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# Inclusive and accessible physical education: rethinking ability and disability in pre-service teacher education

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## ABSTRACT

This paper identifies and explores emergent themes in inclusive PE in the specific context of pre-service teacher preparation programs. Fully inclusive PE encompasses four areas: knowledge and curricula related to ability and disability, teacher attitudes, pre-service teacher education and a reframing of our understandings of multiple perspectives on physical literacy. Fully *accessible* PE involves material and attitudinal conditions configured to render these programs actually usable by all those whose 'inclusion' is intended. Access is, indeed, conceptually implied in 'inclusion', however, in practice the latter can easily become more of a slogan naming an aspiration than a realizable state of affairs. Unless an organization or individual brings a universal commitment to access, attitudinal barriers may prevent full inclusion from becoming a reality. The paper uses qualitative case study methodology to examine pre-service teacher education students' preconceptions about 'dis'ability and analyses heuristically how pre-service teachers pre-conceived notions of ability and disability may be challenged through an intervention. 21C PE programs can move towards an emphasis on inclusive activities which are not based on traditional conceptions of physical competence, size, shape, appearance and ability, but instead focus on how all bodies can develop fundamental movement skills, functional fitness and physical literacy. The author challenges pre-service students to address issues of accessibility, normative notions of ability, body equity, social justice and inclusion, as well as the need for multiple definitions of physical literacy. The paper is a case study of the specific phenomenon of 'broadening student teachers' understandings of ability and disability in PE' as a necessary condition for preparing students to work in schools where full inclusion may not have been integral to PE policies, programs and practices.

## ARTICLE HISTORY

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## KEYWORDS

Physical education; inclusion; disability; pre-service teacher education; technology

## Summary for practitioners

This paper discusses a program modification in pre-service PE teacher education designed to interrupt misconceptions and to construct new understandings of 'dis'ability, to assist teacher education students in beginning to develop a philosophy of full inclusion, and to make physical literacy for all body shapes, sizes and abilities an explicit priority in their PE lesson and program planning. While this one intervention may or may not result in changed practice, the author argues that by explicitly using this intervention in pre-service PE classes that the possibility of future change exists. By partnering with the Canadian Paralympic Association and the Abilities Centre, 150 teacher education students during their pre-service year program experienced a unique one-day experience in inclusive PE.

Teacher education students first identified, then critically challenged their preconceptions about ability and disability, and began to develop new understandings of what is required and involved in pursuing full inclusion in PE. To contextualize this pre-service experience in relation to the 'cornerstones' of inclusive education identified above, the paper begins by explaining the scope and importance of the problem, then addresses, in turn, (a) critical challenges to traditional knowledge and curricula in PE and the perceived effectiveness of these curricula for differently abled individuals with respect to impacting attitudinal and psychological barriers to full inclusion; (b) PE teacher attitudes; (c) pre-service teacher preparation for inclusive PE and (d) arguments for the importance of understanding multiple definitions of physical literacy that accommodate all abilities. The paper concludes by challenging physical educators to critically reconsider normative notions of ability and to develop inclusive programs that are accessible to, and enjoyable for, all students (Tables 1–3).

## Introduction

This paper interrogates disability, PE and sport pedagogy from the standpoint of disability as a social construct. Arguing that significant changes in teacher practice require a critical reconceptualization of disability to stimulate new cognitive and affective perspectives on ability, inclusion and accessible PE, this paper describes one such intervention, reports on its impact on students' notions of ability and disability in PE, and concludes that critically addressing students' conceptions of disability, inclusion and accessibility, if not fully a sufficient condition, is at least a necessary condition for the transformation of educational theories and practices of inclusive PE.

## Background: nature and scope of the problem

Physical inactivity is the fourth leading cause of death worldwide ... Although evidence for the benefits of physical activity for health has been available since the 1950s, promotion to improve the health of populations has lagged in relation to the available evidence and has only recently developed an identifiable infrastructure, including efforts in planning, policy, leadership and advocacy, workforce training and development, and monitoring and surveillance. (Kohl et al., 2012, p. 294)

For two decades, American adults have reportedly been dissatisfied with their PE programs, and many have actually learned to dislike physical activity and movement experiences, becoming less confident and competent in their abilities to move well (Locke, 1992). Cairney et al. (2012), as well reported on a longitudinal survey on gender, perceived competence and enjoyment of PE, finding that:

previous research has consistently demonstrated that physical activity decreases during the transition from childhood to adolescence, with girls in particular showing significant declines in participation. There is no widely accepted explanation for this phenomenon; however, several authors have suggested that negative experiences in, and perceptions of, school-based physical education (PE) class may be an important factor in the decline in physical activity, particularly among girls. This decline occurs at the same time PE becomes an optional part of the curriculum in most school systems in North America. (p. 1)

