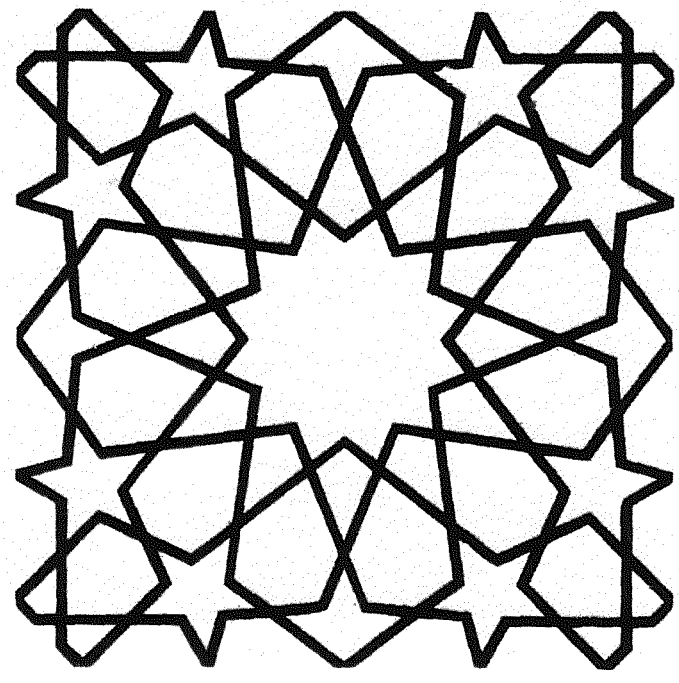
12240

أم

جامعة قطر
QATAR UNIVERSITY

مجلة
العلوم التربوية



مجلة نصف سنوية - علمية - محكمة تصدر عن كلية التربية جامعة قطر العدد (١٢)

The Effectiveness of Teacher Behavior in Managing Academic Learning Time in Secondary Physical Education Classes in The Kingdom of Bahrain

Faisal H. Almulla-Abdulla* **Eman Al-Khuder****

Abstract

The purposes of this study were to measure the effectiveness of teacher behavior in managing academic learning time in secondary physical education classes in The Kingdom of Bahrain, and to examine the relationships between teacher behavior and student (ALT-PE). Twelve physical education teachers were observed four times. Data were collected using two instrument (ALT-PE) & (ASUOI)). The study indicated the following findings:

- Students in secondary physical education classes spent 28% of the lesson time in (ALT).
- The highest percentage of teaches behavior was in the category of management accounting for 29.89% of all intervals.
- Significant relationships were found between teacher behavior and student (ALT).

In the light of the results, it were concluded that teachers should decrease management behaviors and increased student ALT in physical education classes. Future studies should be completed examining the relationships between teacher and student behaviors.

* **Associate Porf. Of Curriculum & Instruction - Dept of Physical Education - University of Bahrain.**

** **Acting Physical education First Teacher - Ministry of Education - The Kingdom of Bahrain.**

فاعلية سلوك المعلم
في إدارة الوقت الأكاديمي لدرس التربية البدنية
بالمرحلة الثانوية بمملكة البحرين

فيصل حميد الملا عبد الله* إيمان أحمد الخضر**

الملخص

هدفت هذه الدراسة إلى قياس فاعلية سلوك المعلم في إدارة الوقت الأكاديمي لدرس التربية البدنية بالمرحلة الثانوية في مملكة البحرين، بالإضافة إلى التعرف على العلاقة بين سلوك المعلم والزمن الأكاديمي لتعلم التلاميذ، واشتملت عينة الدراسة على (١٢) معلماً ومعلمة، تم ملاحظة كلاً منهم أربع مرات، وقد تم استخدم أداتين لقياس وتحليل سلوك المعلم والزمن الأكاديمي لتعلم التلاميذ، ومن أبرز النتائج التي توصلت إليها الدراسة ما يلي:

- أن التلاميذ في حصص التربية الرياضية بالمرحلة الثانوية يستغرقون ما نسبته٢٨% فقط من زمن الدرس في الزمن الأكاديمي للتعلم.
- أن سلوك المعلم التنظيمي جاء بالمرتبة الأولى (٢٩,٨٩%) كأحد السلوكيات التي يستغل فيها الزمن المخصص للحصة.
- توجد علاقة ذات دلالة إحصائية بين سلوك المعلم والزمن الأكاديمي لتعلم التلاميذ.

في ضوء نتائج هذه الدراسة أوصى الباحثان بضرورة تقليل الزمن المستغرق في سلوك المعلم التنظيمي، وزيادة الزمن الأكاديمي لتعلم التلاميذ في حصص التربية الرياضية، كما يوصي الباحثان بإجراء دراسات مماثلة حول العلاقة بين سلوك المعلم وسلوك المتعلم.

