

Exploring Teaching Effectiveness in Physical Education: The Experiences of Preservice Elementary School Teachers

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Abstract

Elementary physical education in Cyprus is taught by classroom teachers, which makes the quality of the lesson questionable by physical education specialists. Therefore, the purpose of the study was to investigate teaching effectiveness in classes of preservice teachers, during their student teaching practice. For that purpose, 45 preservice teachers from a private university participated in this study. The students taught two physical education classes, which were videotaped. In addition, their lesson plans were collected, informal interviews were conducted and field notes were taken in the school settings. From data analysis, 3 main themes emerged: 1) The need for efficient time management, 2) The need to improve instructional and organizational components, 3) The need to offer feedback to all students. Furthermore, student teachers highlighted their difficulties in preparing and teaching elementary physical education, since this class is different than the others and it is taught in a totally different setting.

Keywords: Physical education, teaching effectiveness, elementary school, preservice teachers, student teaching

1. Introduction

Elementary physical education in Cyprus is assigned to classroom teachers, however, there's an on-going debate as far as to whom this class should be assigned to, for better quality lessons: classroom teachers vs. physical education specialists. Considering the obesity epidemic worldwide (WHO, 2010) which has affected Cyprus and has ranked the country among the top three countries in the European Union, in childhood obesity rates (Savva, Kourides, Hadjigeorgiou & Tornaritis, 2010), schools are expected to offer quality physical education programs that will help children develop positive attitudes towards physical education, will promote lifelong involvement in regular physical activity and will contribute to eliminate childhood obesity. Since the quality of the current physical education programs is questionable (Author & Silverman, 2018), the purpose of this study was to investigate teaching effectiveness in elementary physical education, through the experiences of preservice teachers, who will be teaching this class in the future. The study is a part of a bigger project investigating teaching effectiveness in preservice teachers in Cyprus.

1.1 Teachers' Training Program

Elementary school teachers in Cyprus complete a 4-year training program, which includes both theory and practical training. The curriculum includes two physical education mandatory courses: one for content knowledge and one for pedagogical content knowledge. In both of these classes, students are required to prepare lesson plans and teach mini-lessons in the gym, and receive feedback for the major components of teaching. In addition there are two elective courses in physical education, which better prepare students to teach elementary physical education. During their last couple of years of study, students are placed in public schools for their student teaching practical training. Their practical training in physical education is supervised by specialist faculty members of the department. Students are expected to prepare lesson plans and send them to their supervisor for feedback and discussion of the whole procedure. Then, the supervisor visits the school in set dates and observes the lessons. Right after each lesson, a discussion with the student is followed with comments and recommendations and then a written report is prepared and sent to the student, referring to specific components of the student's teaching.

1.2 Elementary physical education in Cyprus

Physical education in elementary schools in Cyprus is currently taught by elementary school teachers who may not qualify to teach this class effectively (Author& Silverman, 2018; Author, Montalvo & Silverman, 2013). Although they take two physical education classes during their bachelor years, it seems that the quality of the lesson is not the expected one (Author et al., 2013), which affects students' attitudes towards physical education and physical activity (Author& Silverman, 2018) and in turn, their regular participation in physical activity. For that reason, there's an on-going debate as far as to whom elementary physical education class should be assigned to: elementary school teachers or physical education teachers. Elementary physical education in Cyprus is taught indoors or outdoors and schools carry the appropriate equipment for the lesson. The class is taught three times a week in 5th and 6th grade and twice a week in 1st to 4th grade. The length of each class is 40 minutes. Students are taught fundamental movement skills and concepts from 1st to 3rd grade and combination of skills and strategies used in group and individual games and sports, in modified and in real game situations, from 4th to 6th grade.

2. Materials and Methods

2.1 Participants

The participants in this study were 45 senior college students (29 women and 16 men), from the education department of a private university in Cyprus. The students were placed in elementary public schools for their student teaching practice, as part of their training. All students took at least both mandatory physical education classes before their practical training and were familiar with the procedure of preparing and teaching an elementary physical education class. The participants were free to teach the topic of their preference, as they would regularly do throughout the academic year, following the guidelines of the ministry of education.

