

Attitudes and Behaviors of Physical Educators Regarding Homework

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Abstract

The purpose of this study was to explore attitudes and self-reported practices regarding the use of homework by high school physical educators. Two groups of teachers completed surveys regarding their attitudes and behaviors regarding the use of homework. One group (n=30) had completed one year of inservice sessions and the other group (n=24) had completed two years of sessions designed to help them meet a state mandate. A taxonomy was created to analyze responses by learning domain and purpose of homework and to serve as an initial framework to guide future examinations of possible relationships between homework and program goals. Most participants believed that homework should be assigned. Homework was used primarily in the cognitive and psychomotor domains. There were no reported incidents of homework in the affective domain or as preparation for future classes. Implications and suggestions for future studies are explored.

The notion that time is an important variable in learning has been attributed to Carroll's (1963) "Model of School Learning." Simply put, the idea has evolved that the more time students spend working on school-related material, the greater will be their potential for achievement. Homework is a natural extension of classroom work to increase the amount of time students are engaged with content. Absent in the physical education literature are both the theory describing how homework might support physical education content and data to illuminate this relationship.

The purpose of this study was to examine the self-reported attitudes toward and uses of homework by high school physical educators.

Homework in Physical Education

While homework has played a role in many subject areas of school for a long time, the same cannot be said for physical education programs. Attention to this aspect of school related work has only recently become more relevant to physical educators. A current emphasis on making explicit links between physical activity at school and the potential for health related benefits later in life are focal. This link is explicit in the National Standards For Physical Education (NASPE, 1995), where Standard Three identifies the expectation for students to exhibit a physically active lifestyle, and Standard Four identifies that students should achieve and maintain a health-enhancing level of physical fitness.

Another factor that justifies an interest in the use of homework in physical education is the knowledge of the time necessary for fitness and motor skill development. From the exercise physiology literature we have insight into the frequency, intensity, time and type of activity required for the human body to reap health related benefits. The curriculum research suggests that most programs are not scheduled with enough time to meet these goals alone; much less to meet additional program goals. From the motor learning research, we know that distributed practice across time is more likely to result in skill development than brief introductions for most continuous skills (Magill, 1998). In many schools, the

curriculum is already so full as to preclude the availability of class time for this practice. Hence, if physical educators hope to meet Standard One (NASPE, 1995), for which a physically educated person "Demonstrates competency in many movement forms and proficiency in a few movement forms" (p. 1), then time needs to be found somewhere. If physical educators hope to meet Standard Three (NASPE, 1995) "Exhibits a physically active lifestyle" (p. 1), or Standard Four, "Achieves and maintains a health-enhancing level of physical fitness" (p. 1), the same need for more time exists. Homework is an appealing potential complement to already brief and shrinking instructional time in schools. Exploring different types of homework that might serve student needs is a necessity if school physical education programs are to be enhanced.

In the physical education literature, authors address homework in several ways. For example, Thompson (1972) offers ideas for how to encourage students to engage in fitness activities outside of class time. Cutforth (1995) and Hinson (1994) provide anecdotal reports of individual teachers incorporating homework into their programs, and French (1979) provides a resource article outlining numerous alternatives available to physical educators for how to use homework.

There are two main problems in the physical education literature relative to homework. First, there is no theoretical model to explain the different types of homework that might plausibly be used to support the content. Second, there is no comprehensive overview of the prevalence of the use of homework, beyond individual testimonials (c.f., Cutforth, 1995; Hinson, 1994). The only research article reporting on perceptions of homework by more than the teacher assigning the work is a study by Tannehill, Romar, and O'Sullivan (1994) where parent attitudes toward homework are presented. In a survey of 139 parents, representing a 44% return rate of participants in a larger study, over 70% of these parents indicated that "homework should not be required, and that

they knew of no homework that had been assigned by physical education teachers," (p. 415).

Missing from the physical education literature is more specific information regarding perceptions and practices of teachers. Student performance expectations and guidelines for participation in physical activity have recently been defined by NASPE (1995). If programs are to be effective in meeting these standards and guidelines, teachers are going to have to consider assignments outside of class time. The perceptions and practices of physical educators do matter if physical educators are to achieve goals related to standards for quality physical education programs.

