Including a Child With Severe Cerebral Palsy in Physical Education: A Case Study

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The purpose was to examine an inclusive physical education kindergarten class containing a child with severe spastic diplegic cerebral palsy. An adapted physical educator served as a human resource. Participants were a kindergartner (6 years of age) with severe disability, 20 nondisabled peers (5-6 years of age), an adapted physical educator, and a regular physical educator. The research method was case study. Data were collected periodically by systematic observation and by interview during an 18-week period in the fall school semester. Twenty percent, or approximately one class per week \((n = 19)\) were analyzed that were movement exploration in nature. Results indicated that inclusion classes were highly effective in time engagement and management, and the qualitative nature of inclusion was one of widespread social acceptance and successful motor participation. It was concluded that the use of a people resource model, with an adapted educator, is a highly effective educational practice.

Inclusion of children with severe disabilities in physical education has become a more commonplace educational practice (Block, 1994). Inclusion is defined as the education of all children with disabilities (mild to severe) in regular education even if special resources are needed to make it effective (Block & Vogler, 1994). An individual is defined as having a severe disability if he/she has (a) limited voluntary movement ability, (b) inconsistent ability to communicate, (c) medical complications, and (d) inability to function independently (Jansma, 1993). Theoretically, an inclusive class is a setting where all children belong in a total community effort to learn, grow, and become more socially accepting of one another (Sherrill, Heikinario-Johansson, & Slininger, 1994; Stainback & Stainback, 1990). Practically, even though many children with disabilities learn in unique ways, the

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separation of these children from peers may unnecessarily hinder the development of their full potential (Downing, 1996).

Much research supports inclusion as an educational policy centering on the social and academic achievement of children with disabilities ranging from mild to severe (Baker, Wang, & Walberg, 1995; Madden & Slavin, 1983; Semmel, Gottlieb, & Robinson 1979; Wang & Baker 1986). Specifically, in physical education, inclusion has been effective in facilitating motor engagement, motor performance, and self-concept of children; however, these studies have largely involved only children with mild disability (Beuter, 1983; Block & Vogler, 1994; Heikinari-Johansson, 1992; Houston-Wilson, Dunn, van der Mars, & McCubbin, 1997; Karper & Martinek, 1983; Silverman, Dodds, Placek, Shute, & Rife, 1984; Vogler, van der Mars, Cusimano, & Darst, 1990, 1992, 1998).

Support for inclusion of children with severe disabilities is based more on notions of appropriateness and social justice than on what is known from research (Stainback & Stainback, 1990). In physical education, research on inclusion of children with severe disabilities into regular physical education is sparse. Block and Zeman (1996); Murata and Jansma (1997); and LaMaster, Gail, Kinchin, and Siedentop (1998) are the major sources of this research.

Block and Zeman (1996; elementary level) and Murata and Jansma (1997; secondary level) found that inclusive arrangements that used teacher assistants and peer teachers facilitated motor engagement, sport skill performance, and/or attitude toward disability for both children with and without disability. Block and Zeman (1996), specifically, noted that achievement and attitude in inclusive settings were not better than in experimentally controlled arrangements containing only children without disability. Murata and Jansma (1997) found that achievement was only marginally better than in experimentally controlled arrangements without added teacher resources. Authors of both studies argued that inclusion of children with severe disability was supported by their findings since there were no negative effects of inclusion observed.

LaMaster et al. (1998), however, reported that highly effective elementary level teachers, without the support of an adapted physical education teacher, expressed frustration at the time management conflicts that existed when constantly attending to children with severe disability. These otherwise highly effective teachers became relatively ineffective despite the experimentation with many different teaching styles such as (a) individualized instruction, (b) peer teaching, (c) direct instruction, and (d) modification of lesson plans and equipment. They expressed guilt, described a sense of inadequacy, and cited a lack of human resource support and incomplete preservice training for inclusion.

