

Lesson Context and Student Behavior in a Physical Education Class of Students with Emotional and Behavioral Disorders

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Abstract: An action research study was conducted during the first year of a physical education program at a nonpublic, special education school predominantly serving students with emotional and behavioral disorders, and who are wards of the state living in group homes and foster care homes. In the role of teacher and principal investigator, the researcher conducted a year-long action research study of this program. One primary research question was the following: Is the pattern of inappropriate student behavior among students with emotional and behavioral disorders the same across different lesson contexts? Delivery of this physical education program occurred over the course of an entire school year, teaching physical education 2 days per week for 45 minutes to a group of 57 students with emotional and behavioral disorders. Thirty days were randomly selected for data collection related to this research question, recording student behavior in relation to lesson context. There were 10 lesson context categories, including: class entry; warm-up activity; fitness activity; receiving instructions; skill practice; game play; transition; waiting; equipment collection; and class exit. There were six categories of inappropriate student behavior, including: verbal aggression; noncompliance; physical aggression; walking out; running away; and property destruction. A chi-square analysis was conducted to identify patterns of student behavior across lesson context categories.

Key words: emotional and behavioral disorders, physical education, time on task

1. Background and Rationale

Research indicates that exercise has a positive effect on the behavior of individuals with emotional disturbances, and intellectual and learning disabilities (Eichstaedt & Lavay, 1992; Elliot, Dobbin, Rose, & Soper, 1994; Medcalf, Marshall, & Rhoden, 2006; Tantilillo, Kesick, Hynd, & Dishman, 2002). Research also suggests that there is a relationship between increased time spent in PE and improved academic performance (Carlson, Fulton, Lee, Maynard, Brown, Kohl, & Dietz, 2008; Tremarche, Robinson, & Graham, 2007). In order to realize these potential benefits, there is an assumption that students must be engaged in the lesson and actively participating and exercising. Management of students with emotional and behavioral disorders, especially large groups of these students, maintaining high time on task and engagement, can be challenging.

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1.1 Purpose

An action research study began in the first year of a 3-year pilot physical education program at a nonpublic, special education school predominantly serving students with emotional and behavioral disorders, and who are wards of the state living in group homes and foster care homes. The action research study was conducted continuously since the implementation of the program, with different dimensions of the program being examined over time. The overarching purpose of the action research study was to determine the most effective way to teach physical education to this group of students with emotional and behavioral disorders.

1.2 Research Question

The research question examined in this specific sub-study was the following:

Is the pattern of inappropriate student behavior among students with emotional and behavioral disorders the same across different lesson contexts?

2. Methods

2.1 School Site

The study was conducted at a nonpublic school in Northern California that serves as a special education placement site for surrounding school districts. The school is a middle and high school campus. At the time of the study, the school had five fulltime teachers and 22 other staff members.

2.2 Student Profile

At the time of the study, 57 students were enrolled in the school and were participants in the PE program. All of the students were identified as having emotional and behavioral disorders (EBDs). Of the 57 students, 47 were male and 10 were female. Over 59% of the students were wards of the state, living in group homes or foster homes.

2.3 Data Collection

The physical education class was held two days per week, 45 minutes per session, over the course of the entire academic year. Thirty days were randomly selected for data collection specifically related to this research question. An incident report (see Table 1) was used to track the number of inappropriate behavioral incidents occurring throughout the entire lesson on the selected data collection days. Ten lesson context categories were included in the instrument, and incidents were tracked according to context.

Table 1 Incident Report

Lesson Context (Check one)				
Class Entry	Warm-up Activity	Fitness Activity	Receiving Instructions	Skill Practice
Game Play	Transition	Waiting	Equipment Collection	Class Exit
Behavior (Check all that apply.)				
Verbal Aggression	Non-compliance	Physical Aggression	Walking Out	
Running Away	Property Destruction			

2.4 Data Analysis

In response to the research question, “Is the pattern of inappropriate student behavior among students with

emotional and behavioral disorders the same across different lesson contexts?”, a chi-square of independence was run, using IBM Statistical Package for Social Sciences version 20, to see if there was significant difference in the occurrences of inappropriate behaviors in relation to the lesson context.

3. Results

While the chi-square analysis did indicate significant differences in behavioral incidences across lesson contexts, the chi-square statistic could not be reported because more than 20% of the cells had values less than 5, and assumptions for the validity of the test require values of at least 5 in at least 80% of the cells (Green & Salikind, 2011). Therefore, descriptive observations of the distribution from the crosstabulation was utilized to examine the patterns of behaviors across lesson contexts. Table 2 displays results of the descriptive observations of the crosstabulation of lesson context and behavior.