2.2 Recording instrument

To create a picture on how preservice teachers spend time in elementary physical education and what kind of teaching behaviors they demonstrate in class, a previously validated recording instrument designed by Silverman, Subramaniam, & Woods (1998) was used. The duration and event recording instrument helped create a picture of the teacher behaviors during the lesson. The teacher behavior instrument required the coder to collect data on both instructional behaviors (e.g. explanation, demonstration and monitoring) and organizational behaviors (e.g. children organization and equipment organization). The coder observed and recorded the type of behavior the teacher engaged in as well as the start and stop time of each behavior.

2.3 Procedure

Students were asked to teach two physical education classes the way they were taught in college, in a subject of their own choice, following the guidelines and recommendations of the ministry of education. Both classes were videotaped for data collection purposes. In addition, their lesson plans were collected, informal interviews were conducted and field notes were taken in the school settings, in an effort to collect as much information as possible for the school context. Before the beginning of the study, appropriate school procedures were used to inform principals, teachers and students for the purpose of the study. In addition, all school participants and children's parents were asked to provide written consent for their participation in the study. Beyond that, written permission was given by the ministry of education. Once all consent forms were returned, observation dates were scheduled and videotaping took place. Videotaping took place in the spring 2017 and two lessons per student teacher were videotaped. Each class was approximately the length of one regular school period. Instruction was videotaped with a two-camera split screen set-up so that the entire area of the school gymnasium would be recorded for subsequent coding. Taping began when the students first entered the gymnasium and was stopped after they disappeared through the gym doors at the end of the lesson. The teacher wore a portable microphone and the audio signal was recorded simultaneously with the video signal. Additionally, to record elapsed time, an electronic stop-watch that superimposed its image on the CD was used. All the above, made it easier to clarify each teaching task given by the teacher and the time frame allowed.

3. Results

The results for preservice teachers' behavior during class and the time frame for each behavior are given below (Table 1) for each one of the participants:

Table1. Mean preservice teachers' instructional and organizational behavior time across both videotaped physical education lessons.