* أستاذ المناهج وطرق التدريس المشارك – قسم التربية الرياضية – كلية التربية– جامعة البحرين.
** المعلمة الأولي للتربية الرياضية بالوكالة – وزارة التربية والتعليم– مملكة البحرين.

Introduction

There are a variety of factors that influence student achievement in the physical education setting. It has been theorized that a critical variable in student achievement is the amount of time that students are motor engaged in activities appropriate to the student's abilities that result in high rates of success (Rink, 2002; Siedentop, & Tannehill, 2000; Silverman, Deviller, & Ramirez, 1991). This motor engagement variable has been named academic Learning Time--Physical Education (ALT-PE).

While there are many factors that can affect student engagement (i.e. class size, type of activity, facilities and equipment, and/or skill level of the students), it can be hypothesized that the type and frequency of teaching behaviors have a strong relationship with the amount of (ALT-PE) accrued in activity settings. Therefore, the relationship between the behaviors exhibited by teachers and the amount of time that students are engaged in (ALT-PE) is an important part of the teaching-learning process that is worthy of examination.

Completed research on how students spend their time was thoroughly reviewed by Metzler (1989). He pointed out that different versions of the Academic Learning Time--Physical Education (ALT-PE) instrument (Siedentop, Tousignant, & Parker, 1982) have been used extensively in the last two decades to study student behaviors in physical education. The (ALT-PE) instrument was developed based on the Beginning Teacher Evaluation Study (BTES, Fisher et al, cited in Al-Mulla, 2002). The (BTES) project was developed to examine the effect of student contact with appropriate curricular materials. Instructional time was divided into three measures: allocated time, engaged time, and academic learning time (ALT). Allocated time referred to the time allocated for instruction and practice of a particular skill. Engaged time referred to the percentage of allocated

time that a student is actually engaged with the subject matter. Engaged time has been identified as "time on task" in other research efforts. ALT referred to the percentage of engaged time that a student is involved with the subject matter at a level of difficulty commensurate with student abilities that results in an appropriate success rate (Siedentop, & Tannehill, 2000). The BTES researchers identified ALT as a powerful predictor of student achievement in classroom studies.

The concept of ALT was generalized to physical education. Researchers in sport pedagogy began to study the ALT variable and provided a strong rationale that a high percentage of ALT in physical education was strongly related to higher student achievement (Cousineau & Luke, 1990; Siedentop, Tousignant, & Parker, 1982). Using the (ALT-PE) instrument, (Beauchamp, Darst, and Thompson, 1990) completed an extensive descriptive analysis of 75 high school physical education classes in Canada involving a variety of activities. Their analysis showed that 38% of all intervals were coded as (ALT-PE). LaMaster and Lacy (1993) completed a study in junior high school physical education and reported an average of 14.6% of time in (ALT-PE). This adds to completed research on student engagement levels in a variety of physical education settings (Al-Mulla, 2002; Berry, Miller, & Berry, 2004; Cousineau & Luke, 1990; Godbout, Brunelle, & Tousignant, 1983; Silverman, Devillier, & Ramirez, 1991).

There are many instruments that can be used to systematically observe teacher behaviors (Lacy & Darst, 1989; Darst, Zakrajsek, & Mancini, 1989). In order to have a series of studies provide a more complete picture of effective teaching, it is important to use the same type of instrumentation. If enough studies are completed, more generalizable results can possibly occur (Metzler, 1989). One such systematic observation instrument is the Arizona State Observation

Instrument ((ASUOI)) (Lacy & Darst, 1989). This instrument includes 13 categories of teacher behaviors: use of first name, pre-instruction, concurrent instruction, post instruction, questioning, modeling, physical assistance, praise, scold, hustle, management, uncodable, and silence. It can be used with event or interval recording and has been used to collect data on teaching behaviors in previous studies (Avart, 1990; Lacy & Claxton 1990; LaMaster & Lacy, 1993; Lacy & Lollar, 1987).

In a similar study to this one, LaMaster and Lacy (1993) reported that junior high school physical educators spent the greatest amount of observed intervals in silence (33.5%) and management (26.36%). It was also noteworthy that the teachers exhibited very low amounts of hustle (3.14%), praise (3.97%), and scold (1.42%). (ALT-PE) in this study was an average of 14.6%. Correlation analysis indicated that management and pre-instruction had strong positive correlation with (ALT-PE) with significant negative correlations with concurrent instruction and silence. Given these findings, it was suggested that the subjects in this study displayed an ineffective teaching style.

Lacy, LaMaster and Tommancy (1996) conducted a study to analyze the teacher behaviors and student academic learning time in physical education classes. A modified version of the (ALT-PE) observation system was used to collect the data. The results, which were almost identical to the findings of other studies, reported that the mean percentage of student (ALT-PE) was 20.1%. They found that 14-20% of class time was spent on management and transition activities, 15-25% in receiving information, and 22-28% in waiting to participate or take a turn. They concluded that elementary physical education classes appear to be characterized by much longer periods of non-motor engagement that motor-engagement.