Table 2 Lesson Context and Behavior Crosstabulation

			Behavior						
			Verbal Aggression	Non-comp liance	Physical Aggression	Walking Out	Running Away	Property Destruction	Total
Lesson Context	Class Entry	Count	17	2	3	2	1	0	25
		% within Lesson Context	68.0%	8.0%	12.0%	8.0%	4.0%	.0%	100.0%
		% within Behavior	15.0%	3.4%	6.3%	7.1%	100.0%	.0%	9.7%
	Warm-up Activity	Count	6	16	1	1	0	0	24
		% within Lesson Context	25.0%	66.7%	4.2%	4.2%	.0%	.0%	100.0%
		% within Behavior	5.3%	27.1%	2.1%	3.6%	.0%	.0%	9.3%
	Fitness Activity	Count	2	19	0	5	0	0	26
		% within Lesson Context	7.7%	73.1%	.0%	19.2%	.0%	.0%	100.0%
		% within Behavior	1.8%	32.2%	.0%	17.9%	.0%	.0%	10.1%
	Receiving Instructions	Count	31	0	1	2	0	0	34
		% within Lesson Context	91.2%	.0%	2.9%	5.9%	.0%	.0%	100.0%
		% within Behavior	27.4%	.0%	2.1%	7.1%	.0%	.0%	13.2%
	Skill Practice	Count	2	15	0	5	0	1	23
		% within Lesson Context	8.7%	65.2%	.0%	21.7%	.0%	4.3%	100.0%
		% within Behavior	1.8%	25.4%	.0%	17.9%	.0%	12.5%	8.9%
	Game Play	Count	10	0	7	5	0	0	22
		% within Lesson Context	45.5%	.0%	31.8%	22.7%	.0%	.0%	100.0%
		% within Behavior	8.8%	.0%	14.6%	17.9%	.0%	.0%	8.6%
	Transition	Count	33	1	25	1	0	2	62
		% within Lesson Context	53.2%	1.6%	40.3%	1.6%	.0%	3.2%	100.0%
		% within Behavior	29.2%	1.7%	52.1%	3.6%	.0%	25.0%	24.1%
	Waiting	Count	3	0	6	3	0	0	12
		% within Lesson Context	25.0%	.0%	50.0%	25.0%	.0%	.0%	100.0%
		% within Behavior	2.7%	.0%	12.5%	10.7%	.0%	.0%	4.7%
	Equipment Collection	Count	9	6	2	4	0	5	26
		% within Lesson Context	34.6%	23.1%	7.7%	15.4%	.0%	19.2%	100.0%
		% within Behavior	8.0%	10.2%	4.2%	14.3%	.0%	62.5%	10.1%
Class Exit	Count	0	0	3	0	0	0	3	
	% within Lesson Context	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%	
	% within Behavior	.0%	.0%	6.3%	.0%	.0%	.0%	1.2%	
Total	Count	113	59	48	28	1	8	257	
	% within Lesson Context	44.0%	23.0%	18.7%	10.9%	.4%	3.1%	100.0%	
	% within Behavior	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

3.1 Descriptive Observations from the Crosstabulation

Descriptive observations can be made by lesson context, by behavior, and by behavior in association with lesson context.

3.2 Observations by Lesson Context.

- Transition elicited the greatest number of incidents, where 24.1% of the behavioral incidents occurred, followed by Receiving Instructions (13.2%), Fitness Activity (10.1%), Equipment Collection (10.1%), Entry (9.7%), then Warm-up (9.3%).
- After Class Exit (accounting for only 1.2% of behavioral incidents), Game Play yielded the lowest rate of incidents at 8.6%.

3.3 Observations by Behavior

Verbal Aggression was the most occurring behavior, representing 44.0% of the behavioral incidents, followed by Non-compliance (23.0%), then Physical Aggression (18.7%).

3.4 Observations of Lesson Context by Behavior

- Verbal Aggression was especially prevalent during Transitions, representing 29.2% of verbal aggression incidents, Receiving Instructions (27.4%), and Class Entry (15.0%).
- Non-compliance was especially prevalent during Fitness Activity, representing 32.2% of non-compliance incidents, Warm-up (27.1%), and Skill Practice (25.4%).
- Physical Aggression was especially prevalent during Transition, representing 52.1% of physical aggression incidents, Game Play (14.6%), and Waiting (12.5%).

4. Discussion

The results of this study affected teaching strategies for this group of students, and have resulted in the following recommendations.

