

The Impact of State Standards on Physical Education in Wyoming— A Decade of Change

Tami Benham-Deal, Jayne M. Jenkins, Tristan Wallhead, and Mark Byra

Abstract

Change in physical education and the impact of state standards on curriculum, instruction, and assessment were investigated in this study. Teachers from elementary (n=69) and secondary (n=94) schools participated by completing an author developed questionnaire. Comparisons were made between schools that participated in the current study and schools represented in a study conducted a decade ago. Since adoption of state graduation standards the frequency and duration of elementary physical education has remained largely unchanged. At the secondary level, frequency of class sessions significantly declined while duration of each session significantly increased. Block scheduling at the secondary level may have contributed to the decline in frequency, since the duration of minutes per week students attended physical education in 1995 and 2005 was not significantly different. Elementary children failed to meet recommended amounts of weekly physical education, but as grade level increased students (who were enrolled in physical education) came closer to meeting national goals. Although teacher responses were not always positive, many teachers felt that standards have had an impact on the way they teach, the focus and direction of their curriculum, and their assessment practices. Lack of time was identified as the predominant barrier to meeting state standards.

Education reform initiatives have resulted in a move toward standards-based education whereby schools, districts, and states are required to align curriculum, instruction, and assessment with

challenging student achievement standards. Sweeping changes have occurred in education practices since passage of the *No Child Left Behind* (NCLB) legislation (2002). Increases in demand for accountability have left schools and teachers pondering how they will meet the mandates of the law in the amount of time they have available during the school year. The answer in some states and school districts has been to eliminate or reduce offerings in academic subjects that are not defined by NCLB as core subject areas. Since physical education is one of those non-mandated areas, the risk of elimination or reduction is real (Coleman, 2001). The Center on Education Policy (2005) recently published a report on the impact NCLB requirements have had on non-core subject areas in 49 states and 350 school districts. Twenty-seven percent of those states and school districts have seen at least minimal reductions in physical education as a result of increasing instruction time in language arts and/or math. However, with dramatic increases in health risks like obesity and type 2 diabetes that are now being seen in children and adolescents, the need for quality physical education that promotes lifelong physical activity has never been greater (Hannon, Rao, & Arslanian, 2005).

In an effort to embrace the education reform movement the National Association for Sport and Physical Education (NASPE) published a document (1995) that was later revised (2004) called *Moving into the Future: National Standards for Physical Education*. This document outlines what students should know and be able to do as a result of quality physical education. Many states require

their school districts to adopt either the national standards or state standards that have been aligned to them (Burgeson, Wechsler, Brener, Young, & Spain, 2003). The impact that adoption of standards has had on physical education programs is largely unknown.

Pursuant to the flurry of comprehensive school reform activities occurring nationwide in the late 1980s and early 1990s, the Wyoming legislature mandated state graduation standards in 1995 (W.S. 21-9-101) and charged the Wyoming Department of Education (WDE) with ensuring that all students be given the opportunity to meet the standards. Unlike the later federal mandate outlined in NCLB, physical education was recognized as a common core academic area. As a result, school districts are held accountable for documenting evidence that students are provided standards-based physical education and that they achieve proficiency in the content area. (See Benham-Deal, Byra, Jenkins, & Gates, 2002, for more details about the standards development process.) The purpose of this study was to examine changes in physical education curriculum, instruction, and assessment that have occurred since the adoption of standards in Wyoming. We also wanted to identify gaps in levels of readiness. That is, are there skills and knowledge that teachers need to continue to develop so that they can better assist their students in achieving state standards?

Methods

Participants

During the fall semester of 2004 a questionnaire was mailed to one physical education teacher in every school ($n=392$) in Wyoming's 48 school districts. These teachers belonged to the Wyoming School Health and Physical Education (WYHPE) Network, a virtual organization made up of teachers who have attended various workshops, conference presentations and/or university classes offered by the authors. In schools where there was more than one teacher, the survey was sent to a teacher who had previously agreed to be

the school or district liaison to the WYHPE Network. In the few cases where a contact person was not identified, the survey was mailed to the "Physical Educator" at that school. To increase response rate, a follow-up e-mail message and attached questionnaire were sent to a teacher or administrator in all of the school districts for which a survey had not been returned by February 2005.

One hundred and sixty-five teachers returned the questionnaire. They represented 71 elementary schools and 94 secondary schools (middle, junior high, and high schools) for a 43% return rate. Since physical education practices are quite consistent within school districts, we were also interested in determining district return rate. Twenty-nine (61%) of the school districts had responses from teachers in elementary schools while 38 (79%) of the school districts had responses from teachers in secondary schools.