In Bahrain, Al-Mulla (2002) analyzed student academic learning time in physical education lessons in Bahrain. The results revealed that student in elementary physical education classes spent 20% of the lesson time in (ALT-PE). The findings also indicated that no statistically significant difference was found in the (ALT-PE) between males' and females' teachers.

Recently, Berry, et al. (2004) conducted a study to examine athletic training students' perceptions of how time is partitioned during clinical field-experience (CFE) time while enrolled in Commission on Accreditation of Allied Health Education Programs (CAAHEP). The findings indicated that subjects spent 51% of their clinical field-experience time engaged in active learning, 9% in managerial activities, 17% in unengaged activities, and 23% in waiting activities.

Overall, the review of literature indicated that teacher behaviour and (ALT-PE) have been the focus of many research studies, particularly in the United States. However, no such studies have been conducted on the analysing of teacher behaviour and student academic learning time in secondary physical education classes in Bahrain. The results of the studies cited above concluded that there were relationships between teacher behaviors and student (ALT-PE). In general physical education students spent a small proportion of class time in learning activities related to motor skill achievement. There was a consistency in purpose among the research studies that were reviewed. Most of the studies included in this review were descriptive type investigation. The purpose and design of this study were closely related to the characteristics of the descriptive studies using the revised (ALT-PE) instrument summarized in this review. Therefore, the research of other investigations has served as a foundation upon which this study was developed and expanded.

Statement of the Problem

While research efforts in the instructional effectiveness area have been completed in the secondary school physical education setting, a more thorough analysis of this particular teaching-learning environment can be made if the relationship of teacher behaviors and student (ALT-PE) is examined.

Considering the importance of the relationship between time and learning, it is surprising that such measurements of how time is spent in secondary physical education classes have not been conducted in any research study in Bahrain. Furthermore, To the best of the researchers' knowledge, no empirical research that specifically investigated the relationship of teacher behaviors and student (ALT-PE) has been undertaken in Bahrain. Therefore, the purposes of this study were to measure (ALT-PE) as well as teacher behaviors, and examine the relationships between teacher behaviors and student (ALT-PE) in secondary physical education classes in Bahrain.

Purpose of the Study

The purposes of this study were to measure the effectiveness of teacher behavior in managing academic learning time in secondary physical education classes in Bahrain, and to examine the relationships between teacher behaviors and student (ALT-PE)

Questions of the Study

For purposes of description and analysis, the following study questions were posed to provide a framework for studying the relationship between teacher behaviors and student academic learning time in secondary physical education:

(1) What is the mean (ALT-PE) of students in the observed secondary physical education classes?

(2) What teacher behaviors, as defined by the Arizona State University Observation Instrument (ASUOI) categories, occur most in secondary physical education settings?

(3) Are there significant relationships at the .05 level of significance between teacher behaviors as defined by the (ASUOI) and student (ALT-PE)?

Significance of the Study

The result of this study can serve a diagnostic purpose to show the relationship between what teachers are doing and the amount of time students spend on learning specific movement task. The result of analyzing (ALT-PE) may also show where remedial development is necessary in order to improve the effectiveness of physical education teachers in Bahrain. Furthermore, the results of the study can be used as an individual evaluation of teaching effectiveness and the suitability of teaching strategies. Above all, this study seeks to contribute to research on teaching in Bahrain which could be used to provide a description of teacher and student behaviors in physical education classes.

Delimitations of the study

The study was delimited by the following:

(1) The sample of the study was delimited to students in physical education classes in first, second, and the third grades (tenth, eleventh, and twelfth grades) at secondary schools in two areas (Hamad and Isa Towns) in Bahrain.

(2) The study was delimited to secondary physical education teachers in public school in Bahrain.

(3) This study was delimited to the period of the study in which it conducted during the first semester of the academic year 2005-2006.

(4) The generalization of the findings of the study that comes outside its statistical population is delimited to the extent of the similarity between the outside society and the current society.

Definition of Terms

Teacher Behavior: Class time during which teachers are not intended to let students be involved in motor activity at an appropriate success rate (ALT-PE) such as concurrent instruction, postinstruction, questioning, praise, management, silence.. etc (Lacy & Darst, 1989).

General Content: Class time during which students are not intended to be involved in physical education activities such as transition time, management time, and organization time (Parker, 1989).

Subject Matter Knowledge Content: Class time when the primary focus is intended to be knowledge related to physical education content such as presentation time and demonstration time (Parker, 1989).

Subject Matter Motor Content: Class time when the primary focus is intended to be motor involvement in physical education activities (Parker, 1989).