4.1 Minimize Time for Transitions

Minimizing time for transitions between activities increases potential active learning time and reduces opportunities for inappropriate behaviors. Based on findings of this study, as well as related best-practices literature for physical education (Buck, Lund, Harrison, & Cook, 2007; Darst & Pangrazi, 2006; Rink, 2010; Siedentop & Tannehill, 2000), the following are suggestions for minimizing time for transitions and making them more efficient.

- Establish an entry routine. Design a routine in which students enter the PE area knowing what to do immediately upon arrival. For example, as students arrive, they join a snake run in a designated area.
- Establish routines for calling attention, gathering, and dispersing students. For example, “Bring it in” means everyone is to gather in close, from wherever they are located, in front of the teacher.
- Provide specific instructions for what to do once students reach the next location. Avoid dispersing students, and then providing opportunity for them to stand waiting once they arrive there.
- Organize and place student equipment in such a way that students can quickly and safely access the equipment for use. Avoid situations in which 50 students are forced to converge upon one bin of equipment, resulting in crowding and waiting. Instead, have equipment strategically set up before class so that it is easily accessible.

- Mark areas clearly with color-coded cones, spots, and/or lines to structure the PE area. These landmarks establish areas and boundaries for activities, and enable specificity of directions.

4.2 Minimize Time Spent Giving Verbal Instructions and Information

Minimizing time spent giving instructions and conveying information increases potential active learning time and decreases opportunities for inappropriate behavior. Therefore, increasing the efficiency of delivery of instructions and information is important.

While vision is only one of several sensory systems in humans, it is the predominant sensory system (Coker, 2004; Magill, 2011; Schmidt & Wrisberg, 2008). Research suggests that 40% of the cerebral cortex is involved in processing visual information (Marieb & Mallatt, 2002), and that visually observing demonstration of motor skills is an important part of motor skill acquisition (Coker, 2004; Magill, 2011; Schmidt & Wrisberg, 2008). Further, research indicates that providing visual support for children with behavioral disorders (Jaime & Knowlton, 2007), especially in combination with verbal instruction, can enhance learning. Visual supports are any visually perceived stimuli used to assist comprehension of information (Jaime & Knowlton, 2007). Examples may include things such as pictures, diagrams, sign language, or other body movements used in concert with verbal information. Therefore, to improve effectiveness of communication of information and to reduce opportunities for inappropriate behavior, it is suggested that abundant visual demonstration be paired with short, concise verbal explanation.

4.3 Provide Students with Choices

To increase potential active learning time and reduce opportunities for inappropriate behavior, and in response to Tomlinson's and McTighe's (2006) call for differentiated instruction in which flexibility in instructional planning is a norm and learning differences and interests of the students are expected and welcome, incorporate choice to allow for preferences in engagement in physical activity. For example, provide students with choices of fitness exercises that accomplish a similar outcome, such as a choice between squats and stair-steps.

4.4 Provide a Balance between Fitness Activities, Skill Development, and Game Play

Invariably, the following question was asked every day of class during this study: "When do we get to play?" This phenomenon is not unique to this group of students, as the desire to play is common across many people and cultures (Darst & Pangrazi, 2006). Every PE lesson should include the following components: warm-up, fitness activity, lesson focus that includes both skill development/practice and play, and a wrap-up activity (Buck, Lund, Harrison, & Cook, 2007; Darst & Pangrazi, 2006; Rink, 2010). A rough guideline is to dedicate approximately a third of class time to warm-up and fitness activity, a third to skill development and practice, and a third to play and wrap-up (Darst & Pangrazi, 2006). It was found in this study that the amount of time that the group as a whole could spend on skill development and practice before off-task and disruptive behaviors began to escalate was variable. And it was found in this study that, aside from class exit, game play was the period of time during PE class that elicited the least number of behavior incidents. It is suggested that teachers be responsive to changing needs of the whole group as well as individuals within the group. Have extra skills and drills planned in case there is special interest in learning more on a particular day; but also be prepared to transition to game play earlier than planned on other days, sacrificing the introduction of a new skill and carrying it over to the next lesson. Ultimately, this flexibility can reduce the number of behavior incidents and increase the time students are engaged in physical activity.

5. Conclusion

To optimize potential benefits of participation in physical activity, physical educators must effectively manage their classes so that students are engaged in the lesson and actively participating and exercising. This can be challenging when teaching a class with students who have emotional and behavioral disorders. Results of this study suggest that to increase potential active learning time in PE and to reduce the opportunities for inappropriate behavior, teachers do the following: minimize time for transitions; minimize time spent giving verbal instructions and information; provide students with choices; and provide a balance between fitness activities, skill development, and game play.

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