Instrument

In a previous study, Benham-Deal and Byra (1995) developed and used a self-report questionnaire to survey teachers on physical education practices in Wyoming. The survey included questions that focused on: (a) the teacher, (b) the curriculum, (c) frequency of physical education classes, and (d) physical fitness testing. Since the original questionnaire was developed prior to the adoption of statewide standards in physical education, revisions were needed in order to fully address the research questions in this study. Some of the original questions pertaining to facilities, after school activities, fitness testing, and community involvement were dropped so that new ones pertinent to the standards movement could be added. Questions related to teacher certification requirements, grade level requirements, and frequency and duration of classes were retained so that longitudinal changes could be examined. The revised instrument included 45 open-ended questions and closed questions requiring ranking and categorical responses. The questionnaire was divided into the following categories: (a) physical

and health education demographics, (b) physical and health education standards and curricula, (c) school/district assessment practices, and (d) school/district policies on physical education and activity. Information gleaned from questions pertaining only to physical education will be reported here.

Since the questionnaire contained both closed and open-ended questions, two different types of analyses were applied to the results. Number counts, percentages, and means were calculated on quantitative responses. To determine changes in practices over time, a one-way Analysis of Variance was applied to the data. Qualitative data were analyzed through constant comparison (Lincoln & Guba, 1985). Responses to each question were read and placed into categories. As the categories were revised and refined, general themes emerged to encompass all categories.

Results and Discussion

Results from the study were grouped into two school levels; elementary (K-6) and secondary (middle, junior high, and high school). Middle schools were included in the secondary grouping because scheduling issues in that type of school are more consistent with those of the junior high and high schools than with elementary schools. If 6th grade was housed in the same building as the other elementary grades it was included in the elementary analyses; if it was included in the middle school, it was analyzed with secondary data. Where possible, results from this study were compared to state findings reported by Benham-Deal and Byra (1995) and to national results reported in the School Health Policies and Programs Study (SHHPS, Burgeson et al., 2003).

Physical Education Demographics

Enrollment in participating schools reflected the rural and frontier nature of the state, with school populations ranging from 12 to 480 students (\bar{M} = 231) at the elementary level and 4 to 1600 students (\bar{M} = 419) at the secondary level. Nearly three-quarters of secondary schools had

more than one certified physical education teacher on staff. In contrast, only 30% of elementary schools had more than one certified physical education teacher. Almost all elementary (93%) and secondary (98%) physical education teachers were on full time contracts. More elementary (93%) than secondary (71%) teachers were fully allocated to the physical education program. Of those secondary teachers who had multiple responsibilities, nearly half (47%) also taught health education. Most secondary teachers (83%) taught in one school while almost half (47%) of the elementary teachers traveled to more than one school. Slightly more than half of the elementary teachers (52%) and most of the secondary teachers (85%) coached at least one sport.

Required Physical Education

Nearly all elementary (91%) and secondary (97%) schools in Wyoming require physical education. This is considerably higher than schools reported in the SHPPS (Burgeson et al., 2003). In that study, the number of schools requiring physical education varied according to grade level. Required physical education in elementary ranged from 39.7% in kindergarten to 51.5% in 4th grade, while secondary schools ranged from 5.4% in 12th grade to 26.2% in 7th grade. Almost twice the number of secondary schools reported having physical education in 9th grade than in 11th grade. In Wyoming decisions about curriculum requirements are made at the local level. However, with the adoption of state graduation standards, school districts must provide students with multiple opportunities to acquire the basket of goods (i.e., skills and knowledge) outlined in the standards. It is not surprising then to see most schools meeting that challenge through required physical education programs.

Frequency of Physical Education (days per week)

No significant differences were found in the number of days per week Wyoming elementary students attended physical education in 1995 and

in 2005 (see Figure 1). On average, elementary children (grades 1-6) attended physical education 2.5 days per week. Kindergarteners spent slightly less time (\underline{M} days = 2.0) in physical education. One of the *Healthy People 2010* (U.S. Dept of Health and Human Services, 2000) goals is to achieve more physical education in schools, particularly since days are filled predominately with sedentary seat work. By increasing children's physical education, total physical activity during the typical school day generally increases. In addition, there may be some carry over benefits of physical education. For instance, Dale, Corbin and Dale (2000) found that children were more active after school on days that they had physical education than on days they did not. Results from this study suggest that elementary schools in Wyoming are failing to meet national recommendations for daily physical education (NASPE, 2004).