Models for Successful Inclusion in Physical Education

Specially designed models for inclusion in physical education can be grouped into three major categories: (a) curricular adaptations—changing what is taught, (b) instructional modifications—changing how we teach, and (c) human or people resources—changing who teaches (Block & Vogler, 1994; Giangreco & Putnam, 1991; Vogler & Block, 1994). The human or people resources model was selected to guide the present study. Research on teaching with humans as resources has been sparse and has focused largely on the use of peers and adapted physical
education teachers as consultants (Block & Zeman, 1996; DePaepe, 1985; Heikinaro-Johansson, Sherrill, French, & Huuhka, 1995; Houston-Wilson et al., 1997; Webster, 1987). Research on teaching using an adapted physical educator as a daily full time resource in an inclusive class has not been studied.

**Purpose**

The purpose of this study was to evaluate the effectiveness of an inclusive physical education class in which a people resource modification (i.e., an adapted physical educator) was employed full time to provide instruction for a child with severe spastic diplegic cerebral palsy. The people resource, the adapted physical educator, is important because this reflects a highly desirable service available along a continuum of possible services within the realm of people resources (Block, 1994). If this resource is not effective, it is questionable whether resources with less competency and experience (e.g., paraprofessionals) will be as effective. A kindergarten setting was selected for study because this is the level where many children undergo their first formal educational experience and develop their first notions about school culture and the children around them. Thus, data are more likely to reflect natural rather than preexisting biases for or against inclusion as an educational practice.

The research method selected was case study, which was defined as “an intensive, holistic description and analysis of a single entity, phenomenon, or social unit” (Merriam, 1998, p. 34). The case study is typically used to examine a specific phenomenon that has obvious boundaries, such as a program, event, person, institution, or social group where one wants to achieve as full an understanding of a case as possible. According to Yin (1994), the case study is a preferred design in examining contemporary real life events when behavior is complex, it cannot be easily manipulated, and it is used when there are not enough participants to use other research methods. These criteria were applied in selecting the case study method to examine a regular physical education class in which a child with severe disability was included, using the people resources model of Block and Vogler (1994).

**Method**

**Participants**

Participants were selected using purposive or criterion-based sampling, which is recommended for case study research (Goetz & LeCompte, 1984; Patton, 1996). The case of interest was a physical education class, selected from a local school in Central Illinois on the basis of the following criteria:

1. An entry-level physical education class (kindergarten)
2. A class under the guidance of a regular physical education teacher who was certified, kindergarten through 12th grade, with no special training in adapted physical education
3. An inclusive class containing students without disability and one or more students who met the criteria for a severe disability stated by Jansma (1993)
4. A class in which a highly desirable scenario of inclusion existed, (i.e., the support of a full time adapted physical education teacher)

The student with disability was a male, 6 years old, described by school administrators, teachers, and parents as having severe spastic diplegic cerebral palsy. He was mostly nonverbal, nonambulatory, and in a wheelchair for primary mobility. His fine and gross motor control may have been influenced by medications taken to control severe seizures. Intellectual function ranged from low normal to severe retardation depending on the assessment used, according to school records. For the purposes of this report, this child is referred to as "Sammy."

Other participants were 20 peer kindergarten students ages 5 and 6 years old (10 boys and 10 girls), a regular physical educator, and an adapted physical educator. The male regular physical educator had over 20 years of teaching experience and a doctoral degree in education. The female adapted physical educator had over 15 years of teaching experience and a master's degree in adapted physical education.

Case Study Method

The case study method selected for this study included both quantitative (systematic observation of teacher and student behaviors) and qualitative analyses (teacher and student interviews) to judge class effectiveness from different perspectives. Quantitatively, a valid and reliable videotaped systematic observation system (Siedentop, Tousignant, & Parker, 1982) was selected to study what is referred to as "effective" teaching in the research on teaching literature (Brophy & Good, 1986). This procedure involved the sampling of time intervals to estimate the percentage of time spent by teachers and students during class. Variables in this systematic observation procedure are referred to as Academic Learning Time - Physical Education (ALT-PE) variables. The use of ALT-PE to determine teaching effectiveness has been well documented in research in physical education for two decades (see Block & Vogler, 1994; Metzler, 1989 for reviews).

