

PEDAGOGY

A Qualitative Investigation of PE Teachers' Perceptions of Introductory/Warm-Up Activities in K–12 PE

David C. Barney and Teresa Leavitt

Abstract

A physical education lesson usually consists of four parts (introductory activity, fitness component, lesson focus, and closing game). The first part of the lesson, the introductory/warm-up activities, has the potential to set the tone for the rest of the lesson. It also provides an opportunity for students to get into instant activity upon entering the gym or playing field. This study investigated physical education (PE) teachers' perceptions of introductory/warm-up activities in their physical education lessons. For this study, 26 K–12 PE teachers were interviewed through an electronic survey, which was e-mailed to the participants. Analysis of the interview data revealed four themes concerning introductory/warm-up activities: (1) importance of introductory/warm-up activities in a PE lesson, (2) the practical nature of the introductory/warm-up activities, (3) how introductory/warm-up activities benefit students, and (4) using music to enhance the introductory/warm-up activities. Data show that introductory/warm-up activities are an important aspect of any PE lesson that PE teachers use to prepare their students for the rest of the activities for the lesson.

David C. Barney is an associate professor, Department of Teacher Education, Brigham Young University. Teresa Leavitt is an associate professor, Department of Teacher Education, Brigham Young University. Please send author correspondence to David_Barney@byu.edu

A typical physical education lesson usually consists of four parts: first, the introductory activity; second, the fitness component; third, the lesson focus; and fourth, the closing game or activity (Darst, Pangrazi, Sariscsany, & Brusseau, 2012). Many K–12 physical education (PE) teachers focus much of their thought process for planning on having appropriate and proper activities that enhance student learning. One portion of the lesson that K–12 PE teachers plan for is the introductory/warm-up activities. The introductory/warm-up activities portion of the lesson for some K–12 PE teachers may not be their main concern when planning their lesson. Strand and Scantling (1999) stated that introductory/warm-up activities help prepare students for vigorous activities and increase the amount of class time they spend in physical activity. Pangrazi and Beighle (2013) defined introductory/warm-up activities as engaging students in immediate activity upon arrival to class. The introductory activity serves as a physiological warm-up, preparing students for physical activity. Moreover, it provides an opportunity for PE teachers to establish classroom management among their students. Another definition of introductory/warm-up activities is a period of preparatory exercises that enhance competition or training performance (Fradkin, Zazryn, & Smolgia, 2010). The types of introductory activities and warm-ups students can perform could be jogging, skipping, tag games, stretching, and other locomotor games, all with the purpose of preparing students for physical activity.

The literature dealing with introductory/warm-up activities in PE is limited. Available literature was primarily from a practitioner's perspective. For example, Strand and Scantling (1999) provided *Early Bird Specials* for a basketball unit. This article outlines a number of activities related to basketball in which students can participate during introductory/warm-up activities. Darst, van der Mars, and Cusimano (1998) provided examples of introductory/warm-up activities intended to increase student heart rates, warm up the body, and stretch muscles, and thus prepare them for their fitness routines. The introductory/warm-up activities discussed in the article are unique, challenging, and appropriate for middle school students. One last article reviews introductory/warm-up activities for elementary students (Moble, 2003). Once again, these introductory/warm-up activities for elementary students are appropriate, are fun,

and provide many opportunities for students to be active before other aspects of the class occur. These articles in the literature strictly provide how-to activities that K–12 PE teachers can implement into their daily lessons.

As valuable as the practitioner articles are, documents created by the national organization Society of Health and Physical Educators (SHAPE America) emphasize the importance of introductory/warm-up activities. These documents titled *Appropriate Instructional Practice (AIP) Guidelines in Physical Education* are written for elementary (National Association for Sport and Physical Education [NASPE], 2009a), middle school (NASPE, 2009b), and high school (NASPE, 2009c) physical education. The AIP documents are broken down into five categories: (1) Learning Environment, (2) Instructional Strategies, (3) Curriculum, (4) Assessment, and (5) Professionalism. Within each category, two specific instructional practices are discussed: an appropriate instructional practice and an inappropriate instructional practice. The purpose of these documents is to give

specific guidelines for recognizing and implementing developmentally appropriate physical education activities and practices . . . practices that are in the best interests of children (appropriate) and those that are counterproductive or even harmful (inappropriate) need to be identified for the benefit of the students. (NASPE, 2009b, p. 7)

