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Chapter Twelve

The Experience of Disability in Physical Education

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Introduction

Inclusive physical education has been interpreted in many ways. It has been discussed as a philosophy (DePauw and Doll-Tepper 2000; Paul and Ward 1996), a placement (Broadhead 1985; Jansma and Decker 1992; Loovis 1986), a process (DePauw 1996), an attitude (Kozub, Sherblom, and Perry 1999), and a lifestyle (Sherrill 2004). Its openness to interpretation and multiple meanings has created many challenges and pitfalls for those directly involved in inclusive practice. In addition, the link between research and practice has been elusive, in part because of the complicated nature of field-based educational research (Broadhead 1986; Reid 2000).

Although adapted physical education researchers have been active since the late 1950s (e.g., Francis and Rarick 1959; Oliver 1958), it was not until the 1960s and 1970s that research on the motor performance and fitness of children with disabilities came into its own (Broadhead and Burton 1996). Since that time, the legacy of adapted physical activity research has provided a knowledge base that has guided practice and enhanced understanding of physical activity for persons with disabilities. The history of research in this area reveals documentary evidence of the evolution of ideas, changing perspectives of disability, challenges faced by professionals in the field, and the multidisciplinary nature of adapted physical activity.

This chapter will explore the historical contribution made by adapted physical education researchers as well as the contemporary trends in best practices for teachers of inclusive physical education. By understanding the foundation upon which our current knowledge and understanding are based, we make our philosophical, historical, and ideological assumptions explicit. We can also celebrate progress and successes while keeping a critical eye on emerging ideas in need of further investigation.

Definitions of Inclusive Physical Activity

Inclusive physical education has been defined in numerous ways in the literature. Very early on, the importance of physical education for students with disabilities was understood and promoted. The 1952 definition put forward by the American Association of Health, Physical Education, and Recreation (AAHPER) reflects an initial focus on specialized or adapted physical education programs that were separate from general physical education:

> Adapted physical education is a diversified program of developmental activities, games, sport, and rhythms suited to the interests, capabilities, and limitations of students with disabilities who may not safely or successfully engage in unrestricted participation in the vigorous activities of the general physical education programs. (American Association 1952, 15)

In 1971, AAHPER updated the definition to read:

> Adapted physical education should apply to any motor activity or movement program designed for persons who are impaired, disabled, and handicapped in any setting with an educational focus. (American Association 1971, 64)

In time, definitions emerged that reflected the inclusion of students with disabilities in the general physical education program. The term inclusive physical education, rather than adapted physical education, came into use, as outlined by Craft (1994):

> Inclusive physical education refers to the placement of a student with a disability, even a severe disability, into regular physical education classes with typical peers in the neighborhood school not as an occasional visitor, but as a member of the class. (22–23)

Block (1994a) added the recognition that supports were needed to facilitate positive educational experiences for both the student and the teacher:

> Inclusive physical education is a place where individual differences are not hidden or ridiculed but rather shared among students who learn to respect each other's limitations and unique abilities. Supports in the form of adapted equipment, specialized instruction, and personnel are provided to any student who needs them as well as to the regular physical educator. (16)

We offer another definition, one that builds on the principles of previous definitions and emphasizes the goals of the program:

> Inclusive physical education means providing students with activity limitations the opportunity to participate in physical education with their peers with supplementary support as appropriate to their abilities so as to take full advantage of the goals of the program.

Careful reading of the definitions of inclusive physical education will identify the key ideas behind the inclusion of students with disabilities in physical education: participation in the regular physical education program; a willingness for students of all abilities to be actively involved; a sense of social belonging; the need for supports; and the requirement that the outcomes of participation be reflective of the goals of the physical education program.

Bandwagon Discourse

Discussions around inclusion in physical education have not been without controversy. Block (1994b), a strong advocate of inclusion for all students in physical education, has questioned, over time, the success with which inclusive physical education programs have been implemented. In his article, "Did We Jump on the Wrong Bandwagon? Problems with Inclusion in Physical Education," he suggested that "inclusion zealots," who did not accept anything less than full inclusion of all students with disabilities, may have overlooked the needs of the students in their zest for promoting the philosophy of inclusion (Block 1999, 33). Upon reflection, he suggested that the assumptions held about the regular physical education pro-

grams may have been inaccurate, thereby making the implementation of inclusive physical education far more difficult than originally believed. Block indicated that we may have been incorrect in assuming that general physical education is high in quality and individualized in nature. He contended that teachers tend to teach to the middle, or that which the average student is capable of achieving. Students who are more skilled or less skilled than average students may not receive individualized programming. A second assumption Block questioned is whether physical education mirrors the size of the general education classroom. Some schools combine classes for physical education, resulting in double, triple, and even quadruple numbers of students in one class and raising management concerns. The implementation of an inclusive physical education program also assumes that general physical educators are willing to work with students with disabilities. This third assumption may not prove true if teachers do not take responsibility for the participation of all students in their programs. Finally, the assumption that general physical educators would have access to training and adapted physical education specialists is dubious. Block indicated that teachers feel inadequately prepared to teach students with disabilities and often learn as they go. In turn, the adapted physical education specialists do not have training in how to consult with generalist teachers.