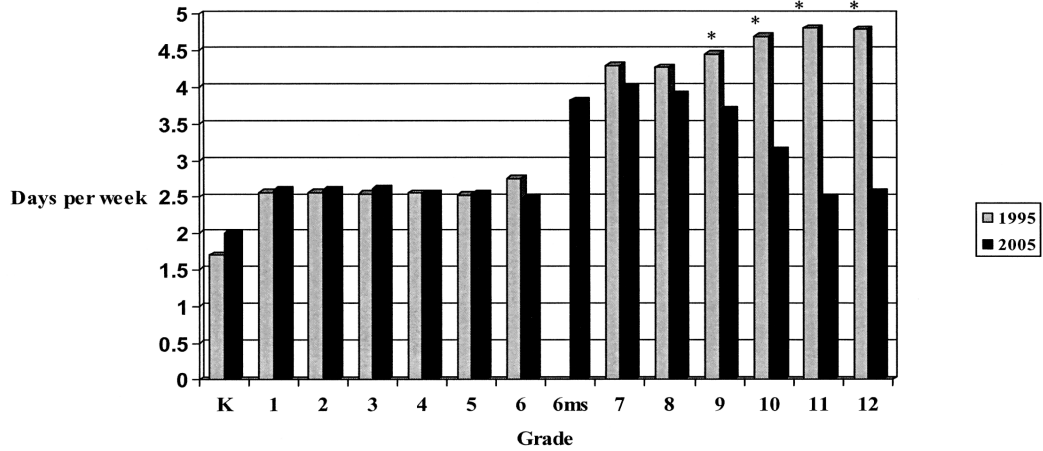
In this study, Wyoming 7th graders attended a greater number of physical education classes each week (\underline{M} = 4.0) than any other grade level. It is interesting to note that when 6th grade was housed in a "middle school" the mean number of days per week that students in Wyoming attended physical education was considerably higher (3.8 days/week) than when housed in elementary schools (2.5 days/week). Consistent with findings from the Centers for Disease Control (Lowry et al., 2004), enrollment in physical education declined throughout high school. In Wyoming this decline started in junior high (see Figure 1). Significant differences were found between 1995 (Benham-Deal & Byra, 1995) and 2005 in 9th through 12th grades. Mean differences ranged from 0.9 days in 9th grade to 2.3 days in 11th grade. These findings could be cause for alarm if the number of minutes students engage in physical education per week also decline.

Duration of Physical Education (minutes per session and per week)

The mean number of minutes per session that elementary students engaged in physical education ranged from a high of 35.8 in 6th grade to a low of 28.3 in kindergarten (see Figure 2). Tenth graders attended physical education for more minutes per session (\underline{M} = 67.1) than other secondary grade levels. Similar to the frequency data, students engaged in significantly more minutes of physical education ($f = 24.27$, $p < .0001$) when 6th grade was in a middle school setting (\underline{M} = 51.5) than when it was in an elementary school (\underline{M} = 33.8). A significant increase in the number of minutes per session was seen in all of the secondary grades from 1995 (Benham-Deal & Byra, 1995) to 2005. Mean differences ranged from 10.1 minutes in 8th grade to 19.8 minutes in 12th grade.

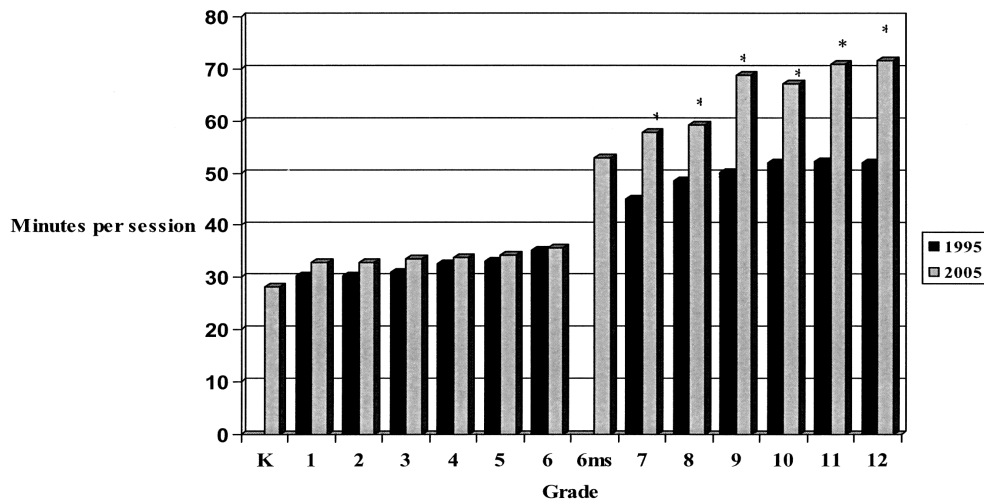
The decline in number of days some secondary students attend physical education and the increase in number of minutes per session is probably a reflection of more schools moving toward block scheduling. Thus, a decline in the number of days per week may not mean that students are accumulating less physical activity time per week. To further examine this premise, the number of minutes per week students attended physical education was calculated. At the elementary level, means ranged from 76.8 min in 1st grade to 86.6 min in 6th grade (see Figure 3). It was not uncommon to see greater durations in geographically isolated schools that had physical education teachers directly assigned to a single school. Even though the number of days per week increased in some elementary grades, no significant differences were seen between 1995 (Benham-Deal & Byra, 1995) and 2005 in the number of minutes per week students had physical education. Most schools failed to provide students with recommended amounts of physical education (NASPE, 2004), leading to the conclusion that

Figure 1. Frequency of physical education by days per week and grade level in 1995 and 2005.



