categorize the homework assignments for the class into six types: cognitive preparation, cognitive practice, cognitive extension, affective extension, psychomotor practice, and psychomotor extension.

Cognitive preparation was used to describe how students' created/described things e.g. how students would physically set up the game of basketball. Cognitive practice references the student's demonstrating their ability to repeat information back to the instructor, examples being terminology and key lesson points. In cognitive extension, students were requested to design and create a model or contract for out of class time physical activity that they may perform. Affective extension referred to the students designing slogans and signs that showed positive support for the teams created in their class. They were also asked to describe other ways they

could support themselves and each other while performing classroom tasks. With psychomotor practices, students were asked to use skills that they learned in class; an example could be dribbling a soccer ball, and practicing it at home. The last category, psychomotor extension, considered how well the students actually fulfilled the models or contracts they designed in the cognitive extension category. Although the researcher did not note how the grading was performed, it was acknowledged that the activities were graded and did play a significant role in the students' overall grade.

Unfortunately, the article did not contain any data on where the physical educator had learned these homework techniques. However, the physical educator stated that the techniques were implemented on the beliefs that all teachers should focus on preparing students for their life after school. The physical educator also stated that she believed that teachers in physical education have a responsibility to help students prevent chronic diseases that may develop from being inactive throughout their life e.g. high blood pressure and diabetes. When students were interviewed on the topic, they stated that they recognized the purpose of the homework. According to the article, most students even acknowledged that activities were worth doing for improved future health.

In a paper presented at the annual conference of the American Educational Research Association, a case study was performed on a female physical educator who was able to maintain respect in a poorer Chicago school (Cutforth, 1995). Her methods included the use of homework and consequences for students who did not finish their homework. From this case study, it was reported that assigning homework earned her respect from parents, fellow teachers, administrators, and the students.

According to the physical educator, she had some specific guidelines for homework assignments. The first was that she only assigned homework to the older grades (5th through 8th).

The second is that she only handed out homework once a week and expected it back on the day it was due. Failure to turn in the homework resulted in either completing it in detention, or finishing the work first before joining in a fun activity. The third guideline was that the homework be specific to the lessons taught in the class and dealt with real life application. Assignments typically consisted of a worksheet with short answer blanks that pertained to the rules, terms, strategy, and health concepts.

When Cutforth interviewed students about the physical education classes and having homework, Cutforth noted that they had a hard time realizing that they were required to complete homework in physical education when they first started, but now it was accepted as part of the normal class. The physical educator in the case study also stated that she liked receiving the assignments from the students, because it let her know their strengths outside of their physical capabilities. It allowed her to truly help them with their full spectrum of growth. She noted that the respect she received from the students and their respect of physical education as a subject made it worthwhile.

The psychomotor domain and physical activity homework.

Weston, Petrosa, and Pate (1997) studied the use of physical activity homework with 95 middle school students in a physical education class over a nine-week period. The design involved the students taking homework assignments for unstructured physical activity. They used physical activity logs that contained suggestions on potential activities but were not just limited to the ones on the logs. The logs also had time recommendations to circle with the shortest being 20 minutes. The students were divided into groups, with the only difference being that one participated in the activities with a parent. At the end of the study the logs were collected. Also included with the end of the study were interviews with 13 students, and a short questionnaire sent to all the parents that participated in the parental group.

In some cases, the journals did not reflect differences in activity levels from those that the students would normally pursue. But, in other cases it resulted in some students trying new things with their parents for the first time, e.g. one student's first experience at mountain biking. Students also tended to try and primarily choose group activities over individual activities. In the parental questionnaires, it was reported that 75% of parents believed that activity homework from physical education was a good thing that kept their kids active and potentially healthy. It was also discovered that 78% of the parents reported that they enjoyed their involvement with the assignments.

In the study involving the youngest and largest set of participants, 607 third, fourth, and fifth graders, Smith, Cluphf, and O'Connor (2001) were able to recruit 302 boys and 305 girls in a study that utilized physical activity homework. The participants were clustered by their class assignments and were given an activity sheet as homework that contained a list of recommended activities and times. Parents were asked to sign the sheet as a form of accountability that the assignments were performed. The study was performed over a five-month period, making it one of the longest studies done on the subject of physical education and homework. An incentive to hang the "golden sneaker" plaque was given as an award to the class that turned in the most minutes of activity at the end of each month. An analysis of variance was performed at the end of the study to see what factors may have affected the students' participation in the homework. Typically, girls participated more than boys. The most significant factor was the variable of the classroom teacher. The researchers spent more time addressing the need for potentially using more reinforcement rewards, but they did not completely address what their results revealed. Because the homework was not built into the curriculum there was no grade assigned for the homework, which may mean that many students and/or their parents placed less importance on something that is less familiar, e.g. homework in physical education (Smith, Cluphf, &

O'Connor, 2001). Although the teacher might agree that physical activity and the homework that encourages it are important, it is unlikely that they would consider it a priority in their classroom.

A newspaper article in the Tribune Business News reported on a study that was being conducted with physical education and homework (McClatchy, 2006). Researchers Rick Petosa and Brian Hartz, from Ohio State University and Denison University, recruited 143 participants from high school physical education classes to keep a diary. The purpose of the diary was to reflect on specific assignments that were given, and provide a thinking, writing, and analysis component. An increase in the number of students who participated in physical activity outside of school increased from 53% to 92% over an eight-week period. Many students increased their physical activity frequency from barely 30 minutes per week to more than the 90-minutes per week. The researchers also reported that the increase of students who participated in four days of physical activity increased from 4% to 34%. The researchers noted that students usually preferred physical activity that involved others than individual activities. The research was part of a development for a "Planning to be Active" program, which did involve assignments and a textbook. According to Hartz and Petosa (2006), the increase was most notable in students who were primarily sedentary than those who were already participating in some form of physical activity. The next step was to conduct a larger study with 1,400 participants, but that study was unable to be found via various data websites and interlibrary loan services.

The cognitive domain.

Jorgenson, George, Blakemore, and Chamberlain (2001), at Brigham Young University, studied how homework could be used to enhance a lifetime fitness class in the university. They performed a pre/posttest on the cognitive domain of 291 participants enrolled in the fitness and wellness concepts class. Participants were then separated into an experimental group that

received homework assignments, and a control group that did not. The pretests revealed similar completion scores between the two groups, 63%-62%. However, after the posttest was completed a statistically significant difference was discovered. The experimental group experienced a 9% increase in their scores, with $p < .001$. The control saw no notable difference with $p = .35$. Using follow up interviews with students in the experimental group, the researchers noted that most of the participants supported the use of some form of out of class assignments

In a study involving physical educators instead of students (Mitchell, Stanne, & Barton, 2000), the researchers asked physical educators what their attitudes and behaviors were towards homework. This was one of the few studies that looked at the prevalence rates of homework in physical education. The study took place in South Carolina, where public physical educators must send a representative from each school in the state to attend workshops five times a year in physical education. At the time of this study, this mandate had been in effect for two years. The researchers separated the participants into two groups, those in the first year of the workshops and those in the second. The participants reported that more than 80% from each group supported the use of homework for physical education. Yet, only 60% of the one-year group actually assigned homework compared to 88% of the two-year group. Even more notable was the different types of homework assignments used, 79% of the two-year group reported that they used a variety of homework, but only 23% of the one-year group reported that they had different types of assignments. It is notable that this difference was due to the amount of physical activity homework being assigned by the two-year group. The rest of the one-year group used written homework only, referencing the cognitive domain, and in some cases admitted it was used for punishment purpose for not dressing out for class. No homework was noted that fit into the

affective domain. Their conclusion was that the physical educators in the study believed in the idea of homework more than they practiced it.