Although all of these challenges exist, DePauw and Doll-Tepper (2000) caution against thinking about inclusion as a bandwagon. Inclusion should not be perceived as something that will fade in time with the education of students with disabilities returning to the status quo of dual systems of regular and special education (Stainback and Stainback 1992). "Rather, inclusion should be considered a philosophical approach to implementing social justice in our schools....Successful inclusion requires decision-makers, including individuals, to have choice (informed choice) and to have choices" (DePauw and Doll-Tepper 2000, 139).

Although the ideology of inclusion has been debated, we should not be skeptical about the benefits of inclusive physical education for students with and without disabilities. The benefits are well documented and include decreased isolation, enhanced socialization, a sense of belonging, availability of role models, improved understanding, stimulating instructional environments, and increased teacher expectations (Block 1999; DePauw 2000). We should be thoughtful, however, in our understanding of the complexity of inclusive educational settings and the supports required for these educational settings to be meaningful to students and teachers. Unfortunately much of the work completed on inclusive physical

education addresses the elementary school context, as was the case with a study by Vogler et al. (1990). In an effort to investigate the impact of the presence of students with disabilities on effective teaching in physical education, these authors described the percentage of time devoted to instruction, rates of on-task behaviour, and the emotional climate of thirty inclusive classrooms. They concluded that the presence of students with disabilities was not detrimental to overall class processes (time spent in transition, managing behaviour, instruction, practising skills, or playing games). The time devoted to waiting, managerial activities, receiving information, and non-motor activity was comparable to that in non-inclusive physical education programs. One shortcoming was that more general than specific feedback was provided in inclusive than in non-inclusive programs, although no differences were noted in the amount of negative or skill-related feedback in the two settings. Overall, the authors concluded that, compared to other physical education programs, an inclusive physical education context was an effective teaching context. Studies such as this one need to be completed in middle and high school settings to determine whether the same positive findings hold true.

Comparative versus Ethical Paradigms

According to Paul and Ward (1996), two broad paradigms have guided our understanding of inclusion: a *comparison paradigm* and an *ethical paradigm*. A paradigm, in this instance, refers to the social responses we display toward persons with disabilities that are often driven by philosophy and personal conviction rather than scientific discovery (Polloway et al. 1996). Much of the early adapted physical education research reflected the *comparative paradigm*. Children with disabilities were compared to children without disabilities on various anthropometric and performance measures (Pyfer 1986). Variables such as body composition (Parizkova et al. 1971), reaction time (Baumeister and Kellas 1968; Wade, Newell, and Wallace 1978), fitness (Rarick, Widdop, and Broadhead 1970; Stein 1963), growth measures including stature and sitting height (Rarick and Seefeldt 1974), motor performance (Malpass 1960; Smith 1972), and motor skill development (Auxter 1971; Howe 1959) were measured and reported. This line of research, although extremely valuable in increasing our understanding of growth and development and motor skill acquisition of children with disabilities, also documented and highlighted the differences between groups of children who were given labels—often by the medical profession. Re-

search within the comparative paradigm that highlighted differences tended to support the question, "Can students with disabilities be accommodated in physical education?" (Kozub, Sherblom, and Perry 1999). Considerable research attention was focused on comparing the attitude, experience, and performance of teachers and students in "segregated" and "integrated settings." This was an attempt to demonstrate that the conditions in one setting (e.g., teacher attitude, student ability, peer acceptance, curriculum) were more beneficial than the conditions in another (Kozub et al. 1999). This research resulted in cautious claims about the benefits of inclusion (Paul and Ward 1996). A drawback of focusing on how one type of learner affected other learners, the quality of the program, or the attitudes of those teaching the programs was less research attention being given to how to *support* students with disabilities in physical education programs.

In time, with increased understanding of the abilities of children with disabilities and the ideology of inclusive education resonating through the school systems, a new line of inquiry emerged. In addition to a continued interest in evaluating the performance of students with disabilities, there was a trend towards advancing knowledge about how to program effectively for students with disabilities in mainstream or typical classrooms (Broadhead and Burton 1996).

The question, "*Can* students be accommodated in physical education?" was in contrast to the question, "*How* can students with disabilities be accommodated in physical education?" The *"how"* question reflects the ethical paradigm. The ethical paradigm provides a conceptual framework from which to generate research questions that look at instructional models and strategies that support inclusive learning environments (instructional assistants, peer tutoring, team- teaching), facilitate the interpretation of the curriculum, alleviate real and perceived barriers to inclusion, and increase our understanding of the complex reciprocal interactions among the student, the teacher, the environment, and the instructional program (Kozub, Sherblom, and Perry 1999). Hutzler (2003) sums up the ethical paradigm this way:

> For some authors, inclusion is viewed as a moral imperative (Bricker 1995; Rogers 1993; Stainback and Stainback 1996) consisting of a noncategorical, almost limitless inclusion of children of all abilities. With this in mind, inclusion becomes more than simply placing children with and without disabilities together. It means allocating services, changing attitudes, and developing a sense of responsibility, suggesting that instead of getting a child with a disability ready for the regular class, the regular class gets ready for the child. (348)

Research under the ethical paradigm has looked at such important issues as effective use of instructional assistants (Block 1994a); peer tutoring (Block 1995a; Houston-Wilson et al. 1997); understanding the experiences of children with and without disabilities (Blinde and McCallister 1998; Goodwin 2001; Goodwin and Watkinson 2000; Hutzler et al. 2002; Place and Hodge 2001; Slininger, Sherrill, and Jankowski 2000; Taub and Greer 2000), and finding meaning in the curriculum for all learners (DePauw and Doll-Tepper 2000).