**Table 1.** Sample prompting questions pre-visit.

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What has your experience been in the past working with disabled populations?
What is your concept of the difference between ability and disability in a PE setting?
What are your expectations for the day at the Abilities Centre?
Have you considered ways that you might need to adapt your lessons for differently abled populations?
What modifications and accommodations do you see in the Ministry of Ontario curriculum document for physical education?
Do you believe PE can be accessible and inclusive for all populations?
Do you believe that everyone can become physically literate and develop fundamental movement skills?

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**Table 2.** Sample prompting questions post-visit.

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What was your biggest 'aha' moment of the day?  
 Has your concept of ability and disability changed in any way? If so how?  
 What challenges or barriers do you see in your practicum placement for implementing fully inclusive PE lessons?  
 Do you know where you can get resources to assist you in planning and implementing inclusive PE?  
 Do you feel more confident and competent in designing inclusive and accessible PE lessons?  
 Has your notion of physical literacy and fundamental movement skills changed in any way? If so how?

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**Table 3.** Overall themes.

Pre-visit focus group themes	Videography themes	Post-visit focus group themes	Interview themes (25 students)
Self-consciousness around disabled individuals	Comparison of Abilities Centre facilities with their own schools	Increased sense of comfort with changing notions of ability and disability	Commitment to improving access for physically disabled individuals in PE classes
Concern for political correctness	Past experiences in PE negative for primary junior educators	Motivation increased to plan more inclusive PE classes	Curiosity about how to do this creatively and affordably given their own school situations
Openness to learning about ability vs. disability	Past experiences in PE positive for intermediate senior educators but an acknowledgement of privilege with athletic ability	Acknowledgement of the need to shift attitudes in schools	Role of leaders and whole school culture in making the physical building as well as the attitudes inclusive
Very little experience with disabled individuals	Increased awareness of the potential for full inclusion and learning 'together' rather than apart	Changing perspectives on how our expectations of students with perceived challenges can determine their eventual confidence in themselves	Significant learning and willingness to continue learning about how to build inclusive classes in physical education

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While this pandemic affects able-bodied individuals, the crisis is even further demonstrated by Rimmer and Marquez (2012) research indicating that:

There are more than a billion people with disabilities worldwide, many of whom face substantial barriers to participating in physical activity. Engaging in a healthy lifestyle with a disability can be a daunting task – physical activity generally requires elements of strength, endurance, balance, and coordination that are taken for granted. In people with disabilities, one or more physical attributes might be affected by disability, which limits access to sport, fitness, and work or household-related physical activity. (p. 193)

The need for inclusive programming and universal design in PE has never been more critical. Qi and Ha (2012) provided a comprehensive literature review analyzing empirical studies on inclusion in PE over the past 20 years. Their findings indicated several important points.

Data indicated that inclusion in PE does not affect the learning outcomes of students without disabilities ... However, students with disabilities experienced less motor engagement than their peers without disabilities. The findings of these studies also indicated that although students with disabilities can gain benefits from social interactions in inclusive PE, social isolation of students with disabilities also exists. (2012, p. 257)

Malina (2001) and Shephard and Trudeau (2000) stress that PE can have a legacy that shapes adult lifestyle, and Greenleaf, Boyer, and Petrie (2009) reiterate that the messages students receive in their early years in PE can have long lasting impact on their self-concept, as well as their perceptions and beliefs about their own physical literacy. How then do we advance inclusive programming that supports lifelong fitness for all?

Some of the requirements of inclusive programming can be illuminated by comparing social models of health to medical models. According to Fitzgerald,

contemporary understandings of disability are essentially founded on medical or social model perspectives. The medical model of disability centers concerns on the individual with the impairment and focuses on notions of abnormality and deficiency. In contrast, the social model supports the view that disability is socially constructed and that it is society that disables people with impairments. (2005, 44)

A key difference between these two models, according to Shelley, O'Hara, and Gregg (2010), is that the social model of health conceives of overall health as encompassing physical, emotional, social and spiritual health and well-being. It also includes elements that affect health directly that are out of an individual's control such as genetics, poverty and accessibility to health services. As well, the social model suggests a move away from a traditional focus on the body's appearance and/or performative abilities. The medical model, by contrast, is more focused on improving or changing the body, and 'fixing dis-ease' and bodily issues to fit to a normative notion of what is 'healthy', rather than acceptance that each body is different in size, shape and ability (Shelley et al., 2010).