#	Gen	Intro- duction	Wasted Time	Kids Org	Warm Up	Equip Organ	Prese- ntation	Practice	Cool Down	Closure/ Evaluation	TOTAL
1	W	06:02	00:00	12:03	02:07	12:01	04:20	10:10	05:00	00:00	51:43:00
2	W	01:02	07:15	02:08	04:54	02:34	02:55	12:41	01:09	04:43	39:21:00
3	W	04:12	00:00	05:09	03:07	05:06	04:17	08:14	02:03	03:19	35:27:00
4	W	03:01	04:18	04:30	04:02	01:09	09:24	21:01	02:07	06:13	55:05:00
5	M	04:09	01:02	12:14	03:06	05:04	08:16	08:03	00:00	02:11	44:05:00
6	W	02:15	01:06	11:43	03:01	01:32	06:15	13:18	03:06	04:01	45:37:00
7	M	05:03	00:00	03:31	02:07	03:04	06:07	19:21	00:00	01:04	40:17:00
8	W	02:03	07:32	10:01	02:14	00:00	01:23	03:24	01:17	02:04	29:18:00
9	W	00:00	04:11	06:32	00:00	04:10	07:10	14:02	00:00	01:11	37:16:00
10	M	04:21	03:02	10:09	02:14	02:21	02:34	13:01	03:23	03:05	43:30:00
11	W	04:01	00:00	07:12	08:24	01:11	12:23	09:34	03:02	03:15	48:22:00
12	W	02:00	00:00	03:01	02:10	00:00	04:27	30:01:00	02:17	02:03	45:59:00
13	W	01:12	01:45	09:27	01:31	07:01	03:23	06:20	00:36	01:32	32:07:00
14	W	07:03	03:12	05:23	00:00	03:33	08:23	12:02	04:21	01:23	44:40:00
15	M	04:32	04:04	04:21	04:10	01:09	06:41	16:21	01:24	02:43	44:05:00
16	W	05:50	00:00	08:37	05:23	01:35	14:24	19:04	03:21	02:21	59:15:00
17	M	02:37	01:22	02:57	02:52	03:23	05:28	10:21	02:01	02:32	32:13:00
18	M	03:21	01:42	08:10	02:32	03:40	07:44	13:17	01:21	02:05	42:32:00
19	W	03:32	00:00	16:21	03:14	03:45	10:02	12:19	02:21	05:26	56:20:00
20	W	05:22	00:00	07:12	03:30	05:21	06:06	12:15	04:02	02:09	45:17:00
21	W	06:02	00:00	10:05	02:09	06:13	11:21	15:04	02:05	05:10	58:08:00
22	M	02:34	04:12	04:53	01:19	09:11	03:43	11:03	02:06	01:23	39:04:00
23	W	02:22	00:00	06:43	02:21	04:15	06:23	11:12	02:41	03:02	38:19:00
24	W	04:05	03:09	06:23	02:02	04:03	06:30	10:06	02:12	03:27	41:17:00
25	W	02:41	00:00	03:08	02:23	04:54	05:40	09:56	02:48	02:58	32:27:00
26	M	03:16	03:34	03:54	02:18	01:49	08:23	11:41	02:19	05:47	41:01:00
27	W	02:02	05:12	09:11	06:21	03:01	10:12	03:22	01:51	00:00	40:32:00
28	W	00:00	04:33	06:57	03:43	02:48	01:50	08:02	01:08	03:57	31:38:00
29	W	02:52	04:53	03:40	00:00	00:00	03:19	06:19	00:00	02:55	22:38:00
30	W	01:55	01:34	02:42	04:32	03:12	03:56	08:10	00:00	02:23	27:04:00
31	M	04:11	03:09	05:35	03:42	05:25	08:23	05:46	01:56	05:02	41:49:00
32	M	00:00	01:32	07:42	03:57	03:28	04:51	16:04	02:28	02:12	40:54:00
33	W	02:41	02:24	05:31	01:16	04:23	03:57	10:02	03:17	03:40	35:51:00
34	W	01:58	00:00	04:15	02:09	03:06	10:12	12:04	01:56	02:12	37:12:00
35	M	03:06	05:12	02:38	00:00	02:56	07:41	20:12	03:27	00:00	44:32:00
36	W	05:12	00:00	03:11	02:27	03:04	06:19	12:41	02:00	03:04	37:18:00
37	M	02:53	04:32	06:01	02:14	04:00	04:23	06:24	02:19	03:04	35:10:00
38	M	02:34	04:11	06:21	02:01	04:10	07:10	10:02	03:40	02:14	41:43:00
39	W	03:11	03:02	08:09	03:14	04:21	05:34	08:01	03:23	03:05	41:20:00

40	W	04:18	00:00	05:20	04:24	01:43	10:23	08:34	03:02	03:10	40:14:00
41	W	02:02	00:00	03:01	02:10	04:50	04:27	10:23:00	02:17	02:03	30:33:00
42	W	03:12	01:45	05:47	02:31	07:01	03:23	06:20	03:36	01:32	33:47:00
43	M	05:03	03:12	05:23	02:45	03:33	08:23	09:34	04:21	02:01	43:35:00
44	M	04:32	01:54	04:21	04:10	02:03	06:41	11:31	01:24	02:43	37:59:00
45	M	02:23	00:00	07:32	05:23	02:32	11:36	08:39	03:21	02:21	42:27:00

3.1 Use of time

According to the above table, there is a variation on the use of the available class time among the participants, in each of the observed categories and the total amount of time used for the lesson. For example, future teacher 2 (FT2) used a mean of 62 seconds for the introduction of the lesson, where FT14 used around 7 minutes for the same purpose. FT1 wasted no time between activities; however, FT2 & FT8 wasted approximately a mean of 7 minutes across both classes taught. Much of the available class time was spent on equipment organization (i.e., FT1, FT22) and kids' organization (i.e., FT1, FT5, FT6) during the lesson.