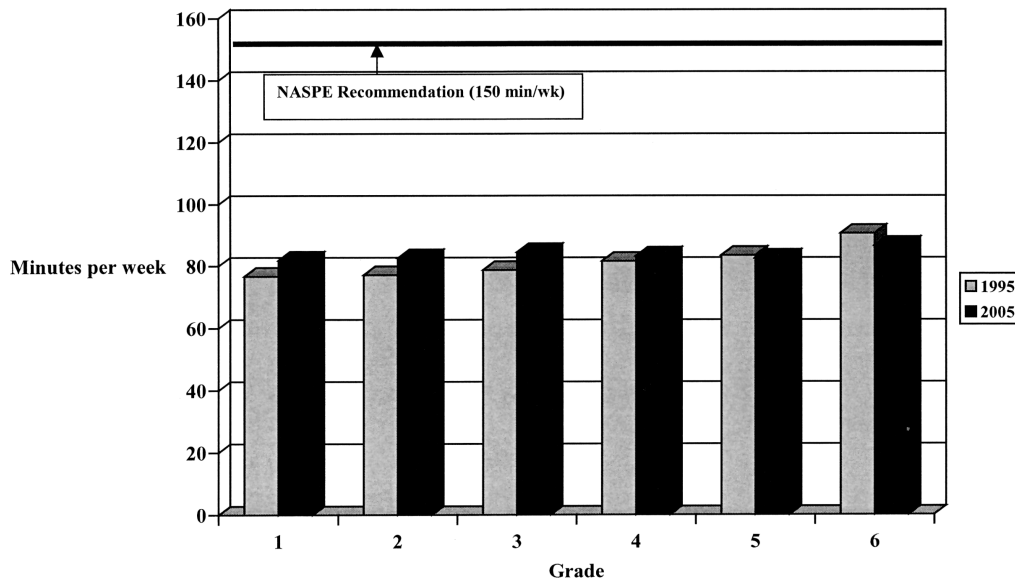
* Grade 9 ($f = 4.82$, $p < .03$), Grade 10 ($f = 12.25$, $p < .001$), Grade 11 ($f = 20.30$, $p < .0001$), Grade 12 ($f = 17.07$, $p < .0001$)

Figure 2. Duration of physical education by minutes per session and grade level.



* Grade 7 ($f = 8.15$, $p < .006$), Grade 8 ($f = 5.03$, $p < .03$), Grade 9 ($f = 12.86$, $p < .001$), Grade 10 ($f = 7.35$, $p < .009$), Grade 11 ($f = 9.82$, $p < .003$), Grade 12 ($f = 10.36$, $p < .003$)

Figure 3. Weekly duration of physical education by elementary grade level in 1995 and 2005.



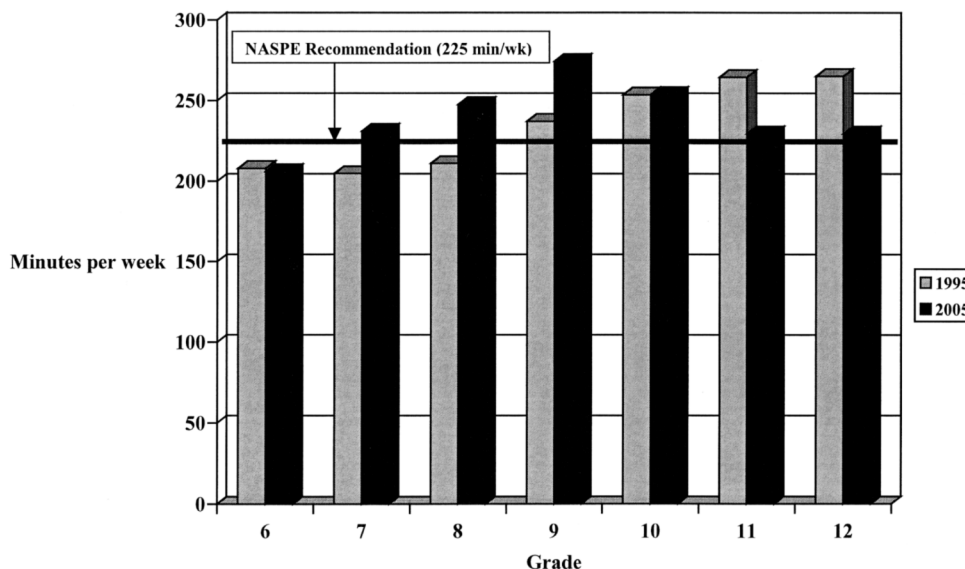
calls for daily physical education (or the equivalent amount of time) have thus far gone unheeded in most Wyoming elementary schools.