While we know that policies are in place mandating inclusion in educational spheres, the evidence from practice seems to indicate that these policies often fall short of successful and widespread implementation (Haycock & Smith, 2011; Smith, 2004; Vickerman & Coates, 2009).

#### (a) **Traditional and 21C knowledge and curricula in physical education:**

First among the conditions that promote or prevent effective implementation is the matter of curriculum. Compared with traditional curriculum models, differentiated models of 'infusion-based curriculum' (Kozub, Sherblom, & Perry, 1999) are designed to accommodate diverse learners. This model encourages and supports learners in changing attitudes to inclusion comprehensively and systematically. Fitzgerald (2012) warns us that that:

although inclusion has become a common discourse and the 'fashionable phrase' (Barrow, 2001, p. 237) within education policy and practice, it is worth remembering that there still remains much debate and discussion between practitioners and scholars about what constitutes inclusion and effective inclusive practice. (Fitzgerald, 2012, p. 444)

There is broad agreement that if it is to support its goals of fully inclusive and accessible physical and health education, 21C PE can work towards an emphasis on inclusion, social justice and more holistic approaches to health. To accomplish these broad goals, educators versed in new assistive technologies and who seek out partnerships with fully inclusive recreational facilities can create effective programs, and transformative experiences, for teacher education and development.

Furthermore, Haycock and Smith (2011, p. 507) point out that currently the trend towards 'including' disabled pupils 'has not radically altered the organization, delivery or content of PE, which, according to PE teachers, continues to be heavily dominated by competitive team sports that retain a strong emphasis on performance, excellence and skills'. Bailey (2005, p. 78) states that 'it is worth noting that some children and young people within society seem to be relatively disadvantaged in terms of levels of sporting participation and are also more generally at risk of exclusion'.

If not addressed by new generations of PE teachers empowered by curricula that encourage and assist them in developing inclusive and accessible programs of physical activity, 21C PE is likely to fall even further behind.

#### (b) **Understanding teacher attitudes to ability and disability in physical education:**

Even where policies to support accessibility are in place, it is often at the level of implementation where programs fall short, and teacher attitudes and expectations of students and their diverse abilities is a key piece of the problem. Fitzgerald and Kirk argue that although we are currently in an era where:

inclusion is vigorously promoted as a key educational policy objective of governments, the physical exclusion of many pupils from several aspects of physical education programs and the existence of different kinds of provision may be reinforcing negative differences between disabled and non-disabled students (Fitzgerald & Kirk, 2009, p. 96).

Inclusion in practice is particularly demanding, and its complexity has too often been a reason for avoiding the issue. Material and economic conditions inevitably shape practitioners' enthusiasm for educational change: developing and implementing more inclusive practices can require

equipment that may not be readily available or even be completely inaccessible due to resource and funding constraints (Ko & Boswell, 2013). Educators will typically need to be creative in designing multiple ways to adapt equipment they already have to meet widely diverse student needs. To do this effectively, teachers' (and students' and parents') attitudes and expectations will have to change in terms not only of their conceptions of what is doable and available, but more importantly, their understandings of what is possible. Physical educators can design modifications and accommodations to suit individual students' needs by differentiating their lessons, and broadening their learning outcomes to make lesson objectives achievable by students with a range of abilities. Environments, too, can change to support inclusion, whether by adjusting boundaries, aligning equipment heights and distances, or making sure to use brightly colored and audio equipped targets (Ko & Boswell, 2013).

One sometimes overlooked element in transforming expectations and attitudes towards inclusion is technological: a broad spectrum of technologies, including prosthetic limbs, wearable technology devices such as accelerometers, pedometers, and easily accessible devices to track heart rate and other physical parameters are capable of radically reshaping performance expectations which in turn promotes attitudinal change. Looking forward, researchers are currently working on designing prosthetic limbs to perform specific high-dexterity tasks, such as playing the cello (Hofmann, Harris, Hudson, & Mankoff, 2016); others are trying to develop implantable micro-electrodes that use cortical motor neurons in more effective ways to move prosthetics and improve movement (Price, Burgess, & Kastellorizios, 2016). Brain controlled interfaces that activate motor neurons are currently being researched (Schwartz, 2015). As this technology advances, the opportunity for full inclusion increases, and realistic expectations can expand accordingly, as technology becomes designed for specific individual needs and tasks, and makes fundamental movement skills more accessible for all.