Older “research”.

In an article by Daughtrey (1959), he points to the work he did as Director of Health, Physical Education and Safety in the Norfolk, Virginia school systems. His major concern was that the time devoted to physical education, specifically vigorous activity, in the school system was not enough to achieve good health. Therefore, the school system as a whole implemented a physical education homework program. Elementary and middle school students in the program would learn a skill or participate in a specific activity during school time, and would then be given worksheets to take home to continue their practice. This would sometimes be assigned with other students as group work, where they would measure each other, or as an assessment to be evaluated by parents. Daughtrey reported that many of the parents were excited to be in the program and wrote back their approval in the homework program. If the students performed exceptionally well and completed all their homework, they were given a button of excellence and allowed to compete in an overall school system competition on a Saturday for a trophy.

At the high school level, students took a pretest at the beginning of the semester and a posttest at the end. Classes focused on getting the students to improve their fitness levels by providing instruction, and by assigning fitness-related homework that could lead to improved activity times. Grading took place on the amount of effort and demonstration the students showed to have towards making improvements. As a goal, Daughtrey pointed out that they hoped the students performing the homework in the homes would motivate a change towards more physical activity in the community. Based on the response and parental participation in the homework assignments, Daughtrey counted it as a success.

Not so positive results.

Not all research has demonstrated that using homework in physical education increases physical activity. In fact, sometimes resistance is quite fervent by parents or students (Kinchin, 1997; Weston et al., 1997). Other times it seems that the results just fail to find significance.

In a study conducted by Smith and Claxton (2000) that replicated the Weston et al. (1997) study, the researchers studied the effect that assigning physically active homework from a physical education class would have on physical activity levels of the participants, (95 middle school students). They also included a component to inquire about the students' and their parents' perception of the homework. Using the Previous Day Physical Activity Recall Journal Instrument (PDPAR), the researchers measured the participants over a nine week period. During weeks 4-6, the students were assigned three active homework assignments. Half of the students were assigned to perform the homework assignments with their parents. At the end of the seventh week, they sent out parental surveys and interviewed 13 of the students and the PDPAR journals were collected. The journals were then analyzed and calculated into metabolic equivalents (METs). Upon running an analysis of variance statistical test, it was noted that Met expenditure means experienced a significant decline as the students progressed from week 1 to 9. The researchers did note that response to the homework by the students that were interviewed was positive with 100% support, and parental support was 56% positive.

In a study on using the Sport Education model as part of his dissertation, Kinchin (1997), utilized homework assignments in the form of journal reflections to allow 25 students to respond privately to the study. Journals were collected at the end of the study for qualitative analysis. His study also included one assignment that required participants to look up an article on a sport via the internet. He stated that students generally did not have a problem with filling them out. Interestingly enough, the assignment was met with firm resistance from the students on this

assignment. His belief was that this was due to not wanting any more homework than they had already been assigned, especially from a subject matter where they were not accustomed to receiving it.

International Research

Hong (2000) noted in her research on Chinese, Korean, and U.S. students' preferences and motivations for homework that none of the students from all three countries preferred receiving instructions on kinesthetic, tactile, or physical homework. She believed that this was due to the lack of this type of homework being assigned in all three countries.

Summary

In almost every variable, time was considered a major factor in student academic achievement. There is little debate that physical education class time does not come close to meeting the physical needs of students (CDC, 1997). The issue of acquainting students with the academic side of physical education also rarely occurs due to limited class time that has to prioritize activity/movement time. Therefore, utilizing homework materials may benefit both of those major problems in physical education, and help reach the goals of affiliating students with life-long fitness by having them spend more time on the subject matter.

In summary, it is undeniable that there is a marked lack of reliability in the previous research that has been performed. Due to this, it creates a more complicated issue on what is best for our students and their academic achievement. Outside hot-topic issues have a consistent chance of showing up in the debate, such as minority gaps and the faltering economy, and forgetting that there is actually a goal for homework assignments. Although homework has been consistently debated and there are plenty of books on how to be effective in assigning or completing homework; there is a scarcity of research supporting on what is considered quality homework (Skinner, 2004).

Chapter Three

Methods

Participants and Design

A total of 149 participants were recruited for the study. Four were removed because of incomplete data and one was removed due to being identified as a student intern, who was not the main physical educator of the school, leaving a total of 144 participants for data analysis. The participants were recruited in three stages. The first was a convenience sample of Arkansas physical educators who attended the 2011 Arkansas Association for Health, Physical Education, Recreation, and Dance Convention. The first stage was successful at recruiting 21 participants.

The second was through a randomly selected, state email contact list of principals provided by the Arkansas Department of Education. Principals were asked to provide email addresses of their employed physical educators, and were informed that by replying with the email addresses was considered as granting permission to contact the physical educators (Appendix E). Initial contact was then made via email. Participants were provided a brief introduction, a copy of the implied consent form by email attachment, and link to the survey. The second stage resulted in 30 participants being selected.

The third stage was conducted by searching independent school district websites for the email addresses of employed physical education teachers. Emails were then sent to the identified teachers requesting participation along with an implied consent notice and link to the survey. As a result 93 additional teachers returned completed surveys.

Only employed physical education teachers in the state of Arkansas were eligible to participate in this study. The participants were not required to be licensed in the state of Arkansas as a parameter for this study. Individuals who were currently interning or volunteers (unless considered the main physical educator of the school) were not eligible to participate. The

participants were given an introduction letter with the researcher's contact information and an implied consent notice, either in paper form or via an email attachment, before filling out the survey (Appendix B).

Instruments

The survey (see Appendix A) was designed in three parts. The first part asked specific demographic questions. Examples of questions in this part consisted of gender, age, class size, and highest degree earned. The second part of the survey asked questions specific to the prevalence and beliefs of using homework in physical education. The third part was designed to explore factors that may affect whether physical educators use homework in physical education.

Reliability and Validity

The validity for the survey was obtained by using expert opinion on the appropriate content questions used in the survey. Expert opinion was also received for the research design and statistical methods. The questionnaire did not contain any multi-item scales for potential internal consistency. Reliability and validity were created through the comparison of the questionnaire to the previous research literature through questions being based on previously discussed or measured variables.