No significant differences were seen between 1995 (Benham-Deal & Byra, 1995) and 2005 in the number of minutes per week secondary students had physical education. The gap seen in the elementary schools between recommended amounts and actual number of accumulated minutes of weekly physical education narrowed in the middle grades (6-8), with means ranging from 205.0 min in 6th grade to 247.5 min in 8th grade of weekly physical education (see Figure 4). When physical education was offered in high schools, all grades met the recommended 225 min of physical education per week. So, even though required days of week declined across grade levels, most students at the upper grade levels (who take physical education) accumulated the recommended amounts.

Curriculum Issues

In 1995 (Benham-Deal & Byra, 1995) almost all of the elementary (91%) and secondary (93%) schools in Wyoming reported having a written school physical education curriculum. A considerable decline was seen in 2005 in the percentage of elementary (78%) and secondary (73%) schools that indicated a written curriculum was in place. While the 2005 percentages are consistent with findings from SHHPS (i.e., 77.4%), the decline was very surprising, particularly since the Wyoming Department of Education requires that all school districts have their curriculum aligned with district standards. There are several possible explanations for this finding. First, the state-required district curriculum may not have been adopted as the school curriculum. Second, the decline seen in this response could have resulted from the language that was used in the 2005 questionnaire. The

Figure 4. Weekly duration of secondary physical education by grade level in 1995 and 2005.



original question was modified to include the phrase “developmentally appropriate” so respondents in this study could have differentiated between a written curriculum and one that was developmentally appropriate. Finally, it is possible that teachers believe their previous curriculum has been replaced by the physical education standards and benchmarks. With such emphasis on standards, teachers may not be cognizant of existing curriculum documents. Regardless, this finding needs to be further explored to determine why teachers fail to report having developmentally appropriate curricula.

Standards and Practice

According to the SHHPS (Burgeson et al., 2003), 60.8% of all states require school districts and/or schools to follow guidelines such as national or state standards. Of the schools that

were surveyed in the SHHPS, most (81.4%) reported following either national, state, or district physical education standards. All schools in Wyoming are required to have graduation standards in physical education. Most of the elementary (80%) and secondary (81%) schools in this study have adopted the state graduation standards in physical education as their school district standards. Early in the standards adoption process, some school districts attempted to write their own standards but it appears now most of them agree that the state standards sufficiently encompass the knowledge and skills that their students should achieve. When asked if the adoption of state standards affected the way they teach, 42% of elementary teachers and 45% of secondary teachers responded affirmatively. The percentage of teachers who teach standards-based physical education may be higher, however.

Some of the participants reported that their program was already standards-based before the official adoption of state standards while some of the newer teachers indicated that standards-based physical education is what they were taught at the university and was the only way they knew how to teach. In these cases, adoption of standards was not viewed to have affected the way they teach.

Open-ended responses were analyzed using a qualitative emergent theme approach (Lincoln & Guba, 1985). Specific step-wise data analysis procedures entailed sorting and categorizing, and comparing and contrasting of the open-ended responses (Hare & Graber, 2000). First the data were analyzed by dissecting responses into similar statements and categories. Three distinct themes relating to the impact of state standards on their physical education programs were seen in this initial analysis, namely: (a) alignment of curriculum and instruction, (b) type and frequency of assessment, and (c) barriers and facilitators to effectiveness in meeting the standards. Second, these developing categories were compared and contrasted across teacher data such as gender and grade level taught to determine any consistencies and inconsistencies. Throughout this process of data analysis peer debriefing was employed at routine intervals with the third author as a means of critically examining emerging findings. No sub-themes emerged across demographic characteristics of the participants and the themes of curriculum and instruction, assessment, and barriers and facilitators to effectiveness were left intact.

Alignment of Curriculum and Instruction.

Teachers reported that the state standards provided them a direction and focus to their curriculum planning. The student achievement benchmarks also provided them with a framework for developing a more specific scope and sequence to their programs. One teacher noted, "The standards helped give direction and scope and sequence to the program. It helped me cover

all areas and not just movement." The standards also motivated the teachers to offer a greater scope of content areas, including more dance/rhythms and lifetime activities units. Teachers also commented that the standards and benchmarks had made them realize the value of sequencing an effective program; not just within an individual school, but across the district program. One elementary teacher noted, "At my level we have tried to make sure there is a sequential carry-over to the intermediate school." Teachers reported that they were making a concerted effort to fit what they were teaching with the standards as written. As one teacher reported, "Units taught are aligned with the standards and more time is spent making sure all standards and benchmarks are taught."