In addition to the needs of the students, the needs of teachers must also be placed in the equation of inclusive education. Teachers' changing attitudes and experiences (Kowalski and Rizzo 1996), together with their needs pertaining to preservice professional preparation, instructional support, and equipment have not kept pace with the rate at which students with disabilities are being included in general physical education programs (LaMaster et al. 1998; Lienert, Sherrill, and Myers 2001; Potter Chandler and Greene 1995). The complex interactions that occur in an instructional context among teachers, instructional assistants, and students require further consideration if the needs of each are to be fully understood.

Finding Meaning in the Curriculum

Stein (1987) wrote about the myth of the adapted physical education curriculum. The comparative paradigm of the 1960s and 1970s resulted in curriculum guides, assessment devices, books, and articles advocating corrective, therapeutic, or remedial physical education programs that were to be implemented by teachers with specialized skills. This left teachers unsure of their own skills and the appropriateness of participation by students with disabilities in the regular physical education programs. Concerns about professional preparation, safety, and curriculum suitability were legitimately raised by practising teachers (Watkinson and Bentz 1986). Stein (1987) challenged the adapted physical activity community to set aside its preoccupation with physical activities that were categorically determined by the nature of a student's activity limitation (e.g., bowling and darts for students who used wheelchairs) and "influenced by perceptions of what could not be done, and offered little challenge and motivation to participants" (35). He reminded the physical education community that

the accommodations needed to include students with disabilities in their instructional programs involved accommodations in instructional methods and adaptive devices, not in the curriculum or in the activities themselves. He asked, "Have you ever seen adapted physical education activities that are different from activities found in good, appropriate, individualized, and developmental physical education programs?" (34).

What was occurring in physical education was not unique to the overall philosophy of education for students with disabilities. At the same time that Stein (1987) was putting forth his view, the efficacy of a dual system of education (i.e., regular education and special education) was being challenged on ethical grounds around equality, the benefits to students without disabilities in building tolerance and understanding, and avoiding the ill effects of segregation (Stainback and Stainback 1984, 1992).

A residual effect of the early focus on corrective, therapeutic, and remedial adapted physical education was uncertainty about the role of physical therapy programs within the school setting. There is evidence to suggest physical therapy programs have been viewed as an appropriate substitute for physical education (Connor-Kuntz, Dummer, and Paciorek 1995). The goals of physical education and physical therapy are complementary: development and maintenance of movement are at the core of both of these disciplines. One is not a suitable replacement for the other, however, as the underlying assumptions and models guiding the two disciplines are fundamentally different. Physical education is grounded in an educational or learning theory model, whereas physical therapy is grounded in the medical model of illness and rehabilitation (Stein 1987). The knowledge, experiential, and social components of the goals of physical education make them distinct and unique from those of physical therapy (Goodwin, Watkinson, and Fitzpatrick 2003).

According to Davis (1989) and Sherrill and Montelione (1990), the acquisition and improvement of motor skills and the improvement of physical fitness are of primary importance for students with disabilities. Equally important are a solid base of knowledge about how the body moves and the application of movement skills to physical activity that support a physically active lifestyle across one's lifespan. In a study completed by Potter Chandler and Greene (1995) that included 148 regular physical education teachers (98 elementary school, 31 middle school, and 19 high school), an average of 46 percent of the instructional time was spent in traditional games and sports, with this content being as high as 90 percent in some instances. Traditional games are perceived to be difficult to adapt for students with disabilities and may be contributing to teachers' reluctance to include students with disabilities.

> In order for inclusion to be successful, traditional curricula need to be examined to ensure that the needs of the entire school population are being met. Shifting emphasis away from traditional games and sports skills instruction may in fact allow all students access to knowledge and leisure skills that will result in a healthier and more profitable use of leisure time across the lifespan. (ibid., 272)

Although social skills are a very significant part of physical education, they should not become the main focus of the class. Social skills can be taught across the educational curriculum; however, physical education is the only class during the school day in which students can learn about and benefit from participation in physical activity. If a lesson does not include a physical component, such as motor skill development or fitness, can it really be called physical education (Davis 1989)? In many respects, secondary school teachers are better prepared to implement an inclusive physical education program than their elementary school counterparts because their solid background in the activities of the curriculum make a skill and fitness focus of the physical education program very feasible.

Think about your own physical education experiences, or think forward to the instructional program you would like to create for students with disabilities. How would you answer the following questions?

- Do the activities presented include motor skill development or fitness components?
- Are there parallel opportunities for participation in the community?
- Is the activity socially valued among students of this age group?
- Is this an activity students can continue to participate in throughout their lifespans?
- Is there support for your instructional program available in the community?
- Are the students interested in the activity?
- Have the students been provided with the opportunity to make choices?
- Does the activity promote frequent and positive social interactions?

- Does the activity promote equal status relationships among the students?
- Have you made the best use of the instructional supports available to you?
- Does your program have a skill-enhancement or -application and fitness focus?