For each category within the AIP documents, appropriate and inappropriate instructional practice of introductory/warm-up activities are provided. For example, an appropriate instructional practice states, “Physical education classes begin with an instant activity, anticipatory set and physical warm-up; proceeds to the instructional focus and fitness activities; and close with a physiological cool-down and review of instructional objectives.” The example of the inappropriate instructional practice states, “PE classes have no identifiable structure (e.g., students start class by performing the activity of the day with no introduction or warm-up).” These brief statements from the AIP documents reinforce that introductory/warm-up activities are an important part of the PE lesson and benefit students. Thus,

this study investigated PE teachers' perceptions of introductory/warm-up activities in their PE lessons.

Method

Participants

Twenty-six veteran PE teachers (10 male, 16 females) from four states (California, North Dakota, Oklahoma, and Utah), representing 22 schools (6 elementary, 10 junior high, and 6 high schools), participated in the study. Teaching experience of the participants ranged from 1 to 20 years. The university institutional review board approved the study before implementation. Participants provided their informed consent for voluntary participation before study implementation.

Instrument

No instrument that examined physical education teachers' perception of introductory/warm-up activities, along with potential benefits to students, was identifiable in the literature. As such, the investigator constructed a survey from the literature regarding introductory/warm-up activities and from conversations with K-12 PE teachers. A 15-item survey was constructed. The survey instrument consisted of (1) five yes/no questions, (2) one multiple-choice question, and (3) nine open-ended questions (see Table 1).

Table 1

PE Teachers Perceptions of Introductory/Warm-up Activities Survey

Gender:	Male	___	Female	___						
Age:	21-30	___	31-40	___	4-50	___	51- older	___		
Years Teaching:	1-5	___	5-10	___	11-15	___	15-20	___	20+	___
Grades You Teach:	K-6	___	7-9	___	10-12	___				

The following survey questions will ask you your perceptions of introductory/warm-up activities that you teach and use in your PE classes. For many of the questions, you will be asked to briefly explain your thoughts and feelings in regards to introductory/warm-up activities. I would appreciate your help with this study. Thank you.

1. Do you feel introductory/warm-up activities play an important part of your lessons? Please explain your answer.

Table 1 (cont.)

2. Do you have your student participate in an introductory/warm-up activity for your lessons?
YES NO
 3. On average, how long are your introductory/warm-up activities?
3 to 5 minutes 6 to 7 minutes Longer than 7 minutes
 4. Do you feel introductory/warm-up activities do a sufficient job of increasing heart rate and warming up the body?
YES NO
 5. What kind of introductory/warm-up activities do you have your student participate in? Please explain your answer.
 6. Do the introductory/warm-up activities your students participate in allow them to experience success? Please explain your answer.
 7. Do you ever allow your students the opportunity to choose the type of introductory/warm-up activities they participate in?
YES NO
 8. If you answered YES to the previous question, do you feel your students are motivated or “into” the activity? Please explain your answer.
 9. Do you use music during your introductory/warm-up activities?
YES NO
 10. If you answered “YES” to the previous question, what have you observed when music is playing. Please explain your answer.
 11. Do you feel the introductory/warm-up activity sets the tone for the rest of your class activities? Please explain your answer.
 12. Do your introductory/warm-up activities come across as being competitive?
YES NO
 13. If you answered YES to the previous question, do your students like the introductory/warm-up activities competitive? Please explain your answer.
 14. How much time do you spend in thinking about and planning your introductory/warm-up activities? Please explain your answer.
 15. Do you find “stations” or “whole-class” introductory/warm-up activities more beneficial for your students? Please explain your answer.
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Content validity on constructed statements and readability of survey items were established with four experienced K–12 PE teachers. The survey was further pilot-tested with five experienced K–12 PE teachers who did not participate in the study. The survey was sent electronically to the participants via Qualtrics Survey Company.

Procedures

Upon university institutional review board approval, a nonprobability sample of convenience was employed for data collection. An introductory e-mail explaining the intent of the study, with a link to the electronic survey, was sent to all voluntary participants. After reviewing and selecting the I Agree section of the e-mail, participants provided their informed consent to participate in the study. Surveys were electronically sent on two occasions; with the second e-mail communication reminding those who had not completed the survey. The survey concluded with participants selecting the Submit button, thus electronically submitting the instrument to the investigator through Qualtrics.