The thing is that people need to know more about what is and might become possible, something that is greatly dependent upon expectations and attitudes. Awareness of the need for physical environments designed to accommodate both able-bodied individuals and those with disabilities is key. Facilities such as the Abilities Centre are not exclusively for disabled individuals, but for full inclusion, and their philosophy is that people learn better by being together and integrated rather than being apart.

The Abilities Centre, accordingly, provides access to leading edge assistive technology, including fitness equipment that is accessible and new systems for controlling music and art that do not require keyboard access, but use head movements or other small muscle groups to control the environment. The architectural structure of the building includes as wider hallways and doorways, ramps, colored walls and textured floors for individuals with visual impairments. This is a facility designed to integrate people in a welcoming, positive environment that does not label deficiencies, but accepts and celebrates differences. A recent research study at the facility emphasized that 'advancement of inclusion is facilitated by social constructionist perspectives that posit disability as a social phenomenon, produced by attitudes and constraints in unaccommodating environments, rather than pathology that is the problem of individuals' (Zitzelsberber & Leo, 2016, p. 65).

### (c) **Physical education teacher preparation:**

As an educator of PE pre-service teachers, it is both amazing and disturbing to note that in five years there has not been a single candidate with a physical disability enter our university teacher preparation program. Whether the barriers are societal, visible or invisible, there is an unstated expectation that individuals with physical limitations do not become PE teachers or coaches. This in itself speaks to the need for greater awareness of inclusion and a redefinition of ability. As Evans reminds us, we need to consider carefully 'What abilities are recognized, valued, nurtured and accepted, while others are rejected by whom, where and why in schools?' (2004, p. 177). Individuals who desire to become PE teachers are often very physically literate. Whitehead (2001), writing on physical literacy, defines a physically literate individual as

a person that moves with poise, economy and confidence in a wide variety of physically challenging situations. In addition, the individual is perceptive in 'reading' all aspects of the physical environment, anticipating movement needs or possibilities and responding appropriately to these, with intelligence and imagination. Physical literacy requires a holistic engagement that encompasses physical capacities embedded in perceptions, experience, memory, anticipation and decision-making. (2001, p. 136)

Our physically literate students begin their teacher education journey with confidence and competence in their physical abilities. It is natural that individuals pursue professions in which they have skill, passion and aptitude, and so the trajectory of athletes becoming PE teachers makes sense at first glance. Having had a great deal of success in their own sporting experiences, and body types culturally accepted as attractive, physically fit or able-bodied, they fit well to normative conceptions of fitness, strength and health. These individuals often enter teacher education believing that their role is to help their students become more like themselves, or more like the cultural ideals of body perfection. However, while they bring competence and confidence, it is of equal importance that these would-be teachers cultivate empathy and compassion. The challenge for them will not be teaching the athletes, it will be gently inviting the vast majority of students for whom movement experiences have not been positive, and who often drop PE at the first opportunity. The veritable art of the profession of teaching PE is in making an impact on those for whom PE has had negative or unpleasant outcomes. New teachers can learn to make PE experiences enjoyable, accessible, inviting and accepting. Kozub, Sherblom, and Perry argue for modeling inclusive paradigms in pre-service teacher education. They state that:

pre-service education in adapted physical education is related to how physical educators view learners with unique motor and/or interest needs. And how teacher education programs can provide pre-service physical educators with the necessary training to facilitate acceptance of learner diversity (1999, p. 350).

By learning this lesson in their pre-service year, new teachers have at least the groundwork for developing an awareness of inclusion that can have a direct effect on the lessons they design and implement. It is important to acknowledge that there is much literature indicating a gap between pre-service theory and practical implementation (Mawer, 2014). In PE,

there is a danger that the results of such early observation of one's own PE teachers may be so persistent that formal training is unable to alter images and beliefs about teaching already learned ... such a view of teaching is therefore based on intuition and imitation of personalities rather than pedagogical principles. (Mawer, 2014, p. 4)

More optimistically, Allen and Wright (2014) studied the integration of theory and practices in pre-service teacher education practicum placements, finding 'participants overwhelmingly supported the notion of linking university coursework assessment to the practicum as a means of bridging the gap between, on the one hand, university and the school, and, on the other hand, theory and practice' (Allen & Wright, 2014, p. 136).