Procedure

Permission to undertake the study was received from the University of Arkansas Institutional Review Board (Appendix C). Confidentiality at the conference was preserved by not having the surveys attached to any form of identifying information when they were returned. The completed surveys were placed in a sealed box by the participants at the conference, and the physical education teachers who participated by email, retained confidentiality through the Qualtrics servers. Permission was requested from the principals to contact the physical educators

(Appendix E). At the request of many of the principals, permission was also requested from the Central Offices in the specific districts (Appendix F).

Participants were informed in the initial contact that the study was to investigate the use and beliefs of homework in physical education. Participants were informed about implied consent, and acceptance was based on completion. Participants were requested to take time to complete the survey as honestly as possible. After the data were collected, it were imported into SPSS Software for analysis.

Treatment of Data

The data were analyzed in a combination of logistic regression, independent samples t tests, and chi square tests. A regression measurement compared the variance and covariance between multiple variables in the data set. The dependent variable was set as a criterion and the proportion of its variance predicted from the independent variables. Certain variables were analyzed in collected sets to determine their effect on the dependent variable. Effect size was measured by a Nagelkerke adjustment. Follow up tests were used to determine further effects of the independent variables.

An independent samples t test was used to compare the means of two separate samples to investigate if there was a statistically significant difference between the two (Thomas & Nelson, 2001). The independent t -test method was used to compare the dependent variables of homework beliefs on homework to the dichotomous independent variable of a physical educator using homework. The chi square method was used to compare certain predictors as independent variables to the dichotomous dependent variable of a physical educator using homework.

Chapter Four

Results

Participants and Response Rates

Of the prospective participants from the first stage of the study, 22 (18%) returned the surveys from the 124 that were handed out. During the second stage of the study, 255 principals were originally contacted. Some initially responded with permission, some did not respond, and many requested the researcher seek permission from the central office of the school district before continuing. After gaining permission from several of the central offices, and sending multiple requests to principals, a total of 87 physical educator's email addresses were provided. Thirty-three (38%) of the 87 responded to the survey requests. The third stage of the study resulted in the collection of 702 potential participant email addresses from public websites of independent school districts. Out of 702, 94 (13%) participants responded to the survey requests. The combined number of usable surveys was 144, as explained in the methodology section, 5 were eliminated.

Demographic Questions

Participant gender was reported as 39.6% male and 60.4% female (Table 1). Ages ranged from 24 years old to 62 years of age (Table 2).

Table 1

Gender Frequency

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male | 57 | 39.6 |
| Female | 87 | 60.4 |
| Total | 144 | 100 |

Table 2

Reported Age Levels

| Age | Frequency | Percent |
|-------|-----------|---------|
| NA | 1 | .7 |
| 20's | 21 | 14.7 |
| 30's | 51 | 35.0 |
| 40's | 35 | 24.5 |
| 50's | 33 | 23.1 |
| 60's | 3 | 2.0 |
| Total | 144 | 100 |

The highest degree held by a majority (52.8%) of the survey participants was a Bachelor's degree which was closely followed by those who held a Master's degree (44.4%) (Table 3). The three counties that had the highest representation in the survey were Benton county at 26.4%, Washington county with 15.3%, and Sebastian county at 11.1% (Table 4). Just over half of the participants (55.6%) indicated that they did not coach any school sports (Table 5). The most frequently coached school sport was basketball at 23%. The second most reported sport was track at 20%, followed by football at 18%. Volleyball was indicated as the next most frequently coached school sport with 10% of the total frequency. Girls and boys versions of the sports were not identified in the survey (Table 6).

Table 3

Highest Degree Earned

| Degree | Frequency | Percent |
|-------------------------|-----------|---------|
| Bachelor's | 76 | 52.8 |
| Master's | 64 | 44.4 |
| Specialist or Doctorate | 4 | 2.8 |
| Total | 144 | 100 |

Table 4

County Participants

| County | Frequency | Percent |
|-------------|-----------|---------|
| NA | 1 | .7 |
| Ashley | 2 | 1.4 |
| Baxter | 1 | .7 |
| Benton | 38 | 26.4 |
| Boone | 2 | 1.4 |
| Clark | 2 | 1.4 |
| Conway | 2 | 1.4 |
| Craighead | 3 | 2.1 |
| Faulkner | 4 | 2.8 |
| Garland | 5 | 3.5 |
| Greene | 3 | 2.1 |
| Hempstead | 1 | .7 |
| Hot Spring | 6 | 4.2 |
| Jefferson | 4 | 2.8 |
| Lonoke | 1 | .7 |
| Lawrence | 1 | .7 |
| Little Rock | 1 | .7 |
| Logan | 2 | 1.4 |
| Monroe | 1 | .7 |
| Ouachita | 1 | .7 |
| Polk | 1 | .7 |
| Pope | 2 | 1.4 |
| Prairie | 1 | .7 |
| Pulaski | 5 | 3.5 |
| Saline | 6 | 4.2 |
| Searcy | 1 | .7 |
| Sebastian | 16 | 11.1 |
| Sharp | 1 | .7 |
| Texas | 1 | .7 |
| Washington | 22 | 15.3 |
| White | 6 | 4.2 |
| Yell | 1 | .7 |
| Total | 144 | 100 |

Table 5

Participants Reporting on Currently Teaching (Coaching) School Sports

| Response | Frequency | Percent |
|----------|-----------|---------|
| Yes | 64 | 44.4 |
| No | 80 | 55.6 |
| Total | 144 | 100 |

Table 6

Sports Coached by Those Who Responded as Yes to Currently Coaching

| Sport | Frequency | Percent |
|------------------|-----------|---------|
| Archery | 2 | 2 |
| Baseball | 7 | 7 |
| Basketball | 22 | 23 |
| Bowling | 1 | 1 |
| Cheer | 3 | 3 |
| Football | 17 | 18 |
| Golf | 2 | 2 |
| Soccer | 5 | 5 |
| Softball | 5 | 5 |
| Special Olympics | 1 | 1 |
| Swimming | 1 | 1 |
| Tennis | 2 | 2 |
| Track and Field | 19 | 20 |
| Volleyball | 10 | 10 |

* Data are reported by participants as a sport they currently coach, some participants coached multiple sports.

On the survey's licensure question all but 3 participants indicated that they were licensed to teach physical education in Arkansas (Table 7). The reported planning time indicated that the most frequent time available was 30-44 minutes, which represented 40.6% of the total frequency (Table 8). Of, the total reported school attendance, 301- 500 was the largest category of the total frequency at 29.4%. This was closely followed with schools that had 501-700 at 28.7%. One participant indicated that he/she was unaware of the actual school size, and another did not answer the open-ended question (Table 9).