Academic Learning Time- Physical Education (ALT-PE): The portion of lesson time that a student is involved in motor activity at an appropriate success rate (Siedentop, & Tannehill, 2000).

Methods and Procedures

Participants:

The participants in this study were twelve experienced secondary physical education teachers and their classes in the Isa Town and Hamad Town areas in Bahrain during the first semester of

2005/2006. Classes were grades 10-12 (first, second, and third secondary levels). Subjects were selected based on their willingness to participate in the study with attempts being made to include subjects from different schools and areas. Data were collected at six different schools in the two towns. There were twelve (six female and six males) teachers with no school being represented by more than two teachers. The teachers had at least four years of teaching experience. Table (1) shows the description of study participants.

Table (1)

The description of the study participants according to variables

Participants	Number		Qualification	Experience
	N	%		
Male	6	50%	BPE	7.6
Female	6	50%	BPE	7.4

Setting:

The observed classes were composed of secondary school physical education students. Each of the twelve teachers was videotaped four times. The videotaped observations occurred during units that were conducted indoors with all classes being non-coeducational. The mean size of the 48 classes was 26 students. Classes ranged in length from 40-50 minutes with the average length being 44. There were a variety of units taught including gymnastics (n = 8), physical fitness (n = 8), basketball (n = 4), track and field (n = 5), volleyball (n = 6), soccer (n = 5), handball (n = 7), and traditional dancing (n = 5).

Measurement Instrumentation

Eleven specific categories of the Arizona State University Observation Instrument (ASUOI) (Lacy & Darst, 1989) were used in this study to provide descriptive data on behaviors of teachers. The non-verbal behavior categories of modeling and physical assistance

were eliminated in this study because the teacher was not always visible on the videotape.

The (ASUOI) is event recording instrument, in which involves placing a tally mark on the coding form each time one of the predefined behavior categories is observed. The instrument consists of 14 behavior categories, 7 of which are directly related to the instructional process. These behavior categories are: Pre-instruction, Concurrent Instruction, Post Instruction, Questioning, Silence, Hustle, Praise, Scold, Management, Uncodable, First Name.

The Academic Learning Time-Physical Education (ALT-PE) instrument Siedentop, Tousignant, & Parker, 1982) was also used in this study to provide descriptive data on student behaviors. The instrument consists of 21 behavior categories in which all related to the instructional process The (ALT-PE) was originally developed and subsequently refined by Siedentop and graduate student at the Ohio State University in 1979 (cited in Parker, 1989). The purpose of the (ALT-PE) instrument is to measure the portion of time in physical education setting that the student is involved in motor activity at an appropriate success rate. The total instrument is capable of describing not only the type of motor activity (e.g. skill practice, scrimmage/ routine, game, fitness) in which selected students are involved, but also the context (general or subject matter) in which the total class is involved. The information on motor activity provides the most useful data for physical education (Parker, 1989).

Validity and Reliability of the Instrument

The original versions of the (ALT-PE) (Siedentop, Tousignant, & Parker, 1982) and (ASUOI) (Lacy & Darst, 1989) instruments were developed through an extensive review of the literature, a practical observation process, and by a panel of esteemed experts from the field of teaching physical education. The (ALT-PE) and (ASUOI) were

shown to have both content and face validities. Because both the (ALT-PE) and (ASUOI) categories are specifically defined and obviously related to teachers behaviors, face validity is apparent (Lacy & Darst, 1989; Parker, 1989). Because a rational basis exists for the selection of the behavior as supported by previous research, the instruments also possess content validity. Interobserver reliabilities were established using both event and interval recording procedures. For (ALT-PE) instrument the percentage of agreement exceeded the 90% criterion level in all behavior categories as well as in the total number of behaviors observed. The percentage of agreement for the (ASUOI) instrument exceeded the 85% criterion level in all behavior categories.

Data Collection

Each subject and their classes were videotaped four times during the study. The subjects were not visited two days in a row and only one class was videotaped per day. Each videotape was coded once using the (ASUOI) categories to obtain teacher behaviors and then a second time to collect data on student time in ALT. The teacher behavior data were collected using interval recording procedures (5 seconds observe, 1 second code). The ALT data were collected using duration recording of motor engaged appropriate behavior (ALT) of selected students. Silverman and Zotos (1987) have reported that (ALT-PE) instruments using interval recording procedures overestimate actual student motor appropriate engagement time. This suggests that alternate procedures such as duration and time sampling should be considered for a more accurate reflection of ALT. By dividing the accrued amount of (ALT-PE) time by the total length of the class, a percentage of time in ALT was calculated for each observation.