#### (d) **Re thinking our approach: towards an understanding of physical literacy:**

Whitehead, who is widely known for her early work on physical literacy (2001), proposes that in imagining the concept of Physical Literacy, she asks several questions:

What is the range of physical capacities that would enable individual persons to make the most of their embodied dimension; enable them to interact with the world and to awaken the huge wealth of potential capacities; help them to become richer persons both in themselves and in respect of that which they know about the world? (2001, p. 130)

She raises some key issues given that the:

concept of physical literacy is not straightforward and there are a number of questions that need to be answers. Firstly, is the concept universal, or is it culturally grounded? Secondly, is the concept age-related? Thirdly, where do the physically challenged fit in? (2001, p. 130)

The opportunity to develop physical literacy, as it relates to achieving individual potential, can be made available to all students in PE, regardless of body size, shape, ability or skill. Tremblay and Lloyd (2010) argue that the measurement of physical literacy is equally important to the measurement of literacy and numeracy in school education. On this view, if literacy and numeracy are key elements of a child's education, then physical literacy and the right to good PE, health and well-being may be no less integral. If able and disabled students deserve the right to participate fully in PE classes, then multiple approaches to physical literacy should be available for differently abled students. Whitehead explains that:

The issue of the physically challenged is complex. At this stage it could be clearer to focus on the concept of physical literacy on making the best use of what could be described as the full range of human embodied capacities in interaction with the world. It could be the case that this same principle should be used for those with a different or restricted cluster of capacities. (Whitehead, 2001, p. 131)

So seen, physical literacy is a central element to PE classes (Higgs, 2005), one that can have significant impact on self-image, self-esteem and the development of a positive sense of self (Higgs, 2005; Whitehead, 2001). It is incumbent on teacher educators to prepare new teachers in ways that allow them to see their students through a lens of ability, designing and implementing PE that embraces the possibility for all students to become more physically literate.

Clearly, new approaches to pre-service teacher education can enable aspiring PE teachers to begin their careers with positive attitudes towards accessible PE. This calls for access to resources, training and experiences in optimally integrated environments to enable them to experience sound implementation strategies for maximal inclusion in PE. What follows is a report of efforts to provide a day-long experience for pre-service PE teacher candidates in a world class fully accessible facility as part of their teacher education year.

## Description of the program modification

This was a qualitative examination of student teachers' perceptions of inclusive PE. One hundred and fifty pre-service teachers were invited as they were all taking a required course in PE. As part of their course, they participated in a one-day specialized program at a world-renowned facility focused on full accessibility and inclusive physical activity. The 'Abilities Centre' is considered an international leader in fully accessible facilities hosting lifestyle labs, music, art and social activities. This unique facility integrates an active lifestyle through social interaction and full integration of able-bodied and disabled individuals, both as staff members and community participants. As a recent host of the Para Pan Am games, they have been advocates for fully accessible physical activity since their inception.

The central research questions were: (1) How does an intervention during the pre-service year in PE impact beginning teachers' attitudes towards inclusion? (2) In what specific ways do teacher education students' perceptions of ability and disability change? and (3) How do these students' reflections on their own PE lesson planning enable inclusion of a diverse range of physical abilities?

Teacher education students spent one 3-hour class prior to the visit reading literature on ability, disability, special education and inclusion in PE. The 150 students were across three sections of 50 teacher education students, each with a 3-hour session on inclusion. These groups of 50 (10 groups of 5) had time to discuss their preconceptions of disability, and personal experiences with special needs populations. Students were provided with prompting questions for their focus groups (included below). Each focus group provided a list of their collective insights and summary of their discussion to the researcher. Their experiences with disability ranged from no experience to volunteer experience in summer jobs at special needs facilities such as physical rehabilitation centers in Toronto, ON.

Teacher education students then spent one day at the Abilities Centre, which included a detailed tour of the facility and its technological and environmental capacities, as well as interaction with



abled and disabled staff. Next they participated in 2 hours of para sport including wheelchair basketball and rugby, goal ball, bocci and seated volleyball.

Finally, the day ended with a 1-hour presentation by a Paralympian sponsored by the Canadian Paralympic Committee. At the end of the day, students were reminded of the prompting questions they had discussed in their small focus groups prior to attending the program. Students were invited to share their reflections about what they had learned in a video that was produced in the weeks following the visit to the Abilities Centre.

**Methodology:** This qualitative examination of student teachers' perceptions of inclusive PE included pre- and post-focus groups, videography of student reflections and individual interviews. The case study is an acceptable methodology as it allows researchers to study individual phenomenon, in this case the teacher education students' perceptions and reactions pre and post a visit to a fully inclusive PE facility. Research Ethics Board approval (REB # 11-066) was obtained and consent forms signed.