The significance of understanding how homework is and can be used by physical educators lies in two main areas. First, there is the potential to positively influence student learning in current units of instruction by increasing student contact time with important content. Second, there is a chance to enhance the probability for students to make links between school work and life beyond school, with the hope that pupils may find ways to make physical activity an integral part of their lives. These goals are consistent with the NASPE (1995) standards for quality physical education programs, with goals of the Surgeon General (U.S. Department of Health and Human Services, 1996), and with recommendations from the American College of Sports Medicine (1988), Centers for Disease Control and Prevention (1997) and the United States Department of Health and Human Services Public Health Service (1991) for increasing levels of moderate to vigorous physical activity in the lives of all citizens.

Methods

Setting

In South Carolina, state law stipulates one year of physical education at the high school level to meet graduation requirements. Specified in this

law are four student performance criteria. The criteria are based on the National Standards for physical education (NASPE, 1995), adapted from a 4 year high school requirement to be more appropriate for the one year requirement in South Carolina. The first criterion requires competency in at least two different movement forms. The second criterion requires students to be able to design a personal fitness program based on an assessment of current fitness values. The third criterion requires students to be engaged in regularly occurring activity, outside of class. Last, the fourth criterion stipulates that students should be able to meet their age and gender values on a NASPE approved instrument for evaluating health related fitness (Fitness-gram). This requirement has resulted in heightened interest by high school physical education teachers seeking help to revise their programs to be in alignment with new student performance criteria.

As a result of the change in the law and the heightened interest of physical education teachers for assistance, a group of teacher educators from 12 different colleges and universities around the state came together. These faculty members designed a series of professional development workshops that came to be known at the Physical Education Institute (PEI). At least one representative from each participating high school was expected to attend each of 5 workshops spread across the academic year. In the first year of operation, schools of participating teachers were awarded enough money to cover the salary of substitute teachers to cover each of the days that school representatives attended workshops. These workshops typically lasted for 5 hours, allowing teachers to return to their respective schools in time for coaching responsibilities on Friday evenings.

The student performance criteria addressing student requirements to be involved in regularly occurring activity outside of class and the ability to design a personal fitness program (e.g., homework), were of particular interest in this study. It was hypothesized that if anyone was using home-

work with their students, it would be inservice participants who had received assistance in meeting these program requirements.

A range of topics was covered in each workshop. For both groups, initial sessions included an introduction to and interpretation of the four program performance criteria, adapted from the National Program Standards (NASPE, 1994), and designated by law. Subsequent workshops included presentations of information, materials, and strategies to assist high school physical educators in creating and implementing curricula to meet these program criteria.

Participants

Two groups of participants were selected for this study. Both groups had been involved with ongoing inservice efforts in South Carolina. One group of 30 participants, Physical Education Institute - I (PEI-I), had completed one year of the inservice program. The second group of 24 participants, PEI-II, had completed 2 years of the program. The groups were at different phases of their involvement with the inservice efforts and the potential for seeing a contrast of different levels of implementation was also attractive.

Participants in this study represent a diverse profile of physical educators, covering all geographic regions of South Carolina, different sizes of schools, and with a variety of professional responsibilities. In the PEI-I response group, there were 13 males and 17 females, with 9 teachers from A schools; 5 from AA schools, 5 from AAA schools; 8 from AAAA schools; 2 participants from schools without such a designation and 1 participant did not report school size. Of these participants, 11 coach 1 sport, 9 coach 2 sports and 3 coach 3 sports. Lastly, 19 of the 30 participants in PEI-I teach other classes, in addition to physical education.

In the PEI-II response group, there were 7 males and 17 females with 1 teacher from an A school, 4 from AA schools, 7 from AAA schools, 10 from AAAA schools and 2 from a junior high school. Of these participants, 5 coach 1 sport, 8

coach 2 sports, 3 coach 3 sports and 1 serves her school as the Athletic Director. Last, 5 of the 24 participants in PEI-II teach other classes, in addition to physical education.