After you have finished reading this chapter, return to these questions and answer them again. Compare your two sets of answers.

Disability Experiences in Physical Education

Instructional Assistants

Instructional assistants (also referred to as teacher aides and paraprofessionals) have been utilized as key supports in the implementation of inclusive physical education programs (Horton 2001). Recent literature suggests, however, that instructional assistants are persistently underappreciated, undercompensated, lacking in role clarification, and increasingly asked to take on instructional responsibilities (Giangreco, Edelman, and Broer 2003). There is also strong evidence to suggest that physical educators themselves do not have the information needed to best utilize the support of instructional assistants in physical education (Horton 2001). The lack of direction by teachers and the resultant uncertainty experienced by instructional assistants can lead to confusion and frustration by both parties, with the experience of the students being potentially compromised.

It has been demonstrated that teachers' engagement with students with disabilities is greater when they use a program-based instructional assistant model rather than a one-on-one model (Giangreco, Edelman, and Broer 2001). In a one-on-one model, the instructional assistant is assigned to the student(s) with activity limitations, whereas in the program-based model the instructional assistant supports the delivery of the program for all students. In a program-based model, teachers take more ownership and are more engaged in the education of students with disabilities because the instructional assistants are not always available to work with the student(s) with activity limitations. Being more engaged in the education of students with disabilities translated into the teacher's being more knowledgeable about the functioning level and learning abilities of the students; collaborating more closely with the instructional assistant, parents, and other members of the education team; retaining instructional decision making; communicating more directly with students with disabilities; providing

mentorship and direction to the instructional assistant; and fading out instructional supports as student independence increased. In one-on-one models of instructional assistant support, students reported feelings of isolation, experienced insular relationships, and were subject to stigma (Giangreco, Edelman, and Broer 2001).

Additional insights into the roles and responsibilities of teachers and instructional assistants in inclusive education settings were provided by Giangreco (2003) through a multiyear research program. The research program resulted in the development, implementation, and evaluation of a Guide to Schoolwide Planning for Paraeducator Supports (Giangreco, Edelman, and Broer 2001). Some highlights of the self-assessment component of the guide are provided below.[1]

Acknowledging Instructional Assistants

- Consider instructional assistants as part of the educational team that includes such people as parents, special educators, rehabilitation professionals, and bus drivers.
- Acknowledge that their services are important to student learning, social development, and often crucial to the success of the inclusion process.
- Recognize their work, unique competencies, and contributions to the program.

Orienting Instructional Assistants

- Provide orientation to the student, class, and school. Instructional assistants should be informed about the educational needs of the student, classroom practices, and school policies.
- An accurate written job description should be agreed upon and its contents should be known to the supervising teacher.
- Identify roles and responsibilities (e.g., a written outline of the nature and extent of support needed referenced to the needs of the student and the class as a whole).
- Provide on-the-job training in light of assigned responsibilities.
- Instructional assistants should have access to ongoing learning opportunities (e.g., workshops, Internet courses that promote their skill development).
- Constructive interpersonal skills with students and other team members are expected (e.g., all communication is respectful, confidentiality is maintained, dignity of all involved is upheld).

- Work habits should encourage student independence, foster appropriate interdependence, promote peer interactions, enhance student self-image, and prevent the negative effects of hovering.

Roles and Responsibilities

- Instructional assistants function as vital support to students under the direction and leadership of the teacher.
- Instructions provided by the teacher and other team members (e.g., special educators) are carried out by the instructional assistant.
- Opportunities for input into educational programs, instructional plans, and activities discussed by the educational team should be provided to the instructional assistant, but should not be the assistant's sole responsibility.
- Some of the duties may include implementing the instructional program, facilitating participation in learning activities, collecting student data, and assisting in preplanning activities (e.g., contacting sport organizations for support with equipment).
- Times and mechanisms (e.g., weekly scheduled meetings, daily journals) should be in place to facilitate communication of teacher plans to instructional assistants, and reporting of student progress.

Supervising and Evaluating Instructional Assistants

- Ongoing supervision should be provided by the classroom teacher.
- Regular performance evaluations should be conducted based on the job description using clearly defined processes and procedures.
- Teachers should be provided with preservice or in-service training, or both, on effective supervisory practices.
- An evaluation plan for fading instructional support to natural supports (e.g., peers or classroom teacher) with increased student independence should be in place.

Experiences of Teachers

The attitudes and attributes of teachers associated with inclusive physical education programs have received considerable research attention. The relationship between attitudes of teachers toward students with disabilities and such variables as years of teaching, university course work, nature of practicum experiences, gender of teachers, nature of disabilities, and perceived competence have been investigated (e.g., Block and Rizzo 1995; Folsom-Meek et al. 1999; Hodge and Jansma 1998; Rizzo and Vispoel 1991). The findings of this research have been somewhat conflicting. A review by Hutzler (2003) of the literature on attitude toward students with disabilities summarized the outcomes of the research.