*Participants:* Teacher education students enrolled in a pre-service PE class participated as part of their required course. Students had the right to withdraw at any time and alternative course work would have been provided for those who chose not to participate. All teacher candidates participated. Demographics of the group among the 150 participants were 90 female and 60 male students in their pre-service Bachelor of Education year.

### ***Phase 1: focus group discussion pre-visit***

Participants engaged in a 2-hour focus group discussion during class pre-visit in small groups of 25–30 to promote interaction and conversation. First, participants were asked to reflect in class using pre-visit prompting questions below and read literature on conceptions of ability and disability. In small groups, they examined their current notions of ability, disability and inclusion prior to attending the intervention session.

### ***Phase 2: videography of the intervention – reflections and interviews***

A day-long visit to the Abilities Centre followed with a varied program including a tour of the facility, interaction with abled and disabled staff, participation in various para sports including wheelchair basketball, goal ball, seated volleyball and boccia. During the visit, students' reflections about their participation at the Abilities Centre were videoed as was their participation in the activities during the day. Videographers from the teaching and learning center compiled the data along with the researcher to produce a short documentary. Student reflections from the documentary were then coded using blind review by two research assistants through qualitative methodology. Participants had the opportunity to engage in individual interviews as part of the documentary. Twenty-five students decided to offer their time for individual interviews. Participants also had the right to withdraw any video footage of themselves prior to release of the final documentary (YouTube link below). Finally, raw data from student reflections was stored on a secure password protected university server.

### ***Phase 3: focus group discussion post-visit***

Participants engaged in a 2-hour focus group discussion during class post-visit in small groups of 25–30 to encourage interaction and conversation. Participants were asked to reflect in class using post-visit questions below students who had not had a chance to video their comments and reflections or participate in interviews with the researcher were given an additional opportunity to do so on that day.

Paralympian Presentation to teacher education students can be viewed at the link here, sponsored and supported by 'Changing Minds Changing Lives – Canadian Paralympic Committee' <https://www.youtube.com/watch?v=leDBpq1OeG8&feature=youtu.be>.

## Data collection

Data was collected in four ways.

- (1) First, we recorded the discussions of the pre-visit focus group questions in class using audio recordings. These were then transcribed by a research assistant and then coded by the researcher for themes.
- (2) Teacher education students also had the opportunity to use chat rooms in adobe connect and Blackboard LMS to record their comments.
- (3) Next, we videoed the students during the day at the Abilities Centre. Links to video data are included below.
- (4) Finally, we audio recorded students' comments of the post-visit focus group questions held in class the week after the visit. These were transcribed and coded by the research assistant.

## Video data

Video data is a new and engaging method of obtaining kinesthetic data that may not be available by other means such as questionnaires and temporally delayed surveys. Video analysis allows us to attend to the conditions and real-life moments of bodies in motion. Although not yet a readily accepted method of data collection, this research suggests that videography allows real-time analysis of the elements of health that are difficult to capture on paper. What follows is an example of how video collection of real-time data can be effective and meaningful.

*Teacher candidate reflections from the Abilities Centre:*

<https://www.youtube.com/watch?v=L1DgS9bgWml&feature=youtu.be>

*Teacher candidate year end reflections – new views on ability:*

<https://www.youtube.com/watch?v=-bT5oBWgwnA&feature=youtu.be>

## Analysis of teacher education students' perceptions

While it is important to note that a one-day intervention may or may not have a long lasting impact on how a new teacher develops his/her lessons, this research indicates that it can at least open the door to changing minds and lives. By planting the seed early on, we believe that thoughts of inclusion can begin to permeate a new teacher's attitudes and philosophy. Participants' perceptions of physical literacy were initially viewed through a lens of ability, and many commented that they were beginning to see alternative models of physical literacy. In several individual reflections, students indicated that their previous idea of physical literacy did not include aspects of aging, cultural background or physical challenges. Prior to the intervention, the students had very little experience working with or volunteering with disabled individuals. Only one student had a part time job at the Abilities Centre and so her pre-visit comments demonstrated greater awareness of notions of dis-ability and she showed a willingness to plan for inclusion in all of her lessons. However, as pre-service teachers, they demonstrated willingness to learn about how to become more open and inclusive in practice. Although it is interesting to note that there were no disabled students in the program, it was a point of discussion that students remarked about, indicating that perhaps early on they had learned those with ability take PE and those with disability did not. Following the day at the Abilities Centre, students indicated greater openness to consider inclusion and accessibility in their placement teaching. While we acknowledge that one time professional development rarely results in long term change of practice, this intervention is a step in the right direction.