Qualitatively, interviews were conducted following procedures outlined by Merriam (1998), which have been used in social and educational research to determine the nature of the bounded phenomenon, inclusion. These forms of methodological analyses were selected since they had been previously used for study of classroom processes—systematic observation, and naturalistic dynamics—qualitative interview (e.g., see Vogler et al., 1990, 1992, 1998; Schnorr, 1990). No attempts were made to experimentally control variables associated with the program; rather, existing variables were studied as they naturally occurred.

Procedure

Physical Education Class and Inclusive Setting. A kindergarten physical education program served as the site for the study. Traditional movement exploratory activities similar to those presented by Pangrazi (1997) were taught on a daily basis over 18 weeks at 30 min per session in the fall of the school year. Goals focused on development of fundamental skills, fitness, and dance with an emphasis on such themes as pathways, levels, forces, speed, and relationships. The intent was for Sammy to perform the same activities as everyone else, whenever possible.

The human or people resources model guided the design of the study (Block & Vogler, 1994). In this case, the people resource was an adapted physical education
Including a Child With Severe Cerebral Palsy

(AP) teacher who worked full time with Sammy every class period. The specialist met with the regular teacher for planning at the beginning of the semester and at random times throughout the semester to discuss the general conduct of activities and special modifications for Sammy. No specific planning occurred each day; rather, the APE teacher entered the class, with only general knowledge about the forthcoming activity, and interacted directly with Sammy. The APE teacher made modifications, as circumstances warranted, usually without any extensive input by the regular teacher. This approach to instruction is referred to as multilevel curricular adaptations (Block & Vogler, 1994) because the student with severe disability is helped to perform the same tasks as others but at a different level adapted to his specific needs.

Systematic Observation. Nineteen classes, each 30 min in length, were videotaped throughout the fall semester. This represented approximately 20% of all sessions taught. Classes were videotaped periodically every few days to capture data from a variety of class activities over an extended period of time. Teacher and student behavior was recorded by using two videotape cameras per class. The “teacher” labeled camera focused on targeted regular students under the direct supervision of the physical education teacher. Teacher behavior was determined by monitoring directions given to these students in class. Three students (2 girls and 1 boy) without disabilities were randomly selected to be assessed throughout the study for analysis of regular student ALT-PE behaviors and were alternately kept in view at all times. The decision to select three as the number of participants without disability was arbitrary and has been used elsewhere (Vogler et al., 1992). The “student” labeled camera focused only on Sammy and the adapted physical educator. Both teachers wore wireless microphones to capture their verbal interactions and directions so responses by students could be gauged. Verbal statements made by teachers were dubbed onto the videotapes.

Numerical characters representing time in units of minutes and seconds were displayed on each tape for time sampling purposes. An interval recording procedure of 6 s observe and 6 s record was used to monitor ALT-PE teacher and student behaviors. A decision by trained researchers and assistants was made at the end of each 6 s about the behavior category that best represented the behavior of the participant videotaped (Cooper, Heron, & Heward, 1987). Researchers and assistants had completed the tutorial in the ALT-PE coding manual and had practiced approximately 12-14 hr of coding behavioral data so that reliability and validity could be achieved before formally coding the study videotapes (Siedentop et al., 1982). Interobserver reliability agreements between two research assistants trained to collect the ALT-PE data were 80% or greater for one reliability check before and two reliability checks during the study for both teacher and student behavior. Interobserver reliability agreement was calculated by dividing the agreements by the agreements plus disagreements times 100 (Cooper et al., 1987). All systematic observation data were time samples that were converted into percentages of time and reported descriptively as means and standard deviations.