- Previous contact with children with disabilities has resulted in controversial findings as to its importance in attitude development.
- Course preparation seems to be a significant factor in the development of positive attitudes. Teachers reported a deficiency in their course preparation.
- Teachers' perceived competence is a significant predictor of positive attitudes.
- Attitudes towards students based on the nature of their disabilities (e.g., learning disabilities, physical disabilities, intellectual impairments) is nonconclusive. (355–56)

Taking an undergraduate course in adapted physical activity has had mixed effects on the resulting attitudes of preservice teachers toward teaching students with disabilities. Whereas Hodge and Jansma (1998, 1999) and Patrick (1987) reported more favourable attitudes toward teaching students with disabilities following an adapted physical education course, no pre-test/post-test differences were reported in a later study (Hodge, Murata, and Kozub 2002).

A consistent message coming forward, however, is that teachers' perceived competence is a strong indicator of a positive attitude toward including students with disabilities in physical education (Block and Rizzo 1995; Kowalski and Rizzo 1996; Rizzo and Kirkendall 1995). This research suggests that the more confident teachers felt in their ability to provide a physical education program (possessed the knowledge base and instructional skills) for students with a wide range of abilities, the better their attitudes were toward inclusive physical education settings. Perceived competence appears to be linked to the oppor-

tunity to participate in hands-on experiences with persons with disabilities during undergraduate courses (Folsom-Meek et al. 1999; Hodge, Murata, and Kozub 2002; Kowalski and Rizzo 1996). But greater teacher experience or expertise does not necessarily result in better inclusion outcomes. In other words, "less experienced and nonexpert teachers have the capacity to be as effective as the experienced and expert ones" (Vogler et al. 1992).

Beyond the attitudes of teachers, relatively little work has been completed on the experiences of practising teachers in inclusive physical education settings. The completed research focuses primarily on the elementary school experience (e.g., Heikinaro-Johansson et al. 1995; LaMaster et al. 1998; Lienert, Sherrill, and Myers 2001) or early education programs (Vogler, Koranda, and Romance 2000). The paucity of research addressing the experiences of teachers of secondary school requires us to extrapolate from the experiences of elementary school teachers of physical education to increase our understanding. The experiences of secondary school teachers may or may not be reflected in those of their elementary counterparts given the increased focus on motor skill application at the secondary level, the specialist physical education role, and the lack of opportunity to see students outside of the physical education setting. An understanding of the needs and concerns, as well as the successes and celebrations, of secondary teachers is direly needed.

Teachers' perceptions of barriers to their success in inclusive physical education have been documented. A study of 148 physical education teachers who had students with visual impairments in their classes reported that the most prevalent barriers to their success were professional preparation, equipment, programming, and time (Lieberman et al. 2002). Many of the participants in the study indicated that they did not know what to do with children with disabilities, particularly children with visual impairments, because of their lack of adequate professional preparation. Specialized equipment was the second most identified barrier. The teachers did not have easy access to equipment that possessed tactile properties (e.g., changes in surface texture to demarcate boundaries), auditory properties (e.g., balls with electronic sounding devices), guide wires (e.g., guide ropes strung along the running track), or visually contrasting equipment (e.g., balls or other equipment in bright colours). It was also clear that the teachers did not know how to interpret the curriculum to best meet the needs of students with visual impairments. Group activities such as football, basketball, and volleyball dominated the instructional time even though they are less well suited to students with visual impairments than activities such as

swimming, curling, track and field, and many fitness activities. Lack of time for programming, for preparing peer tutors, and for creating a more individualized instructional setting was presented as a prevalent barrier to successfully including students with visual impairments in physical education.

Concern over lack of adequate professional preparation has been reinforced in other studies, as have issues of management (LaMaster et al. 1998). Lack of administrative support in the provision of instructional support resources, decision making, (e.g., resource allocations, staffing, information flow, operating procedures) and collaboration among school personnel has been identified as a frustration by practising teachers. The need to rely on goodwill and a shared commitment to inclusion can result in resentment about workload and inequity between physical educators and classroom teachers (LaMaster et al. 1998; Praisner 2003). These very real and heartfelt concerns should not be ignored. It takes a sensitive administration, self-assured teachers, and an emotionally healthy school climate to address the diverse issues that are concomitant with inclusive education settings. A whole-school approach, which embraces the need for a common aim of welcoming all students into their community school, home-school liaison, planning and meeting requirements, and teacher equity, is considered key to the successful implementation of inclusive education (Utley, Whitelaw, and Hills 2001).

Experiences of Students

Many scholars purport the need for contact between individuals with differences to bring about changes in attitude. Contact theory (Allport 1954) supports one of the often cited variables in success for inclusive physical education that bring about positive social-attitudinal changes in students without disabilities (Slininger et al. 2000). The direction of the change, positive or negative, depends upon the conditions associated with the contact between groups. Attitudes will shift depending upon such variables as whether contact is of equal status or produces competition between groups; whether the social climate is rewarding and pleasant or unpleasant, involuntary, or tension-laden; and whether the contact is intimate and involves common goals that are higher ranking than the group goals, or whether the groups differ overall on moral or ethical standards that are objectionable to each group (Tripp, French, and Sherrill 1995; Tripp and Sherrill 1991; Slininger et al. 2000).