It's interesting that one of the most important variables in the lesson, student practice, also shows a variability among participant FT's. With the exception of FT12, who allowed much more time for practice than other FT's. For example, FT7, FT16 & FT20 allowed approximately half of the class time for practice. In addition, FT11, FT15 and FT21 allowed approximately 25% of the available class time for practice. A number of FT's allowed less time than others, such as FT 8, FT13, FT27 and FT29.

Some future teachers did not use time for student evaluation and closure of the lesson (i.e., FT1, FT27 and FT35). Others have used minimal amount of time for that purpose (i.e., FT7, FT9, FT13 and FT14) whereas another group of future teachers have used reasonable time for the same reason (i.e., FT2, FT6, FT33). Beyond the above, the mean total class time among both classes observed and videotaped varies in the classes of the participant FT's. Teachers were instructed to use the available time for physical education to teach two physical education lessons. Some of them, worked within the time frame given (i.e., FT2, FT23, FT27, FT32 & FT40), others however, manipulated time for other classes (i.e., FT1, FT6, FT11, FT16).

3.2 Teaching components

Future teachers have used instructional components, such as introduction to the lesson, presentation of the activities, warm up and cool down, closure of the lesson and evaluation of students' knowledge (practical and theoretical), the way they were taught in college physical education classes. However, these components were used differently among FT's. Participants have used different ways to introduce the students to the topic, such as pictures, DVD's, dialogues, or just talking about the topic of the day. The presentations more likely were similar among the participants. Most of them preferred either to present the activity themselves or use a student to help them.

Preservice teachers' organizational behaviors included kid's organization for each activity and equipment organization for that purpose. FT's organizational behaviors however, vary, since they have organized their classes in big groups, in small groups, in pairs and sometimes individually.

3.3 The use of feedback

Preservice teachers tend to provide feedback to low skilled students, which seems reasonable, in their effort to help them improve their skills. Many times they would approach the student with care and would introduce the skill in a positive way, encouraging the student to try again and again. Feedback, however, was provided selectively, since FT's were more likely to provide feedback mostly to low skilled students, probably considering that high skilled students may not need it.

4. Discussion

In this study, FT's demonstrated instructional and organizational behaviors, as they were taught during their studies, however, the importance given for each one of these behaviors, distinguishes the FT's with better time management than others, during the lesson. In addition, FT's whose effort was to allow students more time for practice, seem to be the students who may have understood the importance of giving much time for practice during class, eliminating the time spent in organizational and other behaviors.

In addition, organizing students in groups eliminates the number of practice trials they will be allowed during class, since they have to wait for their turn (Author, Montalvo & Silverman, 2013). Furthermore, students get bored waiting for their turn, which leads to misbehavior during the lesson. Considering that, one may assume that student learning in physical education may be negatively affected.

Feedback, in the recorded classes, was provided selectively. FT's were more likely to provide feedback to low skilled students, however, feedback should be provided to all students during practice, no matter of their skill ability. All students expect to hear a comment from their teacher, therefore, FT's may need to work on this. Given the importance of physical activity in our days, children need to develop positive attitudes towards physical education and physical activity from a young age, so that they will remain active during their school years and in the future. Quality physical education lessons in elementary school may promote these attitudes. In the case of preservice elementary school teachers, issues such as time management throughout the lesson, as well as organizational behaviors, might need to be improved, to better promote the scope of school physical education.

5. Conclusions

The current study provides a picture of future teachers' teaching effectiveness in elementary physical education and highlights the problems teachers have to deal with, when teaching this class. Considering the results of this study and hopefully additional results from further studies in the future, will allow universities to better prepare elementary school teachers to teach the lesson in Cypriot schools. Furthermore, college programs may strive to intensively have their students practice the specific teaching and organizational components observed, that need to be improved, for better quality physical education lessons.

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