Instrumentation

A one page questionnaire was designed for data collection. There were three sections to the questionnaire, beginning with simple demographic information on the teacher and school of employment. The sample of teachers was not large enough to warrant statistical analysis of correlations in any of the data collected (e.g., age, gender, school size, coaching responsibilities, teaching duties beyond physical education). These data were sought to be able to describe this sample as representative of the diversity of the teachers in the state.

The second section of the instrument addressed current behaviors. Teachers were asked if they assign homework in their physical education classes. In particular, they were asked to describe any written and/or physical assignments that they assign to their students for completion outside of regular class time. The literature on homework (Doyle & Carter, 1984; Florio, Clark, Elmore, Martin, Maxwell, & Metheny, 1982; King, 1980; Morrison, 1982; Smith, 1978), suggests that homework that is evaluated by the teacher and that is counted toward a final grade is taken more seriously by students. Hence, teachers were also asked to describe how homework assignments were handled when turned in by students (e.g., who, if anyone, grades the work and to what extent it is a factor in a final grade for the course).

In the final section, teachers were asked about their attitudes toward the use of homework in physical education. Specifically, teachers were asked whether or not homework has a place in physical education and, if so, what type(s) of homework should be included. If the use of homework was supported, teachers were also asked to assign a value of that work toward a final grade for the course.

The questionnaire was piloted on two experienced teachers (from 5 to 23 years of teaching experience), and revised prior to data collection. Participants completed the questionnaire during the first part of a scheduled 5 hour inservice session. Questionnaires were completed in long hand and were collected as completed in a fashion that facilitated participant anonymity.

Data Analysis

Results were analyzed in three steps. First, content categories were elicited from open ended responses. Two of the researchers used a form of constant comparison (Lincoln & Guba, 1985) to sort through responses to open ended questions, to arrive at mutually exclusive categories to include all responses. Next, coded responses were transferred to machine readable bubble sheets for simple descriptive statistical analyses. Last, coded responses were assigned to appropriate cells in a homework taxonomy grid adapted from the work of Lee and Pruitt (1979) and combined with the three domains for which educators are responsible — cognitive, affective, and psychomotor.

Results

More than 80% of the participants in each group (PEI-I, 83%; PEI-II, 88%) identified a belief in assigning homework in physical education. Reports of actual uses of homework were slightly less consistently positive. The degree of support for written homework and physical homework differed. Written homework was reported as actually used by 88% of the participants who had completed two years of inservice sessions (PEI-II). Only 60% of the participants who had completed one year of inservice sessions (PEI-I) said that they used this type of homework. The differences in uses of physical homework were more pronounced, used by 79% of the PEI-II group and only 23% of the PEI-I teachers.

To gain further insight into the kinds of written homework assigned, participants were asked to describe the type of work involved. These results

are presented in Table 1. Forty percent of the one year participants used no written homework and 20% used an approach advocated in several journals as a way to engage students who do not dress for class (read an assigned article and summarize the key points). Thirty percent of the two year participants in inservice workshops used

a combination of different types of written assignments as homework and none of them used the packaged approach to reviewing articles. Beyond these differences, participants who assigned written homework in both groups appeared to be relatively similar in their selection of homework assignments.

Table 1
Self-Reports of Current Uses of Homework

What types of written homework do you assign?

Type	PEI-I	PEI-II
Journal	1	2
Fitness/Activity Sheet/Log	3	5
Design Fitness Program/Project	1	1
Study Guide/Worksheet/Workbooks	3	3
Choreograph live or video performance	0	1
Read Articles and Summarize	6	0
Assess/Describe Local Activity Programs	2	2
Combination of Above Options	2	8
(Do Not Use Written Homework)	12	2
Total	30	24

What types of Physical Homework do you assign?