The term *segregated inclusion* has been used to describe the infrequent social interaction that can occur between students with and without

disabilities in physical education (Place and Hodge 2001). In a study of eighth grade students of mixed genders, social talk time occurred between three girls with physical disabilities and their nineteen classmates only 2 percent of the time. Positive social interaction does not necessarily occur spontaneously when students with diverse abilities are placed in close proximity to each other (Goodwin and Watkinson 2000). Students with disabilities have been viewed as objects of curiosity by their classmates, ignored altogether due to perceptions of inability, or outwardly rejected through the words or actions of classmates (Goodwin and Watkinson 2000; Place and Hodge 2001). Social isolation can result (Verderber, Rizzo, and Sherrill 2003; Vogler, Koranda, and Romance 2000). It has been suggested that girls have more positive attitudes toward their peers with disabilities than do boys (Tripp, French, and Sherrill 1995; Slininger et al. 2000) and previous experience with someone with a disability, such as a family member or a classmate in an earlier grade, also appears to influence attitudes positively (Block 1995b; Block and Zeman 1996). Although more information is needed on social climates within inclusive physical education classes, there is also evidence to suggest that peers without disabilities can be accepting of students with disabilities when their interactions are positive (i.e., respectful, supportive, non-threatening), frequent, meaningful, and encourage equal status relationships (Goodwin 2001; Sherrill, Heikinaro-Johansson, and Slininger 1994).

A study by Murata, Hodge, and Little (2000) investigated the attitudes, experiences, and perspectives of high school students toward classmates with disabilities four years after they had been in the same class. The results clustered around three themes: initial skepticism, direct interaction, and appreciable differences. Over time the students lost their initial feelings of discomfort and uneasiness. Although the students had classes together during other parts of their school day, there was little need or opportunity for interaction. During these initial encounters the students came to realize that their classmates with disabilities were able to do many of the same things as they. During this early period of coming to know each other, some students expressed concern, however, at being asked to take regular responsibilities for being a helping peer. With ongoing direct interaction, the students came to see past the disabilities and to experience fun and positive contact with their classmates. The third theme reflected the emergence of an open-mindedness about their classmates with disabilities, and an appreciation of the differences between themselves and others. Supportive interactions may need to be systematically encouraged and

monitored. More research on how to provide positive, frequent, meaningful, and equal-status relationships within the physical education context is certainly needed. Simply putting children in proximity to each other does not necessarily result in attitudinal change or positive social interactions. Bringing students with and without disabilities together in physical education requires that the following variables related to interpersonal contact be considered (Slininger et al. 2000, 179):

- The frequency and duration of, the number of persons involved in, and variety in the nature of the contact
- The status established through contact (i.e., inferior, equal, superior)
- Roles within the contact (i.e., cooperative or competitive)
- Social atmosphere surrounding the contact (i.e., real or artificial, voluntary or involuntary)
- Personalities and prejudices held by those brought in contact with each other.

Students with disabilities have been described as having significantly less positive attitudes toward high school physical education than their peers without disabilities (Toon and Gench 1990). This finding has also been supported across elementary and middle school years (Goodwin 2001; Goodwin and Watkinson 2000; Hutzler et al. 2002). Interactions with peers in physical education can have dual meanings. Students of upper elementary school age experienced good and bad days in physical education. Good days were characterized by opportunities to feel a sense of belonging, demonstrate skilful participation, and experience the benefits of the program. Bad days were defined by feelings of social isolation, restricted participation, and having their competence questioned (Goodwin and Watkinson 2000).

Support in physical education from peers can also have dual meanings. Help from peers was supporting if it was instrumental in facilitating participation and caring in nature, but it could also be threatening if the help provided resulted in loss of independence or restricted opportunities for participation (Goodwin 2001). Experiences of this nature, accumulated over time, may help to explain why students come to the high school program with negative attitudes about physical education. This information brings cause for reflection on the use of peer tutors in inclusive physical education settings. Providing students with opportunities to demonstrate skill competence and to be active participants in the program should not be

thwarted by peers who are overzealous in their help by assuming that the student is not capable of participating independently. An educational stance taken by students and teachers which sees students with disabilities as *needed* members of the group rather than *needy* members of the group may create an instructional climate worth adopting and promoting. Using the peer group to "expand...experience repertoire[s] and to creatively suggest solutions to potentially stressful events" (Hutzler et al. 2002, 310) may build relationships that are empowering and built on mutual respect. Peers can provide effective and meaningful instructional support when given specific instructional and feedback information (Houston-Wilson et al. 1997).

Creating a Positive Learning Environment

To foster positive outcomes for inclusive physical education programs, there is a need to reflect carefully upon the appropriate application of curriculum adaptations, instructional modifications, and the experience of the students. The following suggestions highlight ways to think about your program from the perspective of students with activity limitations (Murate et al. 2000; Place and Hodge 2001; Potter Chandler and Greene 1995):

Curriculum Balance

- Bring a lifestyle approach to selective activities.
- Search out certain individual and team activities that bring unique opportunities for participation for students with disabilities.
- Include activities that showcase a student's accomplishments (sledging during skating, sit-skiing during a skiing unit, swimming prowess during an aquatics unit, wheelchair curling during curling).

Curriculum Adaptations

- Provide flexibility in skill forms used to meet activity goals.
- Modify rules.
- Provide equipment choices.
- Emphasize lifelong activity participation.

Instructional Modifications

- Be sensitive when grouping students.
- Share instructional assistant support amongst all students.

- Provide choice in how activities are completed.
- Encourage equal status relationships in peer tutoring.
- Provide instrumental support only when needed to facilitate participation.
- Encourage independence whenever possible.