All coding was done by two data collectors thoroughly familiar with the data collection protocols of both instruments. One

data collector was trained to code teacher behaviors, while the other was trained to collect (ALT-PE) data. Pilot tapes were coded to develop, practice, and refine the coding procedures specific to this study. Specific problems encountered in coding the pilot tapes were discussed, and coding decisions in these areas of disagreement were made so that all tapes would be coded consistently throughout actual data collection. In order to establish reliability of the systematic observation procedures, interobserver agreements (IOA) between two independent observers were made to ensure accuracy of the data collection. IOA checks were made prior to data collection and again at the midway point to' guard against observer drift. All IOA percentages were in excess of the required 85% criterion needed for research purposes as suggested by Siedentop and Tannehill (2000).

Data Analysis

The Statistical Package for Social Sciences (SPSS) computer program was used for statistical treatment of the data. The descriptive data obtained were a calculated percentage of intervals (ASUOI) for each behavior category and a calculated percentage of ALT time for each of the 48 videotaped lessons. Then, first order correlational procedures were utilized to determine independent relationships between teacher behaviors (ASUOI) and the percentage of ALT across the 48 classes. Finally, the data were analyzed by multiple regression procedures to calculate intercorrelational relationships of the (ASUOI) behaviors to ALT in the observed classes.

Results

The results will be presented according to the questions of the study.

Question (1): What is the mean (ALT-PE) of students in the observed secondary physical education classes?

In order to determine the mean (ALT-PE) of students in the observed secondary physical education classes, we computed means and standard deviation on the score for each category of the (ALT-PE). The means and standard deviations for each category are presented in table (2):

Table (2)

Percentage of Intervals, and Minutes of Lesson Time Spent in (ALT-PE) Categories

Categories	Context Level %	Class Time Min
Context Level		
Transition	20.12	8.86
Management	4.00	1.76
Break	1.40	0.62
Warm-Up	4.00	1.76
General Content (GC)	**29.53**	**13.00**
Technique	15.00	6.60
Strategy	5.00	2.20
Rules	2.00	0.88
Social Behaviour	2.00	0.88
Background	1.00	0.44
Subject Matter Knowledge Con. (SMKC)	**25.00**	**11.00**
Skill Practice	20.47	8.88
Scrimmage/Routine	6.00	2.65
Game	12.00	5.28
Fitness	7.00	3.08
Subject Matter Motor Content (SMMC)	**45.47**	**20.00**
Total Context Level	**100.0**	**44.00**
Learner Involvement Level		
Interim	1.00	0.44
Waiting	15.00	6.60
Off Task	7.00	3.08
On Task	20.00	8.80
Cognitive	18.38	8.08
Not motor Engaged (NME)	**61.38**	**27.00**
Motor Appropriate	28.00	12.32
Motor Inappropriate	10.00	4.40
Supporting	1.62	0.71
Motor Engaged (ME)	39.62	17.43
Total Learner Involvement Level	**100.0**	**44.00**

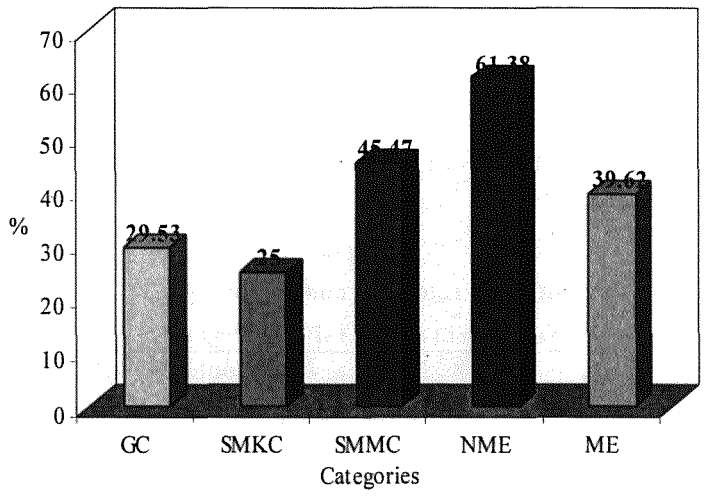


Figure 1: Percentage of ALT-PE Categories

Table (2) and Figure (1) show that 29.53% of the total context level time was spent on general content. The most obvious observation relating to the general content sub-categories is that physical education students at secondary schools spent much of their time in transitional activities. They spent approximately 20.12% of the lesson time in transitional and organizational activities.

Table (2) and Figure 1 also reveal that the twelve teachers in the study spent approximately 25% of the context level time in the subject matter knowledge category. Approximately 15% of the was devoted to relating information about motor skill technique. With respect to the subject matter motor category, about 45.47% of the context level time was spent in this category. Most teachers in the study allocated the greatest amount of subject matter motor time to skill practice (about 20.47%).

