

**Ministerial Advisory Committee:
Students with Disabilities**

PHYSICAL EDUCATION and PHYSICAL ACTIVITY

**Opportunities for
Students with a
Disability**

June 2010



**Government
of South Australia**

A report by the
Ministerial Advisory Committee:
Students with Disabilities
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Written by Dr Helen McLaren
Project Officer: Research

Edited by Ms Christel Butcher
Executive Officer

Cover Photo by Carla McLaren

Foreword

On behalf of the former Minister for Education, the Ministerial Advisory Committee: Students with Disabilities conducted research regarding students with a disability and physical education (PE) in schools in South Australia. The study was guided by a project group of parents and professionals involved in disability, education and physical activity.

The study was undertaken over four phases: surveying of South Australian schools across the three education sectors for demographic data on PE professionals; written questionnaires by PE professionals on participation opportunities available to students with a disability in PE, physical activity and sport, including teaching practices, perceptions and collaborative activities enabling opportunities; interviews with PE teachers to identify exemplars of inclusivity in teaching PE or with engaging students with a disability in appropriate physical activity, and; review of public information on community opportunities for students with a disability to participate in physical activity, active recreation and sport.

The report presents findings from the surveys, questionnaires, interviews and the identification of community opportunities, along with an overview of empirical findings from other research on perceptions about inclusive PE. Also detailed are the legislation and education standards that guide practice and which is aimed to enable opportunities for students with a disability to participate in PE, physical activity and sport. The findings are accompanied by a discussion, which includes a number of considerations for future direction.

Gratitude is extended to all those who contributed to this report, including the members of the project group, and staff of the Ministerial Advisory Committee: Students with Disabilities secretariat. Acknowledgement is extended to Fiona Snodgrass for project design and implementation.

This report is commended to the Minister.

Margaret Wallace

Chairperson
Ministerial Advisory Committee:
Students with Disabilities

Pam Jacobs

Chairperson
Physical Education and
Physical Activity Project Group

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Executive Summary

This is a report by the Ministerial Advisory Committee: Students with Disabilities. It presents the findings of a project undertaken to investigate the opportunities available to students with a disability to participate in physical education (PE) and physical activity. The project was undertaken at the request of the former Minister for Education. It contributes to the ongoing commitment of the South Australian Government to deliver quality services to students with a disability during their school years.

The purpose of the project was to investigate the opportunities available to South Australian students with a disability to participate in PE and physical activity. In doing so, information was sought on:

- the actual participation of students with a disability in PE, school sporting activities and community based physical activities
- the choices, opportunities and barriers for students with a disability to participate in mainstream PE and other physical activities as a result of:
 - PE professionals' perceptions about the inclusion of students with a disability¹
 - PE professionals' disability knowledge and collaborative relationships with disability organisations and disability sporting or active recreation groups
 - PE professionals' inclusion practices, including through the use of adaptations, pro-active risk management and learner-centred teaching approaches to ensure inclusion
- practice exemplars that demonstrated success with facilitating opportunities for students with a disability to participate physically in school and community life.

A multi-stage process of inquiry that utilised a mixed quantitative and qualitative methodology was employed. This included:

- a review of research literature on disability, health and inclusive PE education

¹ The term 'PE professionals' is inclusive of health and PE coordinators; specialist PE teachers; sports coordinators, teachers responsible for PE and dance teachers.

- a demographic survey of PE professionals in primary schools
- a review of publicly available information on community based disability sport and active recreation
- a teacher questionnaire on students with a disability's participation in school and community activity, disability knowledge, professional training and collaborative activities
- interviews with PE professionals about their inclusion practices and practice exemplars.

In this report, relevant sections of legislation, policies and conventions on the inclusion of students with a disability in PE are presented. Past research about PE professionals' and tertiary educators' attitudes on inclusion are cited, which includes the influence of attitude on the successful implementation of inclusion policy and practices. In particular, it is highlighted that a focus on disability during pre-service teacher education is cited in research as the most consistent variable having a positive influence on PE teachers' attitudes towards inclusivity.

At the time of writing this report, a brief review of the PE teaching course syllabus at South Australia's three universities was conducted. Indications were that a focus on disability in pre-service PE teaching was either negligible or non-existent. Nor was PE for students with a disability adequately addressed in mainstream teaching degrees, from early childhood to senior school teaching. This was concerning, particularly when approximately 73 per cent of primary schools in South Australia employed at least one PE professional and all schools with a secondary component were believed to have PE professionals. All schools have students with a disability and PE professionals will have students with a disability in their classes.

Ninety three per cent of the PE professionals, participating in the current research, indicated that their students with a disability participated in physical activity at least once per week. The nature of participation was variable and it included physical engagement in lessons, during break times and when attending after school programs. It was suggested that many students with a disability were not directly encouraged to be active, but that they were free to engage themselves in activities available to all students during unstructured free play times. The majority of students with a disability who did participate in PE and structured physical activity lessons did so via a combination of modified and non-modified programs. Few students with a disability were known to engage in sport and active recreation activities outside of their schools.