Type	PEI-I	PEI-II
Fitness	4	10
Skill Development	2	0
Movement Form Competency	0	2
Activities Approved By Instructor	1	6
Combination of Fitness and Skill	0	1
(Do Not Use Physical Homework)	23	5
Total	30	24

Information was also sought on homework in the psychomotor domain. There were even stronger differences reported between the two groups on this variable. After two years of inservice efforts, participants indicated much stronger support for physical homework. A mere 23% of

the PEI-I participants said that they use this type of homework, in contrast to 79% of the PEI-II participants.

The type of physical homework assigned is reported in Table 1. Nearly half of the PEI-II participants assigned homework that addressed

student fitness needs. This category of physical homework was most popular for the teachers in PEI-I, too. Other descriptors for types of homework assigned were too diverse to code for any meaningful categories. More guidance for participants in answering this question would appear warranted for future studies. This question was an open ended probe that would benefit from further revision. These results are also illustrated in Table 2 within the conceptual framework adapted from Lee and Pruitt (1979). Three basic categories of homework from that taxonomy were adapted: preparation, practice, and extension. The purpose of preparation homework is to have students obtain sufficient background to be ready for the

content of a subsequent lesson. Practice is the most common type of homework, designed to provide opportunities to reinforce newly acquired skills or apply recent learning. Extension homework involves having students transfer learning of new skills or concepts from one situation to another. Lee and Pruitt describe extension as very similar to practice homework, with extension involving more abstract thinking on the part of the student, designed to take students beyond what has been covered in class and to encourage individualized applications, research and study, often of a long-term project that parallels class work. Notably absent are any examples of homework in the affective domain and in the preparation category.

Table 2
Physical Education Homework Taxonomy

Domain	Preparation	Practice	Extension
Cognitive		Workbooks Activity Log	Journal Read and summarize articles. Design a program. Assess a local activity.
Affective Psychomotor		Fitness Skill development. Movement form competency. Approved activities.	Choreograph or Videotape a performance Movement form competency.

Approaches to the evaluation of homework are presented in Table 3. Participants who assign written homework in both groups report that the teacher should grade the homework. There is far less consistency across teachers who assign physical homework. Having students maintain a

log of their activities with some sort of “witness” to confirm that the student did complete activities listed in the log is the most popular response for participants in both groups. Using some combination of strategies is a close second alternative to many of the PEI-II participants.

Table 3
Homework Evaluation Strategies

Written Homework Evaluation Strategies	PEI-I	PEI-II
Teacher Grades	12	19
Students Grade	2	0
Combination (Students and Teachers)	4	3
Do Not Grade or No Report	12	2
Total	30	24
Physical Homework Evaluation Strategies	PEI-I	PEI-II
Student Verbal Report	2	1
Log or Journal	1	4
Log (with a "witness")	3	9
Combination of Strategies	1	7
Do Not Grade or No Report	23	3
Total	30	24

Related to evaluation strategies is the extent to which homework evaluations contribute to a final grade for high school physical education students (see Table 4). The majority of participants in both groups who assign written homework assign between 16 and 30% toward a final grade. Physical activity as homework is far less commonly used as a contributing factor for a final grade assigned by either group. For the PEI-II participants, there was a range of values reported for counting physical homework toward a final grade. Most who assign this type of homework say they allocate between 16 and 30% — the same range reported for written homework. Next most common was the use of a pass or fail accountability system for this type of homework.

Finally, participants were asked what value should be assigned to homework, as a part of a final grade. There was clear support for the opinion that homework should be worth something toward a final grade; this was true for 80% of the PEI-I participants but true for only about 67% of the PEI-II participants. Beyond this initial

agreement, however, the percent of contribution of homework to a final grade spanned a large range of answers.