## Discussion: reframing inclusive PE

Vickerman and Coates (2009) write that 'Inclusion is not a prescriptive set of expectations, but more-over it rests upon creativity, flexibility and responsiveness to the meeting of the needs of individual

pupils' (p. 150). Much work needs to be done to better understand what fully inclusive PE can, and should, look like. While policies are in place, implementation lags far behind. Fitzgerald, Jobling, and Kirk (2003) states that:

the concern remains that these programs and the principles underpinning them have not permeated extensively through the PE and sports community. Consequently, many sports providers have been criticized for failing to translate policy and plans into tangible opportunities that are indeed equitable. Young disabled people participate less and undertake a narrower range of PE and sports activities than their non-disabled peers. (2003, 176)

Schools and teachers are learning to challenge normative definitions of ability and disability. It is clear from the anecdotal narratives of Paralympian Tracy Schmitt that it was her teachers' and school's expectations that determined what constituted standards for inclusion. It is imperative that we educate future teachers to be open minded, have broad definitions of ability and also be skilled at differentiating learning goals, success criteria and activities, while using diverse ways to assess them. Kozub et al. (1999) discuss new curricular models that are 'infusion-based' (1999, p. 352). Rizzo, Broadhead, and Kowalski (1997) set out three principles of infusion-based curriculum for adapted PE including 'altering unfavorable attitudes, learning through experience and critical reflection by pre-service teachers' (Rizzo et al., 1997 in Kozub et al., 1999, 350). The program modification that was the focus of our study addressed all three of these principles. First, we attempted to alter preconceptions and attitudes of pre-service teachers related to disability and PE. Second, we provided hands on experiential learning by allowing the teacher candidates to experience adapted wheelchair sport and to interact with members and staff at the Abilities Centre who had a diverse range of disabilities. Third, we asked pre-service teacher candidates to reflect on video about their experiences, to critically look at their own approaches to inclusion, and we challenged them to move towards attitudes of full accessibility in their physical and health education pedagogy.

Teacher candidate responses indicated profound changes in perspective on each of these three areas. First, the majority of teacher candidates indicated that they did not have significant personal experience in working with students with disabilities and they expressed a lack of confidence to do so effectively. They perceived that they would need extensive special training to make an impact, and many decided to pursue further training. However, they soon realized that a shift in their attitude about inclusion was the most important factor. There was a significant change in their confidence as they realized that being open, including the disabled students' voices in the process was a major step forward to inclusive programming. They did not have to 'know it all', in fact they were more effective when they engaged with the individuals and learned about their disabilities and what would be most useful for them. Second, the affective response to interacting with a Paralympian had a powerful impact on these pre-service teachers. Many of them commented on the achievements that Paralympians can attain, hiking in Nepal, sailing world class competitions and more. Finally, video reflections indicated that the intervention at the Abilities Centre helped them become more open to integrating differently abled students in class. By undertaking activities that disabled all players, such as blind volleyball, teacher candidates felt some of the affective and emotional impact of being physically active without all of their normal senses.

Overall, this initiative was viewed by pre-service teachers as one of many pivotal activities and lessons they had experienced in their year at the faculty. Bringing real world best practices to bear on the issue of inclusion, appeared to help them reconfigure their own notions of ability, and opened their minds and hearts to new ways of delivering and implementing inclusive PE.

## Conclusion

PE can play a powerful role in society, and the ways in which we define ability and disability can either create barriers or break them down. Fitzgerald (2005) challenges dominant notions of ability and the normative ideals of physical performance that are at the basis of many PE programs. She states:

Although recent developments relating to adapted programs would seem to provide the much-needed solution physical education teachers are looking for to enhance their work with disabled pupils, the contributions and inroads these kinds of programs can make towards rearticulating conceptions of ability seem minimal. Indeed, it would be a mistake to think these arbitrary and essentially superficial remedies mediate in any way to disrupt the deep-seated normalized physical education habitus evident in schools. We should perhaps look beyond strategies of adaptation and instead begin to question dominant conceptions of ability embedded through the physical education habitus. By doing this, articulations of ability need to be recast and understood in ways that extend beyond narrowly defined measures of performance and normative conceptions of what it is to have a sporting body. (2005, p. 55)

This paper has articulated an important problem based on a theoretical framework of definitions of ability and disability as viewed through the lenses social models or medical models. In turn, we were able to address the four primary areas of (a) critical challenges in traditional curricula, (b) attitudinal and psychological barriers to inclusion, (c) pre-service teacher preparation and (d) multiple approaches to physical literacy. Responses to the central research questions indicated that (1) pre-service interventions can begin to change attitudes to inclusion, (2) students specifically began to re-define ability and dis-ability from a different lens and (3) it was unclear if longitudinal changes in practice and lesson planning would occur so further research is warranted.