As can be seen from Table (2) and Figure 1, the physical education students in secondary schools spent more time not actively

engaged in motor activity than actively engaged. Secondary physical education students were not engaged in motor activity for 61.38% of the time in physical education lessons. The results indicated that students in secondary schools spent (15%) of every physical education lesson in waiting for something to happen. On-task behaviours were the most dominant category in all lessons and were recorded as occurring for 20.00% of the lessons' times.

According to Table (2) and Figure 1, (39.62%) of the learner involvement time was spent in motor engaged activity. Approximately 28% of the motor engaged time secondary students judged to be in the motor appropriate category reflecting the amount of Academic Learning Time in Physical Education (ALT-PE).

Qquestion (2): What teacher behaviors, as defined by the (ASUOI) categories, occur most in secondary physical education settings?

Means and standard deviation were used to examine what teacher behaviors occur most in secondary physical education settings. The means and standard deviations for each category of (ASUOI) are presented in table (3).

Table (3)

Mean and standard deviation for each category of the (ASUOI) Behavior

Behavior categories	Mean	SD
Pre-instruction (PrI)	20.22	5.2
Concurrent Instruction (CI)	9.41	4.0
Post Instruction (PoI)	7.1	3.4
Questioning (Qu)	2.23	2.5
Silence (Si)	15.35	٤.6
Hustle (Hu)	2.12	2.9
Praise (Pra)	6.32	3.5
Scold (Sc)	3.12	3.2
Management (Ma)	29.89	6.6
Uncodable (Un)	3.25	3.5
First Name (FN)	12.45	4.2

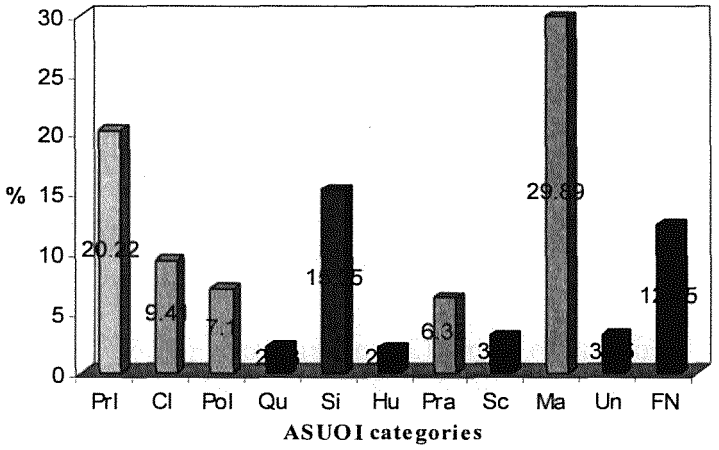


Figure 2:Persentages of ASUOI Categories

As can be seen from Table (3) and Figure (2), the highest percentage of teacher behaviors was in the category of management accounting for 29.89% of all intervals. This was followed by pre-instruction (20.22%), silence (15.35%), and first name (12.45%). The Concurrent Instruction accompanied 12.45% of the intervals and praise (6.32%) was observed almost twice as much as scold (3.12%).

Question (3): Are there significant relationships at the .05 level of significance between teacher behaviors as defined by the (ASUOI) and student (ALT-PE)?

In order to test this question, Pearson Product Moment Correlation was used. Pearson Product Moment Correlation coefficients for (ASUOI) behavior categories with student (ALT-PE) are presented in table (4):

Table 4

Pearson Product Moment Correlation Coefficients for (ASUOI) Behavior Categories with Student (ALT-PE)

Variable Pair	Relationship	Sig	*p*
Pre-Instruction	.38	.042	<.05
Concurrent Instruction	.44	.004	<.05
Post Instruction	.20	.125	>.05
Questioning	-.18	.245	>.05
Silence	-.08	.289	>.05
Hustle	-.25	.201	>.05
Praise	.39	.002	<.05
Scold	-.48	.001	<.05
Management	-.55	.001	<.05
Uncodable	.10	.235	>.05

Table (4) shows that the Pearson Product Moment Correlation indicated that management ($r = .56$, $p < .001$), scold ($r = .55$, $p < .001$), concurrent instruction ($r = .52$, $p < .01$), praise ($r = .50$, $p < .01$), and preinstruction ($r = .29$, $p < .05$) had significant relationships with student ALT. A forward stepwise multiple regression analysis yielded a .70 ($p < .001$) coefficient of multiple determination with management and concurrent instruction accounting for 49% of the variance associated with student (ALT) (see table 5).