Informed Decision Making

- Share participation responsibility with the students (e.g., ideas for rule changes, equipment options).
- Ask students with activity limitations for input on how activities could be organized to foster participation by everyone.
- Gather information from previous teachers and instructional assistants.

Tuned into Student Experiences

- Listen for and intervene in incidents of negative language, inappropriate comments, or barbs directed at individual students.
- Watch for behavioural indicators of social isolation, such as, moving to the periphery of instructional spaces, groups of students with disabilities working together, or a lack of personal interaction during classes.

It is very easy to create the list of items you just read. It is quite another thing to take the information and apply it to a particular group of students, within a curriculum unit, and with a specific teacher's skill set. It takes pedagogical thoughtfulness. Pedagogically tactful teachers are those who do not believe their own education to be completed, who know why they are doing what they are doing, who have developed a sensitivity to what is best for the student, and who can breathe life into their subject area (van Manen 2002). It takes time to become a master teacher. Not all instructional units will be successful and there will always be room for improvement. Reflecting upon what worked, what was less successful, and what could be changed will permit you to build depth in your instructional experiences and result in pedagogical tactfulness in your teaching.

A Framework for Planning, Instructing, and Evaluating

Motor skill acquisition is one of the primary goals of physical education (Davis 1989). To facilitate the learning of motor skills, teachers are

increasingly taking an ecological approach to their instruction. By looking at the interaction of the motor task, the environment, and the capabilities of the student, the teacher can plan and implement lessons that take advantage of the opportunities presented to the learner while minimizing the constraints. In an ecological approach, curriculum activities are categorized by function and intention (e.g., send an object such as a curling rock and place it in the house). Achieving the intention of the motor task or activity (placing the rock in the house) takes precedence over achieving the "correct" movement form of delivering a curling rock (Davis and Burton 1991). Students, with the support of the teacher, identify the movement form that best meets the desired intention or outcome. Movement solutions are often determined through exploration and self-discovery by the student and direct instruction from the teacher (Balan and Davis 1993). (A sample of an ecological approach to curling is presented in Appendix B.)[2] An ecological approach to instruction removes the onus of having to know, or presuming to know, the best movement form for all students and all activity limitations. It is designed to provide strategies for individualizing instruction, providing student choices, and enhancing collaborative decision making. Hence, this approach is well suited for inclusive physical education programs (Balan and Davis 1993).

There are four steps involved in ecological task analysis. The first is to identify the task in terms of function (e.g., moving from one place to another, sending an object, receiving an object, or changing the position of the body or an object). The second step grants the learner choices in the determination of skills, which when carried out will achieve the task. The third step involves the identification and manipulation of relevant task variables to determine the optimal skill choice and movement form in relation to the performer. Finally, the instructor further manipulates the task variables, such as equipment or rules, thereby varying the complexity of the task to continually challenge the learner (Davis and Burton 1991). For an ecological approach to be embraced by teachers and students there must be a willingness to interpret the curriculum from the perspective of the students' interests and abilities, create a learning environment where students can succeed, and create opportunities for choice in the manner in which motor tasks are achieved.

Creating Choice for Students

An ecological approach to teaching inclusive physical education means creating choice in movement solutions, thereby matching student abilities to the desired movement outcome (e.g., score a goal, hit the target, move the ball forward, put the ball in play). This is achieved by maximizing the interaction of the environment (e.g., playing surface, equipment, student and teacher attitudes), the task (the outcome desired rather than the mechanism for achieving the outcome), and the students (their skills, interests, and abilities). Curling, for example, is a Canadian passion in many parts of the country. It is socially valued in many communities, participated in by people of all ages, and even the smallest of communities seem able and willing to sustain curling facilities. Unfortunately, some people may not consider curling possible for students with reduced mobility or who use a wheelchair. However, with minor adaptations, curling can be made accessible to diverse learners.

The first step is to identify the task in terms of function (e.g., send a curling rock down the ice toward the house). The second step provides choice in skills that can be used to achieve the release and sending of the curling rock down the ice. The task of delivering the curling rock to the house can be accomplished by throwing, sliding, or pushing the rock. The third step involves the identification and manipulation of relevant task variables in relation to the performer to determine the most appropriate skill movement form of the selected skill. In the case of curling, performers can be standing or sitting, or using a delivery stick, depending upon their balance, strength, and mobility. Finally, the instructor can manipulate other performance variables, such as the use of a junior-weight curling rock and a delivery point forward of the hack (Davis and Burton 1991). Rather than staying back at the school or watching their classmates through the glass, students with disabilities can actively participate at ice level and curl with family and friends outside of school hours for years to come.

By utilizing an ecological approach to instruction, teachers assist students with disabilities to be involved actively and meaningfully in much of the physical education curriculum. An ecological approach may help you find more meaning in the curriculum as it applies to students with disabilities. Your interpretation of participation and success may expand. There is no right way and no wrong way to complete the activity. Instructional efforts are directed toward finding the best way to complete the activity goal. How the student gets there is specific to the child and often independent of the traditional skill form.