Discussion and Conclusions

The purpose of this study was to explore attitudes and self-reported practices regarding the use of homework by high school physical educators. Caution must be exercised when considering these findings. These are self-report data and there are concerns with the extent to which there is an exact match among what people report, what they truly believe, and what they do. This caution includes concern that participants may have reported what they believed was expected of them in both their behavior and their beliefs. Still, they are adults with secure jobs responding to an anonymous request for information and, given the dearth of information available on the use of homework by physical educators, these data represent the best insight currently available in the professional literature. Moreover, these descriptive data provide a starting point for more

Table 4
Beliefs and Practices Regarding the Value of Homework in a Final Grade

Percent	Written		Physical	
	PEI-I	PEI-II	PEI-I	PEI-II
0	0	0	1	0
11-15	5	1	4	2
16-30	10	13	2	7
31-45	0	1	0	0
46-60	0	0	0	0
Range 12-40	0	1	0	1
Range 25-50	0	1	0	1
Pass/Fail	0	1	0	5
Range Unspecified	1	3	0	3
Do Not use/No Report	14	3	23	8
Total	30	24	30	24

What Value Should Be Assigned to Homework (As Part of a Final Grade)?

Percent	PEI-I	PEI-II
0	0	3
1-10	7	1
11-20	9	5
21-35	8	10
Should Not Use/No Report	6	5
Total	30	24

ambitious studies of actual practices and for the study of the impact of these different approaches to assigning homework in physical education.

These results suggest there is the potential for disagreement between parents and teachers regarding what should be included in a high school physical education program. While Tannehill, Romar, and O'Sullivan (1994) found most parents expressing the belief that homework should not be required, most teachers in the present study (over 70%) support the use of homework. Since home environment is a factor in the effectiveness of homework assignments (c.f., Doyle & Barber, 1990), there appears to be a need for educating parents about the value in assigning homework in physical education.

There is reason for cautious optimism in the results reported in this study. The message that there is more to physical education than just showing up and dressing for class is becoming more common. The vast majority of secondary physical education teachers in this study report believing in homework. A lesser majority actually assign homework that is graded by the teacher and is a substantive part of a final grade in the class. It is interesting to note that the PEI-I teachers express more support for including homework in a final grade than do PEI-II teachers. The reason for this difference is unclear. The cross sectional rather than longitudinal design masks whether this is a difference across time and experience or simply a difference among teachers. The lack of

other research in this discipline on the topic of homework also inhibits further interpretation.

Written homework has so far received more support than assignments in the psychomotor domain, and this finding warrants further study. Interest in the lagging support for motor skill and fitness application homework is warranted because of the sound rationale for "practicing" motor skills and engaging in regular physical activity as an outside of class commitment. Informal conversations with inservice participants across the past few years have revealed that most physical education teachers express a concern with legal liability, monitoring, and validating that students have actually completed the physical work that they claim to have completed.

The pattern of assigning homework reported by physical educators in this study casts doubt on the potential for students to make real gains in the psychomotor domain. If physical educators are tacitly telling their students that mastery of movement skills is not worthy of their time outside of school, why should students make the choice to engage in physical activity for their discretionary time? Still, a beginning has been made. In some schools, students are receiving a range of creative approaches to out of class assignments. These assignments are predominantly graded by the teacher rather than by peers and the work is counted toward a final grade. Viewed optimistically, these data suggest some teachers are beginning to use homework for appropriate instructional purposes and in ways that are consistent with the research on the topic in other disciplines.

Recommendations for Future Study

The data presented in this study represent baseline information on current practices of physical educators regarding homework. Based on these data, there are other questions that warrant further study as we work toward enhancing our potential to achieve several important goals in physical education. First, are these data representative of physical educators in other states and at other levels (i.e., elementary and middle schools)?

Second, how do students perceive different types of homework? Third, to what extent do students honestly complete different types of homework and why? Fourth, in what ways are different types of homework assessed by teachers? Fifth, to what extent do different types of homework actually contribute to program outcomes and what are those intended program outcomes?

There are also questions regarding homework that are warranted in preservice programs. For example, do preservice teachers see different homework possibilities modeled in their PETE programs? What are the perceptions and practices of teacher educators with regard to the use of homework? Do preservice students get homework in the activity classes they take? These and other questions warrant attention as physical educators try to meet important goals for students in their programs. At least part of this process must involve efforts to change student and teacher perceptions of homework as either a punishment or something done only in other subject areas. For homework to help students perform well in school and to transfer to their lives beyond school, homework must be perceived as meaningful and interesting activity that is an integral part of their lives now and valuable for an enjoyable and healthy life for many years to come.

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