Table 5

MultiPle Correlation Values ((ASUOI) Behavior Categories with (ALT-PE)) Calculated from Stepwise Multiple Regression Procedures

Variable	Mult. R	square	Beta	SE Beta	Stand. Beta
Management	.631	.398	-.515	.160	-.497
Con. Inst.	.704	.496	.717	.327	.339
	(Constant)	30.415	6.705		

Discussion

The first question examined in this study was the (ALT-PE) mean of students in secondary physical education classes. The (ALT-PE) data indicated that the (ALT-PE) score for students was typically average (15 minutes per 40-50 minutes lesson). This result is similar with results from other physical education ALT studies in which Berry, et al. (2004), Cousineau and Luke (1990), and Lacy et al. (1996) reported same percentages of the (ALT-PE) scores. Despite this, the percentage reported in this study, as in other studies, is low. The low percentage may be attributed to class size, type of activities, amount of equipment, and class structure as well as teacher behaviors.

Secondary school students spent a striking amount of their class time in not motor engaged activities -behaviour not likely to lead towards the intended learning outcome. As a group, physical education students were more likely to be waiting, listening, in management, in transition, and performing unplanned tasks than to be in skill practice exercise, motor engagement, and motor appropriate activities.

It is clear from the results that secondary physical education teachers spend a considerable proportion of their time organizing students and getting the environment and equipment ready for the class. The proportion of transition and management activities is higher than the proportions of Berry, et al. (2004), Cousineau and Luke (1990), and Placek and Randall (1986) found in physical education classes. Teachers can expect to spend some time engaged in transitional and managerial behaviours in physical education classes in general. In particular, the management and organisation of students and equipment affects the level of student academic learning time.

In this study much of the transition and management time was spent carrying equipment from either storage or some area around the gymnasium especially during gymnastic classes. Thus, the way activities were organized in physical education classes taught by secondary school teachers provided long periods of waiting time. The proportion of waiting time in this study (15%) is quite higher than the 9% Berry (2004) found in their study. Research shows that it is possible to cut down the amount of inactive time in classes by developing good management skills such as routines (Fink & Siedentop, 1989; Siedentop, & Tannehill, 2000). In this study, the classes in which students had a higher (ALT-PE) rate, teachers had implemented classroom rules and instructional routines. Thus, establishing such routines does appear to be one of the keys to reducing managerial and transitional time in classes and in turn increasing the time students may spend in leaning.

Most of the secondary physical education teachers spent more time dealing with off-task activities. One way to reduce off-task time and devoted much of class time to actual learning is to place the equipment in many locations around the play area. In fact, having distributing the equipment may be highly effective in terms of time than having the students pick up their own equipment from one area. Teachers in the present study appeared to start classes slowly, place the equipment in one area, and use large sized groups.

Research shows that an effective teacher presents information clearly in a way that increases academic learning time. The concept of clarity simply means that instructions, demonstrations, and discussions are not only clear to the student but also take less time because of their clarity. In this study the teachers talked a lot and spent more time in unnecessary conversation. This mean, much of ALT produced in physical education classes at secondary schools are more likely to be cognitive rather than motor. The findings of this study

appear to support other (ALT-PE) studies (Almulla, 2002; Berry, et al., 2004; Cousinean & Luke, 1990; and Lacy, et al.,1996) in which physical education students accumulated much more cognitive behaviour time than motor appropriate time.

Although the secondary physical education teachers allocate a percentage of their lesson time for skill practice, discussion held in this part of the study indicated that the activities selected and the way in which they were organized and managed by the teachers provided low (ALT-PE). This was the case. Many teachers failed to devote large percentages of time to motor appropriate behaviour. Perhaps they did not fully understand the concept of (ALT-PE). Perhaps they were not conscious of either the effects of the class structure or class momentum on (ALT-PE).

The second question addressed in this study was that which of the teacher behaviors, as defined by the (ASUOI) categories, occur most in secondary physical education settings. The findings revealed that the top two behaviors were management and pre-instruction. The 31.1% of intervals coded as management seems exceedingly high. The high amount of pre-instruction indicates teachers did a lot of explaining prior to student skill attempts. This findings appear to support the findings of Lacy, et al. (1996) study in which management behaviours occurred most in physical education settings.

The third question addressed in this study was the relationships between teacher behaviors as defined by the (ASUOI) and student (ALT-PE). Not surprisingly, management behaviors had the strongest relationship with ALT with a negative correlation of -.55. Concurrent instruction (cues or reminders given during a skill attempt) had the highest positive relationship at .44. Since students must be motor engaged for a concurrent instruction to occur, the relationship also

could be expected. These two behaviors show the strongest relationship to ALT in this study according to the multiple regression analysis. While a cause and effect relationship with (ALT) cannot be assumed from the data, nevertheless, these two behaviors show strong correlation.

Conclusion

The purposes of this study were to measure teacher behavior and student academic learning time in secondary physical education classes, and to examine the relationships between teacher behaviors and student (ALT-PE). Many of the physical education teachers in secondary schools were not aware that the students in PE classes spent only limited amounts of time directly engaged with the motor skills. The results showed that the teachers allocated less than half of class time for student participation in (ALT-PE). Students spent more than half of their time in non-motor- activities. The findings also indicated that when students were engaged, they spent more time in cognitive and on-task engagement than in motor responding.