Data Analysis

The investigators used framework analysis methodology for participant response, as outlined in Check and Schutt (2011), to correlate and review participants' open-ended responses to generate preliminary coding categories. Framework analysis incorporated four stages: (1) familiarization, (2) thematic, (3) identification, and (4) charting and interpretation (Rabiee, 2004).

Introductory/warm-up activities content themes. The investigators read and reread the survey responses, identifying key themes and phrases. From all the survey responses, the most frequent introductory/warm-up activities content themes were (1) importance of introductory/warm-up activities in a PE lesson, (2) the practical application of the introductory/warm-up activities, (3) how introductory/warm-up activities benefit students, and (4) using music to enhance the introductory/warm-up activities.

Results

Importance of Introductory/Warm-up Activities in a Physical Education Lesson

Overwhelmingly, PE teachers felt that introductory/warm-up activities were an important aspect of their lessons. Throughout this theme, the PE teachers stated that introductory/warm-up activities helped students get ready for class activities. Emily stated, “My warm-up activities set the tone for the class and prepares the students minds and bodies.” Kathy stated, “My warm-up gets them ready for whatever sport or activity we are doing that day.” Moreover, Paul explained that students understand the importance of introductory/warm-up activities: “They also tend to ask for time to stretch/warm-up if I ever skip it. I think they feel like it helps to get them ready for more intense workouts throughout the period.” In addition, the PE teachers stated that introductory/warm-up activities served as a routine that they use as a management tool among their students. Roland stated, “Having an effective warm-up routine allows for students to be on-task right after changing clothes.” Jennifer said, “They help me if they are similar, meaning they can help set up a routine and structure.” Bob shared, “In our classes, the introductory activities are also a consistent time for students to get aerobic exercise.”

The Practical (What Types of Activities) Application of the Introductory/Warm-Up

Activities. The second theme that emerged from the survey data was the practical application of the introductory/warm-up activities. The PE teachers’ responses to this survey question varied. For example, Doug and Carrie stated that they have their students participate in dynamic stretching, static stretching, jogging drills, calisthenics, and tag games. Sally stated that “...sometimes I do games that get them running and moving. Other times we do short circuits. Or we will do some laps or running to have a fast warm-up.” Along this line of practical application of introductory/warm-up activities, the PE teachers were asked if they have their students participate in stations or whole-class introductory/warm-up activities. For this survey question, a majority of the PE teachers indicated they

use whole-class introductory/warm-up activities. The main reason the PE teachers used whole-class introductory/warm-up activities included convenience, ease in administering the activity, and ability to keep students on task. The last of which leads to more effective management of students.

How introductory/warm-up activities benefit students. The benefits of introductory/warm-up activities were the third theme from the data. Jan stated,

I think it is also good for students to get the restless energy out during the warm-up before we get to the lesson. I have noticed that when this happens the students listen and pay attention better to class instructions.

Mark felt that his introductory/warm-ups better prepared his students for the Fitnessgram, stating, “I have noticed that the warm-ups prepare my students for the Fitness Gram testing later on.” Martha indicated another way introductory/warm-up activities benefit students: “Many times they provide a review and practice time of the concepts learned in our previous class which prepare students to build onto these concepts with the next skill more successfully.” The last benefit of introductory/warm-up activities is that it prepares the students for the class activities. Emily and Martha shared their thoughts: “It gets them into game mode and they are ready for PE rather than just another class!” (Emily) and “I think it focuses them mentally and gradually works them into the intensity we want them to be at for the class activity” (Martha).

Using music to enhance the introductory/warm-up activities. The final theme from the data dealt with music enhancing the introductory/warm-up activities. Kathy said, “Depending on the beat and speed of the music. I choose faster music so they are getting a better workout.” Kim felt that “it helps create a fun and positive atmosphere. Students enjoy singing and dancing along to the music.” Jennifer explained, “I try to use music that is current and that they know so they tend to be motivated to move. It just makes it so much more fun.” Doug shared, “They are more engaged, active, and less distracted when the music is playing.”

Discussion

This study investigated PE teachers' perceptions of introductory/warm-up activities in their PE lessons. Qualitative results from the study found introductory/warm-up activities as a valuable part of their PE lesson. Four major themes came to the forefront from the data. As previously stated, the themes included (1) importance of introductory/warm-up activities in a PE lesson, (2) the practical nature of introductory/warm-up activities, (3) how introductory/warm-up activities benefit their students, and (4) using music to enhance the introductory/warm-up activities.