Interview Procedures. Interviews were conducted toward the end of the semester to determine opinions, thoughts, and behaviors of students and teachers involved in the inclusive program. Qualitative interview and analysis procedures presented by Merriam (1998) and Goetz and LeCompte (1984) were followed once verbatim transcripts of audiocassette tape recordings were completed. A semistructured interview was conducted and recorded with neutral and
nonjudgmental questions asked about the program. Preliminary questions were initially structured and asked in the same order, which subsequently led to open-ended and related questions regarding opinions and beliefs about the inclusive setting. Sample preliminary questions, initially asked of the kindergartners, included the following: “What are some things you do in PE class?” “What does (name of child with disability) do in PE class during (name activity mentioned by interviewee)?” Teachers were asked to describe their experience with inclusion and were queried about special modifications, classroom management, planning, and other variables that relate to effective teaching. The interviewer made efforts to ask what Merriam (1998) referred to as “good” questions. These questions were aimed specifically at eliciting experiences and learning about opinions, feelings, knowledge, sensations, and background information. Ten students (5 males, 5 females) were selected arbitrarily by the physical education teacher to be interviewed. The first two students were interviewed individually and were minimally verbal, so subsequent interviews were made in groups of twos which seemed to “enliven” the interview process. Group or panel formats have been suggested as appropriate interview formats (Merriam, 1998). Interviews were 15 to 20 min in length for the kindergarten students and were conducted in a room adjacent to the gymnasium during class. The interviews of the physical education teachers (both regular and adapted) were conducted after school in their offices and lasted approximately 45-60 min.

Verbatim transcripts were transcribed into case records from which statements were ultimately analyzed for emerging themes of importance. Case records were read several times from beginning to end to determine the most striking and important statements that could stand by themselves in sentence or paragraph form. Statements were sorted into categories and placed into outline form. Categories that were independent of each other and reoccurring across interviewees were determined and analyzed for meaningfulness. The researcher then intuitively developed higher order conceptual categories. These categories ultimately became the major themes for discussion. These were checked by having an independent qualitative researcher read case records for determination of common themes. Themes were then validated (i.e., member checked) by participating teachers who verified themes in conversation with the researchers. Results of case study research can be generalized only to the extent to which the reader of the case narratives relates to the case presentation. This has been termed user generalizability by Thomas and Nelson (1996). Locke (1989) believed that most readers can easily recognize teaching scenarios that relate to their own, and this process was an appropriate measure of external validity.

Results

Quantitative Evaluation of Teaching Behaviors in Inclusive Classes

Table 1 is a display of how time was allocated to the classroom context as a whole and its three major subdivisions: (a) General content, when students were not involved in physical education activities, but were in transition between activities or in management; (b) Subject matter knowledge, when the primary focus of class was on the knowledge of technique, rules of game, strategy, or background; and
(c) Subject matter motor, when the primary focus of class was on motor involvement of physical education activities.

It can be seen from Table 1 that the largest portion of class time (53%) was allocated to Subject matter motor activity, specifically practicing skill or performing in games. A smaller portion of class time (16%) was allocated to Subject matter knowledge content, specifically, technique, rules, strategy, and background. Together, these portions added up to almost 68% of class time allocated to physical education in general. On the other hand, General content, made up of transition and management, only accounted for about 32% of the time.

Table 2 is a display of the Learner Involvement Level in the class context. The two major subdivisions of Learner Involvement Level are engaged (i.e., motor

### Table 1  Percentage of Time Allocated to Class in Various Academic Learning Time Context Categories

<table>
<thead>
<tr>
<th>ALT-PE Categories</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>General content</td>
<td>32</td>
<td>09</td>
</tr>
<tr>
<td>Transition</td>
<td>25</td>
<td>07</td>
</tr>
<tr>
<td>Management</td>
<td>06</td>
<td>02</td>
</tr>
<tr>
<td>Subject matter knowledge</td>
<td>16</td>
<td>07</td>
</tr>
<tr>
<td>Technique</td>
<td>13</td>
<td>07</td>
</tr>
<tr>
<td>Rules</td>
<td>03</td>
<td>02</td>
</tr>
<tr>
<td>Subject matter motor</td>
<td>53</td>
<td>08</td>
</tr>
<tr>
<td>Practice</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>Game</td>
<td>30</td>
<td>09</td>
</tr>
</tbody>
</table>