From these results, it seems fair to suggest that teachers should decrease management behaviors by implementing more efficient class routines, decreasing teacher talk prior to activity, and organize lessons with the primary goal of improving student (ALT-PE). Many games, relays, and class structures commonly used in physical education do not contribute high amounts of student activity. This statement is supported by the results from this study as well as previous studies.

Future studies should be completed examining the relationships between teacher and student behaviors. Additional studies in other settings would be helpful to expand the database in this area. Studies focusing on the effects of such things as class size, class structure, and type of unit on student ALT could also aid

teachers and researchers to better understand what constitutes an effective teaching-learning environment.

References

- Al-Mulla, F.H. (2002). Analysis of students academic learning time in elementary physical education in Bahrain. Journal of Educational and Psychological Sciences, 3(1), 7-32.
- Avant, F. (1990). Comparison of female teaching and coaching behaviors in junior high schools through systematic observation. Abstracts: Research Papers--1990 AAHPERD National Convention. Reston, VA: AAHPERD Press.
- Beauchamp, L., Darst, P., & Thompson, L. (1990). Academic learning time as an indication of quality high school physical education. Journal of Physical Education, Recreation, and Dance, 61, (1), 92-95.
- Berry, D. C., Miller, M. G. & Berry, L. M. (2004). Effects of clinical field-experience setting on athletic training students' perceived percentage of time spent on active learning. Journal of Athletic Training, 39 (2), 176-184.
- Cousineau, W., & Luke, M. (1990). Relationships between teacher expectations and academic learning time in sixth grade physical education basketball classes. Journal of Teaching in Physical Education, 9, (4), 262-271.
- Darst, P., Zakrajsek, Mancini, V. (1989). Analyzing Physical Education and Short Instruction. (2nd ed.). Champaign, IL: Human Kinetics Publishers.

- Godbout, P., Brunelle, J., & Tousignant, M. (1983). Academic learning time in elementary and secondary physical education classes. Research Quarterly for Exercise and Sport, 54, (1), 11-19.
- Lacy, A. & Claxton, D. (1990). Descriptive analysis of student (ALT-PE) and teacher behaviors in college aerobic dance classes. Abstracts: Research Papers--1990 AAHPERD National Convention. Reston, VA: AAHPERD Press.
- Lacy, A., & Darst, P. (1989). The Aeizona State University Observation Instrument ((ASUOI)) In P. Darst, D. Zakrajsek & V. Mancini (Eds.), Analysing Physical Education and Sport Instruction, (2nd ed, pp.369-378). Champaign, IL: Human Kinetics.
- Lacy, A. & Lollar, J. (1987). The effects of three systematic observation data collection procedures on teaching behaviors of college physical education instructors. Abstracts: Research Papers--1987 AAHPERD National Convention. Reston, VA: AAHPERD Press.
- Lacy, A., LaMaster, K., & Tommancy, W. (1996). Teacher behaviours and student academic learning time in elementary physical education. The Physical Educator, 53 (1), 44-50.
- LaMaster, K. & Lacy, A. (1993). Relationship of teacher behaviors to (ALT-PE) in junior high school physical education. Journal of Classroom Interaction. 28, (1), 21-25
- Metzler, M. (1989). A review of research on time in sport pedagogy. Journal of Teaching in Physical Education, 8 (2), 87103.

- Parker, M. (1989). Academic learning time -physical education ((ALT-PE)), 1982 revision. In P. Darst, D. Zakrajsek & V. Mancini (Eds.), Analysing Physical Education and Sport Instruction, (2nd ed, pp.195-205). Champaign, IL: Human Kinetics.
- Rink, J.E. (2002). Teaching physical education for learning. (4th ed.). Boston, MA: McGraw-Hill.
- Siedentop, D., & Tannehill, D. (2000). Developing teaching skills in physical education. (4th ed.). Mountain View, CA: Mayfield.
- Siedentop, D., Tousignant, M., & Parker, M. (1982). Academic Learning Time--Physical Education Coding Manual: 1982 Revision. Unpublished manual, The Ohio State University.
- Silverman, S., Deviller, R., & Ramirez, T. (1991). The validity of academic learning time--physical education ((ALT-PE)) as a process measure of achievement. Research Quarterly for Exercise and Sport, 62 (3), 319-325.
- Silverman, S., & Zotos, C. (1987). Validity of interval and time sampling methods for measuring student engaged time in physical education. Educational and Psychological Measurement, 47, 1005-1012.

تاريخ ورود البحث : ١٥/٢/ ٢٠٠٦م
تاريخ ورود التعديلات : ٦ /٦/ ٢٠٠٦م
تاريخ القبول للنشر : ١٩/٦/ ٢٠٠٦م