PE teachers' statements indicated the importance of introductory/warm-up activities as a routine that prepares students for the class activities. Pangrazi and Beighle (2013) feel that introductory/warm-up activities help children to warm-up physiologically and prepare them for physical activity throughout the lesson. PE teachers also felt introductory/warm-up activities were an excellent management routine. Barney and Lynn (2000) concluded, ". . . the development of routine procedures to begin each class provides consistent expectations for students and increases management efficiency" (p. 9). A second theme the PE teachers discussed was the practical applications of introductory/warm-up activities, more specifically the types of activities in which students participated. Many of the PE teachers discussed having their students participate in dynamic and static stretching activities, jogging, calisthenics, and tag games. The literature from practitioners is full of activities PE teachers can implement into their daily lessons. A majority of the PE teachers discussed using whole-class introductory/warm-up activities for the purpose of better managing their students. PE teacher comments regarding whole-class introductory/warm-up activities included "It is hard to monitor every small group at once," "stations are harder to monitor the kids that are trying to slack off," and "students tend to be less active and stand around more when they are in stations." The final comment once again emphasizes the importance of introductory/warm-up activities for managing students.

Another theme that the PE teachers alluded to was the benefits introductory/warm-up activities have for their students. Mark indicated that the introductory/warm-ups helped prepare his students for their Fitnessgram testing. Rodriguez, Santonja, Lopez-Minarro,

Sainz de Baranda, and Yuste (2008) studied whether an improvement in sit-and-reach scores could be achieved in school children (fifth graders) and adolescents performing 5 min of hamstring stretching exercises in PE classes. For this study, an experimental group participated in a program of hamstring-stretching exercises for a school term prior to the sit-and-reach test. A control group participated in usual PE classes, not participating in hamstring-stretching activities prior to their sit-and-reach testing. The experimental group showed significant improvements in passive straight leg stretches while the control group showed no significant difference. The researchers concluded that sit-and-reach scores improved following 5 min of stretching exercises in the warm-up and cooldown sessions when done twice per week throughout the school term.

Finally, the PE teachers discussed how music enhances the introductory/warm-up activities. Within this theme, components of using music during the introductory/warm-ups emerged. For example, PE teachers found that students like music that is current and familiar to them. Barney, Pleban, and Gishe (2016) studied the effects of music on fourth-grade student's enjoyment in two activities during PE class. In this study, contemporary popular music was played during a PE class. Students noted, "A lot of the songs were cool, because I knew them," "I liked the songs. The beat is awesome," and "The songs were awesome. I was singing along." Another component from this theme was that the students were more active when music was playing during the introductory/warm-up activities. Barney and Prusak (2015) studied the effects of physical activity rates of elementary students when music was playing during activity. Pedometers were used for measuring activity rates. The study found that students in lessons with music were more active. The results from the Barney and Prusak study are consistent with the results of this study: Music is a positive tool for getting students active during the introductory/warm-up activities.

Conclusions

This study investigated PE teachers' perceptions of introductory/warm-up activities in their PE lessons. Because of the paucity of research dealing with introductory/warm-up activities in PE, along with much of the literature written for the practitioner, this study only helps strengthen and add to the literature.

Results from this study appear to coincide with much of the results reported in practitioner literature in that introductory/warm-up activities are an important part of the lesson from the PE teacher's perspective. Darst et al. (1998) and Pangrazi and Beighle (2013) stated that introductory/warm-up activities help set the tone of the rest of the lesson and prepare students physiologically for physical activity (NASPE, 2009b). Using music helps create a positive atmosphere for students to participate in the introductory/warm-up activities. Barney et al. (2016) stated that music is a tool that can assist PE teachers in creating an environment where students feel comfortable participating in activities. Results from the study dealing with using music during introductory/warm-up activities hint that implementing music is and can be advantageous for the students (Brewer, Barney, Prusak & Pennington, 2016).

Study Limitations

This study is one of the first dealing with introductory/warm-up activities as described by Pangrazi and Beighle (2013). This limits the ability to compare, replicate, or follow previous research. These findings have the potential to provide practical application to the K-12 PE teacher and PE teacher education programs.

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