### Table 2  Percentage of Time Spent by Class in Academic Learning Time Learner Involvement Categories

<table>
<thead>
<tr>
<th>ALT-PE Categories</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor engaged – Motor appropriate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student w disability</td>
<td>41</td>
<td>09</td>
</tr>
<tr>
<td>Student #1 w/o disability</td>
<td>48</td>
<td>08</td>
</tr>
<tr>
<td>Student #2 w/o disability</td>
<td>45</td>
<td>08</td>
</tr>
<tr>
<td>Student #3 w/o disability</td>
<td>50</td>
<td>09</td>
</tr>
<tr>
<td>Avg. for Students #1-3</td>
<td>47</td>
<td>07</td>
</tr>
<tr>
<td>Not motor engaged – On - task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student w/disability</td>
<td>53</td>
<td>10</td>
</tr>
<tr>
<td>Student #1 w/o disability</td>
<td>47</td>
<td>08</td>
</tr>
<tr>
<td>Student #2 w/o disability</td>
<td>49</td>
<td>09</td>
</tr>
<tr>
<td>Student #3 w/o disability</td>
<td>47</td>
<td>09</td>
</tr>
<tr>
<td>Avg. for students #1-3</td>
<td>48</td>
<td>08</td>
</tr>
</tbody>
</table>
appropriate or successfully engaged in a motor activity) and not motor engaged (e.g., listening, watching, and waiting appropriately). Off-task behavior was not reported since it was negligible. It can be seen in the display of Table 2 that Sammy and his peers were highly engaged in appropriate fashion during a large portion of class. Sammy was engaged 41% of the observed intervals, which amounted to 12.3 min of a 30-min class. The percentage engagement of his peers ranged from 45% to 50% of the observed intervals, which amounted to 13.5 to 15 min of a 30-min class. It can also be seen in Table 2 that when students were not engaged in a motor activity, they were attentive to instructional and other activities in class as evidenced by their high percentages of on-task behavior. In essence, when students were not appropriately engaged in a motor activity, they were listening, watching, or waiting appropriately.

Qualitative Evaluation of Inclusion in Physical Education

The most frequently reoccurring higher order themes that emerged from the case records were labeled as “social acceptance” and “motor performance capability” themes. The “social acceptance” theme related to how students got along with Sammy in class. The “performance capability” theme related to how Sammy performed physically and motorically in class. Statements from students and teachers are presented here to illustrate these themes:

Kindergarten Students on Sammy’s Social Acceptance. Kindergarten students expressed general social acceptance of Sammy in ways that may have been expressed of any classmate. It is clear by statements made by peers that Sammy definitely had a place as a friend in class. In other words, Sammy was not a forgotten or innocuous social presence in class, but an important and contributing member of class, just like anyone else. The following statements reflect this acceptance:

And Sammy . . . he’s my best buddy!
He’s a good friend of mine!
I think they [class] would feel pretty sad . . . if Sammy were to go to a different class.
I wouldn’t like that idea . . . if Sammy were to go to a different class.

Kindergarten Physical Education Teacher on Sammy’s Social Acceptance. The kindergarten physical education teacher qualified Sammy’s presence. To him, Sammy was accepted in general, but when activities became competitive, students would not want to be slowed down by him. However, most physical activities at the kindergarten level were not competitive but were cooperative or individualistic thus making Sammy’s presence more socially acceptable to both teacher and peers.

All kids think Sammy is cool; however, if activity is competitive or very active, Sammy may slow them down!
They don’t want to stand up there and be his partner. Not all of them. There are some kids . . . edging on the hyperactive, [who wouldn’t be] Sammy’s
partner because they couldn’t run around and be goofy as much since they have to slow down... they don’t want any part of that.

Adapted Physical Education Teacher on Sammy’s Social Acceptance. The adapted physical education teacher, who also believed that Sammy was an integral social presence, noted, however, that boys and girls responded differently to him. Girls were more nurturing and caring, while boy’s interactions and emotions were less demonstrative. Overall, the presence of others had a motivational effect on Sammy.

It was very motivational to him to be with the other students. Very motivational!

Some of the girls were motherly, patronizing towards him.

Some of the boys were... acted like... no big thing.