Table 7

Participants Reported Current Arkansas Licensure

| Response | Frequency | Percent |
|----------|-----------|---------|
| Yes | 141 | 97.9 |
| No | 3 | 2.1 |
| Total | 144 | 100 |

* Arkansas does not require licensure of Elementary Physical Educators

Table 8

Reported Planning Time by Participants

| Time | Frequency | Percent |
|--------------------|-----------|---------|
| NA | 3 | 2.1 |
| 14 minutes or less | 1 | .7 |
| 15-29 minutes | 2 | 1.2 |
| 30-44 minutes | 58 | 40.6 |
| 45-59 minutes | 42 | 29.4 |
| 60 minutes or more | 38 | 26.6 |
| Total | 144 | 100 |

Table 9

Reported Schools Total Student Attendance

| School Attendance | Frequency | Percent |
|-------------------|-----------|---------|
| NA* | 2 | 1.4 |
| 300 or less | 13 | 9.1 |
| 301-500 | 42 | 29.4 |
| 501-700 | 41 | 28.7 |
| 701-1000 | 19 | 13.3 |
| 1001 or more | 27 | 18.9 |
| Total | 144 | 100 |

* One participant indicated that he/she were unsure of the school size and one participant did not fill out the open-ended question.

Two days a week was the highest frequency (45.5%) of days per week that physical education was taught in the participants' schools. Thirty-two or 22.4% of participants reported

that physical education was required five days a week (Table 10). Almost half of participants (48.5%) indicated that they typically have 40-49 minutes of class contact time. The second largest frequency was 60 minutes or more at 28% (Table 11). The most common class size was 21-30 students per class, which represented 60.4% of the total frequency. The second highest frequency was 46-60 students per class at 17.4% (Table 12).

Table 10

Reported Days per Week that Physical Education is Required in their School

| Days/Week | Frequency | Percent |
|-----------|-----------|---------|
| NA | 2 | 1.4 |
| 1 | 33 | 23.4 |
| 2 | 65 | 45.5 |
| 3 | 11 | 7.7 |
| 4 | 1 | .7 |
| 5 | 32 | 22.4 |
| Total | 144 | 100 |

Table 11

Reported Amount of Minutes that Physical Education Classes Meet per Session

| Minutes | Frequency | Percent |
|--------------------|-----------|---------|
| NA | 2 | 1.4 |
| 30-39 minutes | 7 | 4.9 |
| 40-49 minutes | 69 | 48.5 |
| 50-59 minutes | 26 | 18.2 |
| 60 or more minutes | 40 | 28.0 |
| Total | 144 | 100 |

Table 12

Reported Amount of Students per Physical Education Class

| Students per Class | Frequency | Percent |
|--------------------|-----------|---------|
| 5-10 | 1 | .7 |
| 11-20 | 9 | 6.3 |
| 21-30 | 87 | 60.4 |
| 31-45 | 17 | 11.8 |
| 46-60 | 25 | 17.4 |
| 61-75 | 2 | 1.4 |
| 76 or more | 3 | 2.1 |
| Total | 144 | 100 |

Sixty-one percent of participants indicated that they did not have a co-teacher to work with at their school. Participants that sometimes had a co-teacher and those that always did were closer in comparison, 21% compared to 19% (Table 13). The most prominently identified school level for teaching was elementary at 65% of the total frequency (Table 14). All of the participants were employed at traditional public schools (Table 15).

Table 13

Reported Physical Educators who Work with a Co-teacher in their Classes

| Response | Frequency | Percent |
|-----------------------------|-----------|---------|
| Yes | 27 | 18.8 |
| Yes for some, No for others | 29 | 20.1 |
| No | 88 | 61.1 |
| Total | 144 | 100 |

Table 14

Reported Grade Levels Taught by Participants

| Grades | Frequency | Percent |
|---------------|-----------|---------|
| Elementary | 94 | 65.3 |
| Middle School | 24 | 16.7 |
| Jr. High | 21 | 14.6 |
| High School | 28 | 19.4 |
| Total | 144 | 100 |

*Participants were allowed to choose all the level they taught, and 2 taught more than one grade level.

Table 15

Designation of the Participant's School

| School Designation | Frequency | Percentage |
|-----------------------|-----------|------------|
| Traditional Public | 144 | 100.0% |
| Charter Public School | 0 | 0.0% |
| Private School | 0 | 0.0% |
| Total | 144 | 100% |

Of the total participants, 25 indicated that they assign homework as part of their physical education class. This represented 17% of the total frequency (Table 16).

Table 16

Participants who Assigned Physical Education Homework

| Assign? | Frequency | Percent |
|---------|-----------|---------|
| Yes | 25 | 17.4 |
| No | 119 | 82.6 |
| Total | 144 | 100 |

Homework Questions for Participants who Assigned Homework

Of the 25 participants who indicated that they assigned homework within their physical education classes, an extra set of questions was asked. The most common homework

assignments were activity based at 48% of the total frequency. The least assigned homework was related to writing assignments at 8% (Table 17). Thirty-two percent of physical education teachers had assigned one homework assignment during the past month. Two participants indicated on this open ended question that they had handed out 30 homework assignments, one for each day of the month (Table 18). Forty percent of participants indicated that assignments took about 11-20 minutes, followed closely by 1-10 minute assignments at 32% (Table 19). Sixty percent of the participants (n=15) indicated that they had learned to create homework assignments from a fellow teacher. Another 60% (n = 14) of the participants stated that they had learned how to create homework from an article, book, or presentation (Table 20).

Table 17

Types of Assignments used by Assigners

| Types | Frequency | Percent |
|-------------------------|-----------|---------|
| Activity Based | 12 | 48.0 |
| Journal or Exercise Log | 8 | 32.0 |
| Information Reporting | 3 | 12.0 |
| Writing | 2 | 8.0 |
| Total | 25 | 100 |

Table 18

Days Assigned Homework in the Past Month

| Days/Month | Frequency | Percent |
|------------|-----------|---------|
| 0 | 6 | 24.0 |
| 1 | 8 | 32.0 |
| 2 | 5 | 20.0 |
| 3 | 2 | 8.0 |
| 10 | 1 | 4.0 |
| 14 | 1 | 4.0 |
| 30 | 2 | 8.0 |
| Total | 25 | 100 |

* One participant indicated that he/she had handed out 14 assignments.

Table 19

Time Length of Assigned Homework

| Time Takes | Frequency | Percent |
|---------------|-----------|---------|
| NA | 1 | 4.0 |
| 1-10 minutes | 8 | 32.0 |
| 11-20 minutes | 10 | 40.0 |
| 21-40 minutes | 5 | 20.0 |
| 40-60 minutes | 1 | 4.0 |
| Total | 25 | 100 |

* One participant designated as an assigner of homework did not answer this question.

Table 20

Method of Learning to use Homework

| Method | Yes | No | Total |
|--------------------------------|-----|----|-------|
| Higher Education | 11 | 14 | 25 |
| Article, Book, or Presentation | 14 | 11 | 25 |
| Fellow Teacher | 15 | 10 | 25 |

*Participants could select more than one method.

Demographic and Predictor Logistic Regression

Class time availability and students per class were nested into two separate categories around the key frequencies for better data analysis inside a logistical regression. All predictor variables and the demographic variable of gender lacked significance. Effect size was calculated with Nagelkerke R Square at .084 (Table 21).