It seems pertinent to note that in responding to open-ended questions regarding curriculum and instruction many of the Wyoming teachers did not differentiate their responses towards issues of curriculum change and instructional change. A possible explanation for this finding is that for many of the teachers, curriculum and instruction were perceived as inseparable, part of the same thing. Therefore, to look to separate out changes to curriculum planning and instructional methodologies was illogical to them. An alternative explanation may be that the state standards have not yet provided a significant catalyst to teachers changing their instructional methodologies; that is, it may have changed *what* they choose to teach, but not *how* they choose to teach it. This needs to be further explored as a possible gap in teachers' readiness to effectively teach standards-based physical education. Professional development that helps to introduce teachers to best practices in standards-based instruction may be needed.

Type and Frequency of Assessment.

As part of Wyoming's accountability system, schools are required to administer common assessments to all students in the school district so that progress on standards can be documented.

More than three quarters (77%) of the elementary and secondary schools in this study reported having adopted district-wide assessments. Slightly fewer (52% of elementary and 57% of secondary schools) indicated that they have administered these common assessments and begun to track student progress through the benchmark periods (i.e., K-4, 5-8, 9-12). The impact of standards on assessment practices was reflected in their open-ended responses. A common theme of change was teachers' perception of an increased engagement in assessment. "I do more assessments!" was a common response. For many teachers these assessments were viewed as being aligned with the standards and specifically the creation of a "body of evidence" that documents student achievement. For instance, one teacher responded, "we now offer body of evidence activities and document much more of what goes on in the curriculum." However, teachers did not always seem to value this higher level of time investment in assessment as facilitating their instructional effectiveness. For many teachers the extra emphasis on assessment was not perceived as a facilitator that guided their instruction, but rather was viewed as a separate task that reduced instructional time and subsequently student activity time. One teacher summarized this view with, "I do more assessments but we have less time on skills. I taught more material before this came into place."

When asked what type of common assessments were now included in district-wide physical education programs no single theme or type emerged. There was a variety of content being assessed and a greater scope of assessment instruments being used. Teachers suggested that to satisfy all three of the state standards they assessed performance in less traditional activities such as dance, gymnastics, and fundamental movement skills. Teachers also reported that they were starting to use a greater variety of assessment methodologies to help students understand the cognitive components of physical education. One teacher commented, "we do more cognitive

assessments for students to understand the why, and how." Reported assessment instruments included use of skill rubrics, performance checklists, and peer evaluations. We believe these results reflect a change in how teachers understand and view assessment. The only question we asked in 1995 about assessment focused on fitness testing. While many of the teachers reported that they still used fitness tests, often these comments were accompanied with mention of related cognitive assessments (e.g., goal writing, student logs, written tests). This was not surprising since Wyoming Physical Education Standard #2 (Fitness Literacy) does not require students to demonstrate physical fitness. Instead, it requires students to be literate in fitness and to engage in physical activities required for being healthy and fit. It is likely that teachers are using the information they glean from the fitness tests to help students set fitness goals and plan developmentally appropriate fitness plans since these tasks are outlined in the grade level benchmarks.

In summary, many of the Wyoming teachers seemed to value the outcome of the standards-based assessment process and are adapting their assessment methodologies to satisfy all of the state standards. Despite this there is still some resistance to the perceived time constraints of the assessment and documentation process contributing to a perceived reduction in "teaching time." More professional development may be needed in assisting teachers to economize their time so that instruction and assessment is a seamless process, including the use of assessment to inform instruction.

Perceived Barriers and Facilitators to Effectiveness at Meeting the Standards.

The most dominant perceived barrier to meeting the state standards that teachers reported was the issue of lack of *time*. One teacher commented, "Time is our greatest challenge today (lesson time, time for scheduling, time for planning and time for training)." Frequently participants stated that although the state

standards created a much needed framework to focus student learning, they still didn't have enough time to instruct and assess students. Several teachers reported that the only way to resolve this time-related issue was to use out-of-lesson time to help students achieve proficiency in the standards. "Students do not participate enough so I encourage out of school activity."

Time (or lack of it) is an issue for teachers across many disciplines. It has been estimated that classroom teachers need approximately one-and-one-half times the instructional time they currently have to teach language arts, mathematics, science, and civics (Florian, 1999). With increased emphasis on these subjects brought about by NCLB it is no wonder that available instruction time has become a major issue for classroom teachers. Physical education teachers in Wyoming are not immune to this pressure since physical education standards are mandated and connected to graduation outcomes. They experience similar pressure, particularly at the high school level where the stakes are high and often standards must be achieved in a single required class. One way that some teachers have dealt with this mismatch between the amount of content needed to be taught and available instruction time is to *integrate* content standards across the school curriculum so that students are not denied the opportunity to develop the knowledge and skills necessary to graduate. One teacher reported that the school district has "integrated health and PE at the elementary level & is meeting children's needs & developing healthy habits early in life." Another teacher stated, "The integration of literature into PE is something I am proud of. I also try to integrate with as many other areas as possible."