One young man... we started off the semester with a hand shake and he kind of wrinkled his nose and kind of put his hand up and went OOH! But then he got to know Sammy and then it was O.K.

Kindergarten Students on Sammy’s Motor Performance. Kindergarten students were quick to observe the differences in physical and motor capabilities of Sammy; however, their comments indicated that these differences were not perceived to be prohibitive to his participation in class.

Yeah, he’s a little different... not that different.

Well, he can do some stuff that we can do.

He gets along good!

Kindergarten Physical Education Teacher on Sammy’s Motor Performance. The kindergarten physical education teacher believed the environment was conducive to Sammy’s physical and motor development but expressed concern that this may not always be the case as the nature of activities changed in later grades. Activity in earlier grades tended to be cooperative or movement education in nature, which allowed students to work at their own level. Activity in later grades tended to be more competitive, which most likely would favor highly skilled students.

He is slow and not very skilled, but it’s not a problem for the teachers and other kids since, at this age, they work on their own at their own pace. When they get older, this may become a problem.

... in the early grades, when they’re working by themselves or with a partner, it’s no big deal. Now, as you are older, and you get into a big, competitive, fast moving situation, you know that’s tough!

Adapted Physical Education Teacher on Sammy’s Motor Performance. The adapted physical education teacher realized the discrepancies and reinforced the need for resources and modifications.
Sammy, I don’t think would be in there (regular P E class) without somebody (helping).

He does better in individual activities as opposed to team activities.

**Discussion**

The results of this study support the highly desirable scenario posited by Block and Vogler (1994) of using a “people” resource model (i.e., an adapted physical educator) for inclusion of a child with severe disability into a regular physical education class. Both quantitative (systematic observation) and qualitative (interviews) analysis provided support for the model.

First, from the perspective of systematic observation, data from this study were consistent with those from studies that compare teacher and student behaviors in settings with students with no or mild disability (e.g., Heikinaro-Johansson, 1992; Metzler, 1989; Silverman, Dodds, Placek, Shute, & Rife, 1984; Temple & Walkley, 1999; Vogler et al., 1990, 1992, 1998). Indicators of teaching effectiveness summarized by Siedentop (1991) from research (e.g., enhanced time devoted to instruction, frequent practice opportunity, minimal classroom management and transition times, and high student motor engagement percentages) were widely evident in the current study. There was no evidence of any diminished skill learning measured by ALT-PE, any loss of teacher time allocation, or transference of undesirable behavior from Sammy to those without disability. This was also consistent with results reported in studies of inclusion in the regular classroom (Staub & Peck, 1995).

Findings of this study were not consistent, however, with other studies of inclusion where the people resource model was not operational. For example, LaMaster et al. (1998) reported that several otherwise highly effective teachers struggled with inclusion from the perspective of time management. Teachers were frustrated by having to exclusively attend to the needs of one or two students with disability at the expense of other students. This was exacerbated by inadequate pre-service training, no previous experience with children with severe disability, and a lack of human resource support. The model selected to guide inclusion clearly determines the effectiveness of the teaching environment. When the highly desirable scenario of a people resource is operational (i.e., an adapted physical education teacher) effective teaching is possible. When an adapted physical education teacher is not available as a resource for either teaching or extensive consulting, effective teaching is problematic, even with otherwise highly effective teachers.

Second, from the perspective of beliefs reflected in statements made to interviewers by teachers and students, inclusion seemed effective in the context of this study. Statements were frequently made relative to the theme of social acceptability of the student with severe disability. Children without disability generally expressed comments acknowledging the student with severe disability as a peer. Findings supported what Schnorr (1990) described with first grade students in the regular classroom, that Sammy was “one of us” as opposed to “one of them.” This perception falls in line with other studies of inclusion in the regular classroom demonstrating that widespread social acceptance of children with severe disability is possible with the youngest of school aged children (Evans, Salisbury, Palombo, Berryman, & Hollowood, 1992; Hanline, 1993). Studies in physical education have
shown this result but only with sixth graders and severe disability (Block & Zeman, 1996) and preschoolers with mild disability (Hargrove, 1982).