Table 21

Logistic Regression on Gender and Predictor Variables

| Variable | N ¹ | B | SE | Wald. | df | Sig. | Exp(B) | Nagelkerke R Square [†] |
|-----------------------|----------------|-------|------|-------|----|------|--------|----------------------------------|
| Gender | 142 | -.182 | .557 | .107 | 1 | .743 | .833 | .084 |
| Time per Class | 142 | .523 | .474 | 1.217 | 1 | .270 | 1.688 | |
| Students per Class | 142 | -.087 | .699 | .016 | 1 | .901 | .917 | |
| Coach | 142 | -.719 | .641 | 1.260 | 1 | .262 | .487 | |
| Co-teacher | | -.638 | .446 | 2.043 | 1 | .153 | .528 | |
| Elementary Teacher | 142 | -.266 | .816 | .106 | 1 | .744 | .766 | |
| Middle School teacher | 142 | .221 | .797 | .077 | 1 | .782 | 1.247 | |
| Jr. High teacher | 142 | -.315 | .849 | .138 | 1 | .711 | .703 | |
| High School teacher | 142 | -.102 | .758 | .018 | 1 | .893 | .903 | |

*Indicates Significance at $\alpha = .05$ (2-tailed).¹Missing 2 Data from regression[†]represents the effect size for the whole table**Predictor Indications**

Potential indicators were cross tabulated to see if there were relationships between questions that might be predictors of homework and the actual assigners of homework. Class time available and students per class were again nested into two separate categories around the key frequencies for better data analysis. Comparing assigners of homework to non-assigners based on gender, class time, students per class, coaching, co-teacher, and grade level taught showed a lack of statistical significance, (Table 22).

Table 22

Cross Tabulation and Chi Square Test for Significance on Predictors

| Variable | Group | Yes (n=25) | X ² | Sig |
|--------------------------------|--------|---------------|----------------|------|
| Gender | Male | 12.3% | 1.68 | .193 |
| | Female | 20.7% | | |
| More than 47 min. class time | Yes | 14.1% | 1.21 | .271 |
| | No | 21.1% | | |
| More than 30 students in class | Yes | 12.8% | 1.05 | .311 |
| | No | 19.6% | | |
| Coach | Yes | 12.5% | 1.90 | .168 |
| | No | 21.3% | | |
| Co-teacher | Yes | 11.1% | 2.83 | .243 |
| | Maybe | 10.3% | | |
| | No | 21.6% | | |
| Elementary Teacher | Yes | 20.2% | 1.53 | .215 |
| | No | 12.0% | | |
| Middle School Teacher | Yes | 12.5% | .474 | .491 |
| | No | 18.3% | | |
| Jr. High Teacher | Yes | 14.3% | .162 | .678 |
| | No | 17.9% | | |
| High Teacher | Yes | 14.3% | .229 | .632 |
| | No | 18.1% | | |

Beliefs on Homework Questions

Ten questions on the participants' beliefs were included to see if there were potentially any beliefs toward physical education that may affect which participants were assigners. On this part of the questionnaire 1 assigner and 2 non-assigners of homework did not report their beliefs. An independent samples t test was performed on each belief variable to compare the means of the assigners and non-assigners. Equal variance was not assumed and significance tested at 2-tailed with $\alpha = .05$ (Table 23). Statistical significance was found in nine of the ten belief variables. Homework assigners more strongly believed that physical education homework made grading easier, helped students learn more, and kept them moving more. Non-assigners more strongly believed grading would take too much time, had too many other time commitments, was

unnecessary if there were in-class assignments, that proof of activity homework completion would be hard, and that parents and students would hate having homework (Table 23).

Table 23

Independent Samples t test: On Physical Educators' Beliefs about Homework between Homework Assigners and Non-assigners.

| Variable | Group | N | Mean | SD | <i>t</i> | <i>Df</i> | <i>Sig.</i> | Effect Size <i>d</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------|-----|------|------|----------|-----------|-------------|----------------------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|--|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|---|-----|----|------|-----|-------|-------|--------|-------|----|-----|------|------|---|-----|----|------|-----|-------|-------|--------|
| Makes Grading Easier | Yes | 24 | 3.38 | 1.01 | 4.01 | 28.90 | .000** | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 2.50 | .78 | | | | | Helps students learn more | Yes | 24 | 3.83 | .70 | 6.34 | 38.48 | .000** | 1.48 | No | 117 | 2.79 | .85 | Keeps students more active | Yes | 24 | 3.67 | .76 | 5.04 | 40.35 | .000** | 1.19 | No | 117 | 2.76 | .98 | Grading homework would take too much time | Yes | 24 | 2.54 | .58 | -3.45 | 54.14 | .001** | -.88 | No | 117 | 3.06 | .99 | Too many other time commitments | Yes | 24 | 2.29 | .91 | -3.80 | 35.02 | .001* | -.87 | No | 117 | 3.08 | .98 | Students would hate homework | Yes | 24 | 2.71 | .75 | -4.54 | 43.29 | .000** | -1.10 | No | 117 | 3.53 | 1.05 | Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | No | 117 | 3.57 | .91 | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** |
| Helps students learn more | Yes | 24 | 3.83 | .70 | 6.34 | 38.48 | .000** | 1.48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 2.79 | .85 | | | | | Keeps students more active | Yes | 24 | 3.67 | .76 | 5.04 | 40.35 | .000** | 1.19 | No | 117 | 2.76 | .98 | Grading homework would take too much time | Yes | 24 | 2.54 | .58 | -3.45 | 54.14 | .001** | -.88 | No | 117 | 3.06 | .99 | Too many other time commitments | Yes | 24 | 2.29 | .91 | -3.80 | 35.02 | .001* | -.87 | No | 117 | 3.08 | .98 | Students would hate homework | Yes | 24 | 2.71 | .75 | -4.54 | 43.29 | .000** | -1.10 | No | 117 | 3.53 | 1.05 | Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | No | 117 | 3.57 | .91 | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | |
| Keeps students more active | Yes | 24 | 3.67 | .76 | 5.04 | 40.35 | .000** | 1.19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 2.76 | .98 | | | | | Grading homework would take too much time | Yes | 24 | 2.54 | .58 | -3.45 | 54.14 | .001** | -.88 | No | 117 | 3.06 | .99 | Too many other time commitments | Yes | 24 | 2.29 | .91 | -3.80 | 35.02 | .001* | -.87 | No | 117 | 3.08 | .98 | Students would hate homework | Yes | 24 | 2.71 | .75 | -4.54 | 43.29 | .000** | -1.10 | No | 117 | 3.53 | 1.05 | Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | No | 117 | 3.57 | .91 | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | |
| Grading homework would take too much time | Yes | 24 | 2.54 | .58 | -3.45 | 54.14 | .001** | -.88 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 3.06 | .99 | | | | | Too many other time commitments | Yes | 24 | 2.29 | .91 | -3.80 | 35.02 | .001* | -.87 | No | 117 | 3.08 | .98 | Students would hate homework | Yes | 24 | 2.71 | .75 | -4.54 | 43.29 | .000** | -1.10 | No | 117 | 3.53 | 1.05 | Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | No | 117 | 3.57 | .91 | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Too many other time commitments | Yes | 24 | 2.29 | .91 | -3.80 | 35.02 | .001* | -.87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 3.08 | .98 | | | | | Students would hate homework | Yes | 24 | 2.71 | .75 | -4.54 | 43.29 | .000** | -1.10 | No | 117 | 3.53 | 1.05 | Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | No | 117 | 3.57 | .91 | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Students would hate homework | Yes | 24 | 2.71 | .75 | -4.54 | 43.29 | .000** | -1.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 3.53 | 1.05 | | | | | Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | No | 117 | 3.57 | .91 | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parents would hate homework | Yes | 24 | 2.50 | .78 | -5.95 | 37.15 | .000** | -1.38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 3.57 | .91 | | | | | Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | No | 117 | 3.90 | 1.00 | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity homework is hard to provide proof of completion | Yes | 24 | 3.33 | .96 | -2.60 | 34.05 | .014* | -.59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 3.90 | 1.00 | | | | | Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | No | 117 | 2.85 | 1.05 | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Educators not taught how to use homework | Yes | 24 | 3.13 | .90 | 1.34 | 36.99 | .187 | .31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 2.85 | 1.05 | | | | | Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unnecessary if there are in-class assignments | Yes | 24 | 2.58 | .65 | -4.32 | 41.77 | .000** | -1.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | 117 | 3.26 | .87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*Indicates Significance at $\alpha = .05$ (2-tailed), equal variances not assumed.