Motivating colleagues to embrace standards-based change and creating a "community of practice" (Lave & Wenger, 1991) that can stimulate systemic change has also been perceived by many teachers as a barrier to success. One teacher noted, "Getting my colleagues to look at

the curriculum and work on student improvement, not just throw out the ball, has been a challenge."

Despite these barriers the motivation of teachers to align their physical education programs with the state standards seems to have been sustained. The catalyst for this increased drive and determination seems to have arisen primarily from the enthusiastic response of the students. A typical response was, "participation levels are extremely high and students enjoy coming to class." Other school district personnel, especially administrators, are perceived by teachers as supportive of the physical education program and have contributed to the change process. One teacher remarked on the impact on whole school advocacy, "I have gotten the superintendent to buy into and begin a wellness program for our staff. The principal now walks every day after coming into the physical education program last year and learning how to use the heart rate monitors."

School Wellness Policies

Thus far district administration, school administration and staff, and community support has not translated into school wellness policies that recommend 30 minutes of daily physical activity. Only 17% of elementary schools and 26% of secondary schools reported having a school wellness policy at the time the questionnaire was administered. The Child Nutrition and Special Supplemental Nutrition Program for Women, Infants, and Children Reauthorization Act of 2005 requires all school districts with federally funded school meals program to develop wellness policies which address physical activity and nutrition by June, 2006. It is likely that the low percentage of schools who reported having a policy in place was a product of the close timing between the passage of the Act and the distribution of our questionnaire. It is anticipated that the percentage of schools in Wyoming who have these policies in place will increase significantly, and probably has already done so. Elementary

teachers predominantly identified “recess” as the primary mechanism (beyond physical education) through which elementary schools could achieve the physical activity goal. Currently, most of the elementary schools (74%) provide their mid-day recess before students eat lunch and many of the teachers reported their schools have multiple recesses throughout the day. No consistent plan for the secondary schools was articulated, nor was there much evidence that secondary students have any opportunities during the school day to engage in physical activity beyond their physical education classes. It is clear that schools need to find alternative forms of physical activity if the recommended 30 min of daily physical activity (Strong et al., 2005) is to be met.

Conclusion

Over the past decade (1995-2005) some things have changed and some things have not changed in K-12 physical education programs in Wyoming. Physical education continues to be a required course within the overall school curriculum in almost all schools across the state. This is encouraging given the growing trend across the nation is to reduce the number of minutes allocated to physical education instruction in schools (Coleman, 1999; Lowry et al., 2004). Although it is commendable that physical education remains a required course in schools K-12, Wyoming has “room for improvement” in meeting the recommended physical education instruction time, especially at the elementary level (NASPE, 2004).

It is disconcerting to learn that in 2005 only 75% of the participants reported having a written school physical education curriculum. This figure is down from that reported in 1995 (Benham-Deal & Byra, 1995). This finding is particularly difficult to understand given that physical education is one of eight common core subject areas for which standards are developed and graduation requirements specified in Wyoming. Perhaps some of the participants in this study differentiated the development of district standards and benchmarks from the development of school curricula. Or,

perhaps the added phrase “developmentally appropriate” within the question had an impact on the answer provided. Regardless, we need to further examine this finding in future research.

Results from the open-ended questions suggest that physical education teachers in Wyoming perceive the state physical education standards to be helpful. The teachers reported using the state standards for developing scope and sequence at the school and district levels, directing standards-based instructional practices in their daily lessons, and helping them to better understand the diverse outcomes of physical education. Teachers stated that they were using skill rubrics, performance checklists, and peer evaluations to assess skill, cognitive, and affective performance of students in the physical education setting. Although the participants generally viewed the physical education standards in a positive vein, the one barrier most frequently identified was “time.” The physical education teachers specifically stated that they did not have enough time to effectively conduct standards-based assessment. This finding reflects the thoughts of other teachers in other subject matter areas (Darling-Hammond, 1996).

The response rate in this study (43%) is a possible limitation and needs to be considered. Response rates to national surveys have declined from approximately 60% to 21% since 1960 (Dey, 1997). The literature does not reveal a common standard for response rate in order to determine significance. The response rate in this study (by schools) is consistent with much of the large scale survey research and would be considered in the moderate range for determining significance and the district return rate (61% of districts for elementary schools and 79% of districts for secondary schools) would be considered high. Nevertheless, non-response introduces a bias that could limit the external validity of the results since the schools (and teachers) that did not respond could have different program/curriculum characteristics (and perspectives). As such, caution is urged when generalizing the results to the entire state.