Our first research question examined how this intervention during the pre-service year changed attitudes towards inclusion. Based on student responses, and on analyses of video data, it appears that this relatively minor modification in their pre-service PE programming enabled students to reconfigure their preconceptions and definitions of ability, and to reconstruct their own professional model of ability that includes *all* students. At this early stage of their careers, teacher education students are developing a personal philosophy of PE, and this project suggests that their philosophy can be shaped to include fully accessible PE. Each teacher candidate arrives to a faculty of education with pre-conceived notions of ability and disability, and it is incumbent upon teacher educators to provide a broad range of physical experiences to enable teacher candidates to develop approaches that emphasize diversity, inclusion and accessibility. The second research question involved identifying some specific ways teacher candidates' perceptions of ability and disability changed. We found that more teacher candidates, as evidenced by their comments in focus groups and on video reflection indicated that they first recognized their preconceptions, and then began to challenge them. Pre-service teachers started to develop more diverse understandings of physical literacy, and to be more open to understanding how a rich variety of movement experiences can open doors to accessibility and full participation. Our third question involved challenging students to reflect on how they might adjust their own planning for PE lessons. Since lesson planning is already a new skill for pre-service teachers, there was less impact in this area. While they demonstrated the intent to be inclusive, they did not have the breadth of teaching experience or resources to draw upon, and we suggest that with greater competence and confidence as their planning skills improved they would integrate inclusive activities more successfully.

Many challenges arise, especially when physical educators continue to battle against the marginalization of PE as a subject. Bailey attests that policy-makers may 'fail to come to terms with fundamental concerns like insufficient teacher training, marginalized curriculum position and reducing (PE) time during the school day ... their ultimate success is limited' (2005, p. 78). He further reiterates that while 'school physical education might seem to be an ideal remedy to such sedentary lifestyles, curriculum physical education is at risk of increased marginalization during the school day' (2005, p. 77).

Future directions for work include examining assessment and evaluation policies and practices in PE. In traditional approaches to PE, assessment has often been based on skill, performance or competence, using standards designed for able-bodied students. New directions for inclusive assessment will include grading on improvement, individual goals and differentiated learning outcomes (Arem, 2009). Multiple learning outcomes, and diverse methods to assess and evaluate students' physical literacy are key conditions for success. Student voices can be included in the assessment process, for Fitzgerald states we need to articulate to physical educators and program providers that 'students

have worthwhile and valuable insights that should be listened to and jointly acted upon' (2012, p. 194). She advocates for the role that student-centered research can play in future work on disabled students' experiences of PE.

This paper articulates the need to facilitate the development of a new generation of physical educators who can transform traditional PE programs to be more effective for all students, regardless of physical skill, ability or disability. This paper argues that program modifications such as the one described here can have an impact in shaping teacher education students' philosophies, and future research will delineate how this can be used as specific learning outcomes for teacher candidates. This will entail defining and clearly describing teaching strategies for PE that are inclusive, as well as providing specific evidence of planning and implementation of universal design in PE.

More optimistically, Fitzgerald et al. (2003) note that when children are provided with inclusive opportunities in PE the benefits are highly evident. 'Children identify positive experiences when PE teachers and classmates are welcoming and support them in being included (Goodwin and Watkinson, 2000)' (Vickerman, 2012, p. 252). It appears that the entire community, not just the physical educator, need to open their minds to new definitions of ability and inclusion. Future research may also entail initiatives to increase the awareness of able-bodied peers in PE classes. In this work, many teacher candidates indicated that they would bring their able-bodied students to experience wheelchair sports as a method to build class community, understanding, respect and empathy. This, in itself, indicates a shift in philosophy of new teachers, who are beginning their careers with a solid foundation of the Abilities Centre values: that 'we learn how to relate to one another not by being separated, but by being together'. Clearly, moving towards inclusion is a challenging journey. As Whitehead (2001) states,

given the commitment that Physical Literacy is not a discrete bodily end in itself, but a capacity through which we can come to know ourselves and the world more fully, this aspect – the environmental situations with which an individual should be able to interact becomes central to the debate. (2001, p. 134)

This research provides a first step in challenging PE teacher candidates to create a vision of inclusive and accessible PE. It pushes them to acknowledge, appreciate and fully accept the great responsibility that PE teachers have to provide accessible sport and joyful movement experiences for all students.

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