**Indicates Significance at the $\alpha = .01$ level.

^t Scale ranged from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

Summary of Findings

The first research question sought to identify if there was any prevalence of homework materials being used by physical educators in the state of Arkansas. The data did show that 17.4% of the participants identified themselves as assigners of homework.

The second research question sought to discover if there were any specific beliefs or predictors that might explain why some participants used homework materials and others did not. There was no statistical significance found on potential predictors like class size, co-teacher help, or teaching school sports to name a few. There was a statistical significance found between homework assigners and non-assigners when beliefs were compared. Homework assigners believed that physical education homework made grading easier, helped students learn more, and kept them moving more. Non-assigners believed that 1) grading would take too much time, 2) detracted from other time commitments, 3) was unnecessary if there were in-class assignments, 4) that proof of activity homework completion would be difficult, and 5) that parents and students would hate having homework.

The third research question looked to determine where many of the homework assigners learned to create and assign homework. The frequency data showed that the largest group of the participants, 15, learned from fellow teachers. The lowest method that assigners (n = 11) learned from was from their college coursework.

Chapter 5

Discussion

The purpose of this study was to assess the amount of homework materials that were used in physical education classes in the state of Arkansas. The study also sought to evaluate and identify why some physical educators do or do not use homework materials. The study also attempted to identify if there were specific methods in which assigners of physical education homework materials learned to create and use homework materials. Key findings as well as recommendations for further research are discussed below.

Prevalence of Homework by Physical Educators

Researchers on the topic of homework have noted that there is a lack of data in the research literature on prevalence rates in homework used in physical education (Mitchell et al., 2000). Typically, researchers focus more on other disciplines, namely science and math, and the actual characteristics of the homework assignments (Hong, 2000). This study evaluated the prevalence of physical education homework in the state of Arkansas, and found that 17.4% of the participants assigned homework. These numbers were lower than the frequency seen in a study of physical educators in South Carolina (Mitchell et. al., 2000). In the South Carolina study, even first year attendees at state-mandated physical education workshops had a homework prevalence rate of 60%, and those who had attended the workshops the previous year had a prevalence rate of 88%. A possible reason why the homework prevalence rate in Arkansas was found to be significantly lower than South Carolina may be from the lack of state mandated workshops for Arkansas physical education teachers in their specific field.

Beliefs or Predictors for Homework Materials Being Used

This study sought to examine factors that may affect whether physical educators choose to assign homework or not. Most of these factors have not been examined before and a strength

of this study was in broadening the current physical education homework literature for predictors. When looking at issues such as lack of planning time, or a lack of a co-teacher, it would be a logical assumption that physical educators would be less likely to be able to assign and hand out homework. This study indicated that there was no statistical significance in the predictors. Alterations by increasing or decreasing coaching school sports, class size, or class time availability did not have an effect on homework assignment prevalence.

This study identified nine beliefs that were statistically significant when comparing those who assigned physical education homework and those who did not. The first belief, held by assigners of homework, was that they were more likely to believe that having more homework would help students learn more. This is the basis of the School Learn Model, where by it is assumed that more time spent on a task will increase the learning of specific content (Carroll, 1963). According to Carroll, homework provides more opportunity to learn. Homework also increases the chance for potential aptitude, and/or the time needed to learn, and Carroll linked both items to being able to increase academic achievement. Weston, Petrosa, and Pate (1997) noted an increased willingness to try new forms of physical activity, often involving the whole family. Cutforth (1995) reported in his study that the physical educator believed that she was able to understand the strengths of her students and see their academic growth due to their homework assignments.

In regards to the second belief, that assigners of homework believe that homework makes assigning grades easier, Mitchell (2001) noted that by assigning homework a physical educator was able to give clear grades on their performance. The physical educator was able to directly assess progress by either completion of specific activities, such as students turning in a model of specific activity games, or answering questions on terminology and theories that had been taught. In addition, Cutforth (1995) noted that it was easier to hand out lower grades for poorly done

assignments when clear academic consequences were tied to homework completion. This helped avoid the issue of grading on only physical participation.

The third noticeable belief held by assigners of physical education homework was that homework would help keep students more active. This belief also is supported by previous studies in which an increase in physical activity was seen by students who were assigned physical education homework. More notably, sedentary students saw the largest increase in physical activity (Hortz & Petosa, 2006). Even in an earlier study, Daughtrey found that increased physical activity was a by-product of assigning physical education homework (Daughtrey, 1959). Corbin (2002) noted in his article that lifelong fitness should be the goal of every physical education program.

The fourth and fifth beliefs identified were held by non-assigners of homework. They believed that there were too many other time constraints already placed on a physical educator to assign homework, and that if homework was assigned it would take too much time to grade. Coaching school sports is often a unique duty to physical educators and therefore was considered a potential predictor in this study. With the lack of statistical significance, it may be assumed that the predictor of coaching school sports is unrelated, and any time constraints that exist would be the same for any teacher, regardless of their specific subject matter. Kralovec and Buell (2000) believed that homework took too much away from family and much needed recreation time. Stern (2009) also noted this as a concern by teachers since teachers may have to dedicate more time to designing and grading homework assignments. He believes that teachers would not mind grading homework that has been well prepared by the teacher and is completed well by the student.

The sixth and seventh beliefs were also held by non-assigners of physical education homework. The non-assigners believed that both parents and students would hate physical

education homework assignments. Tannehill, Romar, and O'Sullivan (1994) noted that parents do not expect homework assignments in physical education and in some cases are either shocked to see it or even resistant against it. Kinchin (1997) stated that when students were given assignments in journal activity homework they responded well, but when provided with an information gathering assignment, response and support suffered. Other studies have shown that student and parental support does exist after an initial adjustment period (Daughtrey, 1959; Mitchell, 2001; Smith & Claxton, 2000). Cutforth (1995) interviewed a physical educator who stated she had extreme support and respect from her students and parents. According to Hollifield (1995), homework in general is the preferred method that parents enjoy the most when choosing to be involved in their child's school, compared to volunteering and other forms of service.