In spite of this limitation, there is great value of this study. First, it informs teachers, school and district administrators/personnel, parents, and students of the “current state of affairs” in physical education state-wide. We now have data from this study and one conducted a decade ago (Benham-Deal & Byra, 1995) to inform those making decisions about the future role of physical education in schools.

Second, the results of this study can be used to determine future directions in professional development for physical educators state-wide. For example, the findings suggest that future workshops should highlight the relationship between state/district standards and benchmarks, and school/school district curricular documents. In addition, the results inform us that teachers would benefit from knowing more about how instruction and assessment practices can be combined (i.e., be one of the same thing). A tension for teachers is compromising the manner in which time is spent in physical education class; embedding assessment within regularly planned instructional tasks may ease this tension for teachers, and, in turn, better inform them of student progress.

Finally, the results from this study add to what we know and what we are learning about physical education practices in schools nation-wide. In the past decade we have moved from standards to assessment to accountability in physical education. We are in the midst of significant educational reform that is serving to better inform student learning. Results from studies like this one will help us better understand the issues schools and teachers face as they align and integrate curriculum, instruction, and assessment into standards-based physical education.

REFERENCES

- Benham-Deal, T., & Byra, M. (1995). Elementary and secondary school physical education practices in a rural state. *The Rural Educator*, 16(3), 7-11.
- Benham-Deal, T., Byra, M., Jenkins, J., & Gates, W. K. (2002). The physical education standards movement in Wyoming: An effort in partnership. *JOPERD*, 73, 25-28.
- Burgeson, C. R., Wechsler, H., Brener, N. D., Young, J. C., & Spain, C.G. (2003). Physical education and activity: Results from the School Health Policies and Programs Study 2000. *JOPERD*, 74, 20-36.
- Center on Education Policy (2005). *From the Capital to the Classroom: Year 3 of the No Child Left Behind Act*. Washington, D.C.: Center on Education Policy.
- Coleman, M. (1999). The importance of physical activity to health and daily functioning. *Teaching Elementary Physical Education*, 10, 6-8.
- Coleman, S. (2001, January 29). Phys-ed classes are out, academics in. *Boston Globe*, B1.
- Dale, D., Corbin, C.B., & Dale, K. S. (2000). Restricting opportunities to be active during school time: Do children compensate by increasing physical activity levels after school? *Research Quarterly for Exercise and Sport*, 71, 240-248.
- Darling-Hammond, L. (1996). The quiet revolution: Rethinking teacher development. *Educational Leadership*, 53, 4-10.
- Dey, E. L. (1997). Working with low survey response rates: The efficacy of weighting adjustments. *Research in Higher Education*, 38, 215-227.
- Florian, J. (1999). *Teacher Survey of Standards-Based Instruction: Addressing Time*. Aurora, CO: Mid-continent Research for Education and Learning.
- Hannon, T. S., Rao, G., & Arslanian, S. A. (2005). Childhood obesity and type 2 diabetes mellitus. *Pediatrics*, 116, 473-480.
- Hare, M. K., & Graber, K. C. (2000). Student misconceptions during two invasion game units in physical education: A qualitative investigation of student thought processing. *Journal of Teaching in Physical Education*, 20, 55-77.

- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Lowry, R., Brener, N., Lee, S., Epping, J., Fulton, J., & Eaton, D. (2004). Participation in high school physical education—United States, 1991-2003, *MMWR*, 53, 844-847.
- National Association of Sport and Physical Education. (1995). *Moving into the future: National physical education standards—A guide to content and assessment*. St. Louis, MO: Mosby.
- National Association of Sport and Physical Education. (2004). *Moving into the future: National standards for physical education* (2nd ed). Reston, VA: National Association for Sport and Physical Education.
- No Child Left Behind Act of 2001* (2002). Pub L. No. 107-110, 115 Stat. 1425.
- Strong, W. B., Malina, R. M., Blimkie, C. J., Daniels, S. R., Dishman, R. K., & Gutin, B. (2005). Evidence based physical activity for school-age youth. *The Journal of Pediatrics*, 146, 732-737.
- U.S. Department of Health and Human Services. (2000). *Healthy People 2010: With Understanding and Improving Health and Objectives for Improving Health* (2nd ed.). Washington, DC: U.S. Government Printing Office.

Drs. Tami Benham-Deal, Jayne M. Jenkins, Tristan Wallhead, and Mark Byra are faculty members at the University of Wyoming.

Author Note

This research was supported in part by a contract from the Wyoming Department of Education, Cheyenne, WY.