Teachers were also quick to note that the personality of the child seemed to be a mediating factor in the whole picture of social acceptance. Statements were made by teachers that children were likely to be accepted if they were more likeable. For example, the adapted physical education teacher commented generally about older level students she had taught in inclusive settings: “Personality of the child makes a big difference. You can have a rough and tumble kid in a chair playing basketball... they’ll accommodate him. Other kids... they didn’t want to make accommodation ‘cause they didn’t care for the child’s personality, just like regular kids.”

However, the notion that personality affects social acceptance has not been widely studied with children with severe disability, and the literature is not clear on this point. Evans et al. (1992), for example, suggested that acceptance in a regular classroom is not necessarily related to social competence in inclusive settings. They believed that children with severe disability can be unpopular but nevertheless socially accepted. This remains a problem for further study.

Statements were also made relative to the theme of how well Sammy performed physically and motorically in class. It was generally agreed that the physical and motor needs of Sammy were being met. These statements were supported by data from systematic observation of student ALT-PE behavior. However, there was concern that participation and social acceptance depended upon the nature of the physical activity. When activities were movement education in nature, the child with disability was accepted. When activities required cooperation or dependence on others, children were not as accepting since they did not want to be slowed down. Zittel and McCubbin (1996) made a similar observation in their study with preschool children. Thus, teachers expressed concern that when children move into older grades in which activities increasingly require more group participation, acceptance and, therefore, physical and motor participation may not be as forthcoming. This too remains a problem for further study.

Successful physical and motor participation also seemed dependent upon the inclusion model employed in this particular physical education class, (i.e., the utilization of a human resource person, an adapted physical educator). This model was deemed a highly desirable scenario since having a certified, trained, and experienced adapted physical educator as a full-time resource should have maximized individual attention to Sammy and minimized management and instructional problems for the regular physical education teacher (Giangreco & Putnam, 1991; Block & Vogler, 1994). If examples of inclusion with highly desirable scenarios are not effective, then there is little hope for less desirable scenarios or models such as the use of peer teacher or instructional aides. Statements made by the teachers seemed to verify this. For example the regular physical education teacher said,

I couldn’t do that class, I wouldn’t want to do that class without somebody, you could give me an extra planning period and I wouldn’t want to do it. It’s because it doesn’t make any difference how much time I have to plan the activity, I still need to have that extra body in there! Having another person there in the room can kind of mediate that whole situation because she can or he can help move the game along, help the physical environment move a little bit faster than if it was just you in there. In other words, things like
getting the game going or getting the lesson started. If I had to stop and go over to Sammy’s partner every time there had to be a modification on how Sammy was going to do something, I would be spending an inordinate amount of time with it.

The adapted physical educator’s comments mirrored those of the regular physical educator. For example, she said,

I don’t think Sammy would be going in there without somebody. We have tried it a little bit where he has gone in with aides who do not have the PE background and things don’t work as smoothly. They have a harder time adapting the activity to Sammy. I have the PE background so I have a real good idea of what the goals would be or what the activity should be or even if that would be an appropriate activity for Sammy. When I was gone last week and an aide was with Sammy, the regular physical education teacher said, “I’ll take him” because she (the aide) was having a hard time with him. So I think somebody with a PE background would have an easier time transitioning to the disability . . . a combination of the PE and special needs background.

Thus, the training and experience of the teacher and teaching resource seemed to play an important role, according to the adapted physical education teacher, in making inclusion an effective practice.

Conclusion

It can be concluded that use of a people resource model (Block & Vogler, 1994) can result in successful inclusion of a student with severe disability with 20 kindergarten peers in a regular PE class. However, the results point to potentially mediating factors that would alter the success of inclusion for even highly effective teachers. This case study reveals that inclusion may be more successful if it (a) begins at the entry level (e.g., kindergarten); (b) allows students to work individually and minimizes competition without modification; (c) involves children with likable personalities; and (d) has extensive involvement by a trained and certified human resource, specifically an APE teacher.

References


Including a Child With Severe Cerebral Palsy


Including a Child with Severe Cerebral Palsy