The eighth and ninth beliefs that were statistically significant were related to non-assigners of physical education homework. They believed that the completion of activity homework would be hard to prove and that homework was not necessary if appropriate activities were performed in class. As stated earlier by Weston et al. (1997), there was great success in producing actual gradable activity homework in physical education when parental involvement was achieved. In the Weston et al., 78% of the parents reported being involved in the homework activities, and by having the parent sign off on the activity would probably guarantee honesty. The CDC (1997) specifically recommends that physical activity homework be assigned in physical education classes to increase activity levels since in their opinion the minimum level of physical activity is not being achieved in the physical education classroom.

Training or Instruction in the use of Homework Materials

Unfortunately, there is not much in the research literature about training teachers to use homework effectively, especially physical education teachers. This study sought to find out how

those who assigned homework learned to do so. The most prominent factor was that they learned from another teacher. The only study that broached this topic was by Mitchell et al. (2000). They reported that schools are required by the state to send one physical educator as a representative for workshops and then take that information back to their schools and fellow teachers. This program resulted in an increase in physical educators who assessed homework in their classes. Physical Education teachers in Arkansas may want to consider the South Carolina workshop model if they want to incorporate more effective homework assignments in their curriculum. It is noticeable to mention that the lowest method of learning how to effectively incorporate homework in physical education was through college coursework. Including quality homework design and implementation in higher education physical education teacher education (PETE) programs would be a strong consideration based on this evidence.

Recommendations for Future Research

The following section contains some of the complications that arose in this study, and provides recommendations to avoid them in future research. The first stage of the study involved data collection at a state conference. This limits the participation to only those teachers that typically go to conferences. Their answers may also be influenced by other teachers being near them when filling out the survey. It is recommended that a fellow researcher might follow methods in the third stage of data collection to be able to garner a more varied set of participants.

The second recommendation involves the fact that the total frequency of response rates from the conference was too low. Second and third stages were designed to continue gathering numbers and power for the study. Since the study later included an online component for the physical educators to fill out at their leisure, those who filled it out online may have answered differently than those who had the paper version since there may not have been anyone else around them. The recommendation to avoid this complication would be to attempt a design that

would have a potentially large participation base so that other methods of data gathering would be unnecessary. Specifically, being able to utilize online tools for data gathering could increase the potential participant pool, compared to being limited to attendees at a conference.

The third recommendation was in the second stage of the study. The original email list obtained from the Department of Education was limited to 255 principals. It was not a complete list of every principal in the state due to principals being randomly selected. Furthermore, sample attrition occurred due to permission being granted by additional people (e.g. superintendents) preventing the researcher from reaching the intended sample. A recommendation to avoid this problem in future research would be to find a contact that has access to a complete listing of potential participants. Another method could be to follow the third stage of data gathering used in this study.

Future research should consider looking at other states for prevalence rates since only a few states have been studied. Research needs to continue to look at best practices for physical educators to acquire insight into appropriate homework assignments, as well as consideration of experimental research on the best method for homework pedagogy.

Concluding Remarks

Statistical significance in this study was only found in the variables that were beliefs, instead of factors that were potential predictors (e.g. class size). It may be concluded that the teacher is a strong factor in the success of homework. This finding is supported by the literature which found that the teacher was the biggest determining variable in the success of homework being implemented in the classroom (Smith, Cluphf, & O'Connor, 2001; Stern, 2009).

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Appendices

Appendix A

Homework and Physical Education Questionnaire

Homework is defined as tasks that are assigned to learners by their teachers, to be done outside of school time, and without immediate teacher direction.

Please **circle or fill in** the correct response.

1. What is your Gender?
 - a. Male
 - b. Female
2. What is your age? _____
3. What is your highest degree earned?
 - a. High School
 - b. Some College
 - c. Bachelor's
 - d. Master's
 - e. Specialist or Doctorate
4. What county in Arkansas do you teach in? _____
5. Do you coach school sport teams?
 - a. Yes, please state which one(s) _____
 - b. No
6. Are you licensed in Arkansas to teach Physical Education?
 - a. Yes
 - b. No
7. How much planning time do you have per day? _____
8. About how many students attend your school(s)? _____
9. How many days a week do students have physical education class in your school? _____
10. For how many minutes do physical education classes meet in your school? _____

11. How many students do you have per class?
- 5-10
 - 11-20
 - 21-30
 - 31-45
 - 46-60
 - 61-75
 - 76 or more
12. Do you have a co-teacher for each class?
- Yes
 - Yes for some, no for others
 - No
13. What grades do you teach? *Circle all that apply.*
- Elementary
 - Middle School
 - Jr. High
 - High School
14. What designation is your school?
- Traditional Public
 - Charter Public
 - Private
15. Do you assign homework for physical education?
- Yes
 - No

If you answered "No" to the previous question, then please skip to question 23.

16. What types of assignments do you use? *Circle all that apply.*
- Activity based
 - Journaling or exercise logs
 - Information reporting assignment
 - Writing
17. How many days have you assigned homework in the past month? _____
18. How long do your assignments take?
- 1-10 minutes
 - 11-20 minutes
 - 21-40 minutes
 - 41-60 minutes
 - Over an hour

19. Did you learn how to use homework materials in your education?
 a. Yes
 b. No
20. Did you learn to use homework materials from an article, book, or presentation?
 a. Yes
 b. No
21. Did you learn to use homework materials from a fellow teacher?
 a. Yes
 b. No

Rate your beliefs on the following statements about homework in physical education.
 1= Strongly Disagree, 2=Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree

| Statement | SD | D | N | A | SA |
|---|----|---|---|---|----|
| 23. Homework in physical education makes it easier to assign grades. | 1 | 2 | 3 | 4 | 5 |
| 24. Homework in physical education helps students to learn more. | 1 | 2 | 3 | 4 | 5 |
| 25. Homework in physical education keeps students more active. | 1 | 2 | 3 | 4 | 5 |
| 26. Grading homework in physical education takes too much time. | 1 | 2 | 3 | 4 | 5 |
| 27. A physical educator has too many other time commitments to assign homework regularly. | 1 | 2 | 3 | 4 | 5 |
| 28. Students would hate homework in physical education. | 1 | 2 | 3 | 4 | 5 |
| 29. Parents would hate homework in physical education. | 1 | 2 | 3 | 4 | 5 |
| 30. Physical educators are not taught how to use homework. | 1 | 2 | 3 | 4 | 5 |
| 31. When homework has physical activity components, it is hard to know whether students actually did the activities. | 1 | 2 | 3 | 4 | 5 |
| 32. Homework is unnecessary if there are other in-class assignments. | 1 | 2 | 3 | 4 | 5 |

Appendix B

CONSENT FORM

Title: THE PREVALENCE, BELIEFS, AND INSTRUCTION OF USING HOMEWORK MATERIALS AS REPORTED BY PHYSICAL EDUCATORS IN ARKANSAS.