Conclusion

Teaching an inclusive physical education class can be a professionally rewarding experience if it is approached with a willingness to celebrate student diversity and a recognition of the importance of a physically active lifestyle to all students' health and enjoyment of life. Successes will be found in daily accomplishments. Flexibility in program planning, curriculum implementation, skill performance requirements, rule adaptations, and student expectations will contribute positively to your experience as a teacher and the experiences of your students. A physical education program that promotes personal achievement, fosters relationships of equality among students, monitors the use of peer and adult help to students, respects the abilities of all students, and creates an environment of growth and personal challenge is one where self-determination is possible. Active and shared decision making with and among your students will create opportunities for you and your students to learn together and share in the joy of each other's accomplishments. Celebrate your successes and greet the challenge of including meaningfully all of the students in your programs as an opportunity to grow in your professionalism. You and your students will share the rewards.

Notes

1. Refer to the full guide for more complete information. It can be downloaded in its entirety from the University of Vermont website at: www.uvm.edu/~cdci/parasupport
2. Materials are available through Curl BC and Curl Ontario (www.curlbc.bc.ca and www.curlontario.com). Curling manuals are also available from Curl BC for students who have visual impairments and for those who are eligible for the Special Olympics.

Appendix A

Tips for Successful Inclusion

Celebrate Your Successes	
	Tell someone, take photographs, share with parents
Avoid Looking for "Issues"	
	Identify what worked well and apply what you learned to other activities
	Ignore "perceived" barriers and eliminate "real" barriers where possible
Involve the Students	
	Ask the student how he or she would like to be involved
	Share problem solving with members of the class
Provide Opportunities for Students to Shine	
	Permit students to demonstrate accomplishments such as proficiency in wheelchair basketball or swimming
Use Instructional Support	
	Facilitate your instruction by involving support personnel in planning and implementation
Foster Equal Relationships	
	Use a *needed* rather than *needy* framework for establishing social and instructional relationships among students

Appendix B

Wheelchair Curling

Activity Goal

1) Intention:
   a) To send an object.
   b) To deliver a curling rock down the ice.

2) Purpose:
   a) To learn the skills involved in curling—delivery, rules, and strategies.

3) Meaning:
   a) The student can meaningfully and skillfully participate with classmates.
   b) The student will have an opportunity to participate with family and friends in the game of curling.

Preparation

1) There must be wheelchair access to the curling rink and ice surface.

2) Participants should dress in layers. People in wheelchairs can become cold quickly due to poor circulation.

3) Good wheelchair brakes are important for rock delivery.

4) A wheelchair seatbelt is recommended to prevent falling out of the wheelchair.

5) Bring clean towels to clean wheelchair tires before accessing ice surface to prevent damage to the surface.

6) Upon entering the ice surface area, allow time for the wheelchair tires to "cool down" so that marks are not left on the ice surface.

7) If a wheelchair tire becomes flat, do not roll the wheelchair because this will seriously damage the ice surface. The wheelchair must be tilted and rolled on the remaining good tires.

Skill Choices

To send the curling rock down the ice:
   a) Throw the rock down the ice (traditional delivery).
   b) Slide the rock down the ice.
   c) Push the rock down the ice.

Movement Forms Available

1) Throw the rock down the ice from a sitting position:
   a) The student must have adequate strength and mobility to perform this task.
   b) Bend over the side of the wheelchair and throw the rock down the ice.

2) Push the rock down the ice from a sitting position using a delivery stick.
   a) Side delivery:
      i) Use one hand on the delivery stick beside the wheelchair.
      ii) Rotate your wrist either to the "palm up" (in turn) or "palm down" (out turn) position near the end of the push to apply curl to the rock.

   b) Front delivery:
      i) Use two hands on the delivery stick in front of the wheelchair.
         A. This works well with manual or electric wheelchairs.
         B. Physical strength and mobility are not necessary.
         C. Use the rubber grip attached to the delivery stick to increase the friction on the handle.
         D. Modify the delivery stick as necessary to facilitate the student's arm movement.

   c) Electric wheelchair delivery:
      i) Secure the delivery stick (with hockey tape, tensor bandages, velcro tape, etc.) to the student wheelchair if the student is using an electric wheelchair.
      ii) Drive the wheelchair down the ice pushing the rock with the delivery stick to the release point. Stop the wheelchair at the release point thereby sending the rock down the ice.

Manipulate Task Variables

1) Position of the wheelchair:
   a) Place one of the back wheels in the hack for stability, or
   b) Position the wheelchair just behind the hog line to decrease the distance of the throw.
      i) If a participant is using an electric wheelchair to push the rock, he or she should allow enough distance before the hog line to do this.

2) Stabilizing the wheelchair:
   a) The wheelchair must be stabilized to prevent it from rolling or sliding backwards during delivery. There are three main methods to stabilize the wheelchair:
      i) Good brakes keep the wheelchair from sliding or rolling backwards during delivery.
      ii) The "buddy system" works well alone or in conjunction with good

wheelchair brakes. A curler holds the back wheels of the sender's wheelchair. This significantly increases safety and stability.

iii) A stabilizing bar or curling rocks can be used.

A. Curling rocks can also be placed behind the sender's back wheels to stabilize the wheelchair. This is a simple and effective technique that increases student confidence.

3) Size and weight of the curling rock:
Junior rocks are lighter and easier to send down the ice.

4) Shorten the target distance:
A shorter distance will be easier to reach and requires less strength.

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