Investigator(s):

Daniel J. Burt, Ph. Dc. Graduate Student
University of Arkansas
College of Education and Health Professions
Department of HKRD
HPER Building
Fayetteville, AR 72701-1201

Dr. Dean Gorman, Professor
Health, Human Performance, and Recreation
University of Arkansas
HPER 308w
Fayetteville, AR 72701-1201
479-575-2890
dgorman@uark.edu

Description: The present study will investigate the prevalence and beliefs about homework and physical education by physical educators attending a state conference. You will be given a questionnaire and asked to answer questions regarding demographics, prevalence, beliefs, and instruction in using homework in physical education. The duration of your participation will be approximately 2-5 minutes.

Risks and Benefits: The benefits include contributing to the knowledge base about the prevalence and beliefs of homework in physical education. There are no anticipated risks to participating in the study.

Voluntary Participation: Your participation in the research is completely voluntary. There is no compensation in any form for participating in this study.

Confidentiality: All information will be recorded anonymously. Your name will not appear on the questionnaire. Results from the research will be reported as aggregate data.

Right to Withdraw: You are free to refuse to participate in the research and to withdraw from this study at any time. Your decision to withdraw will bring no negative consequences — no penalty to you.

Completion of questionnaire implies consent and confirms that you are 18 or older, have read and understand the description, including the purpose of the study, the procedures to be used, the potential risks and side effects, the confidentiality, as well as the option to withdraw from the study at any time.

If you have any questions concerning this research, you may contact the IRB Human Subjects Review Compliance Officer at:

Ms. Ro Windwalker
Research & Sponsored Programs
Research Compliance Officer
University of Arkansas
120 Ozark Hall
Fayetteville, AR 72701-1201
479.575.384
irb@uark.edu

Thank you for your participation!

Appendix C



UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

November 11, 2011

MEMORANDUM

TO: Daniel Burt
Dean Gorman

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 11-11-277

Protocol Title: *The Prevalence, Beliefs, and Instruction of Using Homework Materials as Reported by Physical Educators in Arkansas*

Review Type: EXEMPT EXPEDITED FULL IRB

Approved Project Period: Start Date: 11/11/2011 Expiration Date: 11/10/2012

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (<http://vpred.uark.edu/210.php>). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 300 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

210 Administration Building • 1 University of Arkansas • Fayetteville, AR 72701
Voice (479) 575-2208 • Fax (479) 575-3846 • Email irb@uark.edu

The University of Arkansas is an equal opportunity/affirmative action institution.

Appendix D

MEMORANDUM

TO: Daniel Burt
Dean Gorman

FROM: Ro Windwalker
IRB Coordinator

RE: PROJECT MODIFICATION

IRB Protocol #: 11-11-277

Protocol Title: The Prevalence, Beliefs, and Instruction of Using Homework Materials as Reported by Physical Educators in Arkansas

Review Type: 1 EXEMPT 0 EXPEDITED 0 FULL IRB

Approved Project Period: Start Date: 04/02/2012 Expiration Date: 11/10/2012

Your request to modify the referenced protocol has been approved by the IRB. This protocol is currently approved for 300 total participants. If you wish to make any further modifications in the approved protocol, including enrolling more than this number, you must seek approval prior to implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

Please note that this approval does not extend the Approved Project Period. Should you wish to extend your project beyond the current expiration date, you must submit a request for continuation using the UAF IRB form "Continuing Review for IRB Approved Projects." The request should be sent to the IRB Coordinator, 210 Administration.

For protocols requiring FULL IRB review, please submit your request at least one month prior to the current expiration date. (High-risk protocols may require even more time for approval.) For protocols requiring an EXPEDITED or EXEMPT review, submit your request at least two weeks prior to the current expiration date. Failure to obtain approval for a continuation on or prior to the currently approved expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

Appendix E

To the Principal or Administrator it might concern,

My name is Daniel J. Burt, and I am a Doctoral Fellow and Candidate at the University of Arkansas. I am completing my doctorate dissertation in the field of Kinesiology: Pedagogy. I am requesting permission to email your physical education teachers for a short 4 minute survey of practices in their field in the state of Arkansas. All I am requesting for confirmation of your authorization is you to return an email with their email addresses. I do not require names as to keep it confidential, and the email I will send to them will contain an online survey link to the University of Arkansas servers and the server does not record email addresses. I appreciate any support you are able to give in helping me complete this research for my dissertation and Physical Education in Arkansas. I have included an attachment of approval for my dissertation research by the University. Below is also my contact information and the information of my adviser.

Thank you for your time and support,

Daniel J. Burt, Ph. Dc.
Doctoral Academic Fellow
Kinesiology: Pedagogy
University of Arkansas

Dr. Dean Gorman
Graduate Coordinator and Adviser
HHPR Dept.
University of Arkansas
dgorman@uark.edu

Appendix F

Dear Superintendent or Central Administrator

My name is Daniel J. Burt, and I am a Doctoral Fellow and Candidate at the University of Arkansas. I am completing my doctorate dissertation in the field of Kinesiology: Pedagogy. I have requested and been granted permission to contact the physical education teachers in your area for a short 4 minute survey of specific practices in the state of Arkansas by the University of Arkansas IRB. I do not require names as to keep it confidential. On behalf of the principals of schools in your district I am emailing you for permission to conduct this research in your schools. I appreciate any support you are able to give in helping me complete this research for my dissertation and Physical Education in Arkansas. I will be sending out several rounds of this request over the next week and I apologize in advance if you receive this email multiple times after responding, but the email goes out in a large data block. I have included the consent form as an attachment so you can have it to keep. Below is my contact information and the information of my adviser.

Thank you for your time and support,

Daniel J. Burt, Ph. Dc.
Doctoral Academic Fellow
Kinesiology: Pedagogy
University of Arkansas

Dr. Dean Gorman
Graduate Coordinator and Adviser
HHPR Dept.
University of Arkansas
dgorman@uark.edu

Appendix G

Dear Physical Educator

My name is Daniel J. Burt, and I am a Doctoral Fellow and Candidate at the University of Arkansas. I am completing my doctorate dissertation in the field of Kinesiology: Pedagogy. I have requested and been granted permission to contact the physical education teachers in your area for a short 4 minute survey of specific practices in the state of Arkansas. I do not require names as to keep it confidential, and this email I am sending you contains an online survey link to the University of Arkansas servers and the server does not record email addresses. I appreciate any support you are able to give in helping me complete this research for my dissertation and Physical Education in Arkansas. I will be sending out several rounds of this survey over the next week and I apologize in advance if you receive this questionnaire multiple times after filling it out, but for the survey to remain confidential the email goes out in a large data block. I have included the consent form as an attachment so you can have it to keep. Below is my contact information and the information of my adviser.

Thank you for your time and support,

Daniel J. Burt, Ph. Dc.
Doctoral Academic Fellow
Kinesiology: Pedagogy
University of Arkansas

Dr. Dean Gorman
Graduate Coordinator and Adviser
HHPR Dept.
University of Arkansas
dgorman@uark.edu