According to the current research, the vast majority of PE professionals surveyed for this report did not regularly access training and professional development activities on disability. In addition, the majority had not heard of the many disability organisations and disability sporting groups in South Australia with which to seek support, foster collaborations or to promote physical activity to students with a disability in their communities. When asked to state what would help to teach students with a disability in PE,

many participants did not respond or provided that they did not know what was available to them or stated, for example, 'anything would be useful'. The participants who offered responses to what would help them to teach students with a disability in PE advised that practical ideas about how to include students with specific disabilities were needed in relation to particular physical activities.

Four main barriers to the participation of students with a disability in PE were identified in the current research. They included resourcing (financial and infrastructure), staff training, disability awareness and the motivation of students with a disability.

The perception of barriers and how to include students with a disability in PE, no matter what, may well be associated with teachers' perceptions and confidences to engage inclusive teaching in PE. In particular, the PE professionals surveyed exposed some difficulty with the application of 'learner-centred' education theories in the context of PE and physical activity.

PE professionals advised that limited opportunities were available for them to share their knowledge and ideas about inclusive PE teaching. For those PE professionals who were part of a PE faculty and who had the support of their colleagues, the sharing of successful practices beyond their worksites rarely took place. Hence, an integral part of this report is to present a range of ideas and innovations for teaching inclusive PE settings, together with the research findings. These ideas, and other practice innovations, are provided in a sub-section of the literature reviewed and as practice exemplars extracted from the research interviews with PE professionals.

The research literature reviewed indicated that the efficacy and confidence of PE teachers to include students with a disability in PE increased with training. This was confirmed by the PE professionals interviewed; who expressed that professional development activity on disability not only increased their confidence but also their ability to innovate strategies for inclusion. In reflection of their pre-service teacher training, they expressed disappointment that similar opportunities to develop their disability knowledge were not available. In consideration of the research literature and the current research findings, there is a critical need for appropriate pre-service PE teacher training and professional development activities on disability, on inclusion and on inclusive PE teaching.

Many would argue that the obesity trends for children in Australia have a direct relationship with children's physical lifestyles. It is also well known that people with a disability are often less active, significantly more likely to be obese and have lower health status than the general population. Disability or not, research has indicated that healthy and active habits need to be established during school years to be sustained into adulthood. In consideration, increasing opportunities for students with a disability to be active—to participate in PE, school sporting activities and active recreation in the community—should be encouraged.

Findings from literature cited and the current research support the building of a workforce of PE professionals who have the knowledge and skills to provide opportunities to students with a disability to be active. To this end, this report presents an overview of available community programs and supports for the inclusion of students with a disability in physical activity and sport (see Appendix 6). Together with the ideas and innovations from literature, and from PE professionals who participated in the current research, it is hoped that discussion on inclusive teaching practices amongst PE professionals may be stimulated across the three education sectors.

Finally, it is hoped that this report will generate a keener interest in equipping pre-service PE teachers with disability knowledge, as well as the inclusive teaching practices that are necessary for increasing the opportunities for students with a disability to enjoy healthy and active lifestyles during their school years.

Recommendations

Based on the findings of this study, the Ministerial Advisory Committee: Students with Disabilities presents the following recommendations:

1. that a copy of this report is provided for consideration to –
 - the Minister for Employment, Training and Further Education
 - the Deans of Education at South Australia's three universities: The Adelaide University, Flinders University and University of South Australia
 - the Chief Executive Officers of the three education sectors (Government, Catholic and Independent)
2. that this report is publicly available via the website of the Ministerial Advisory Committee: Students with Disabilities.

Introduction

The inclusion of Australian students with a disability in mainstream education is reflected in worldwide trends; it is legislated and it has influenced educational policies. In particular, Australia's ratification of the Convention on the Rights of Persons with Disabilities in 2008 (United Nations, 2006) has required the Australian Government at all levels to "ensure an inclusive education system" with a view to realising students with a disability's rights to:

- (a) *The full development of human potential and sense of dignity and self-worth, and the strengthening of respect for human rights, fundamental freedoms and human diversity;*
- (b) *The development by persons with disabilities of their personality, talents and creativity, as well as their mental and physical abilities, to their fullest potential;*
- (c) *Enabling persons with disabilities to participate effectively in a free society.*

(United Nations, 2006, Article 24)

In relation to disability, this report has adopted internationally accepted definitions of disability:

... those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others in society.

(United Nations, 2006, Article 1)

Approximately 3.9 million (20%) Australians had some form of disability, according to Australia's most recent survey on 'Disability, Ageing and Carers' (Australian Bureau of Statistics (ABS), 2004). In another survey, according to the Australian Institute of Health and Welfare (AIHW, 2008), people with a disability were most likely to experience inequitable social and health outcomes as a result of lower participation rates in community life.

Physical activity and participation in sporting and active recreation activities, as a part of community (civic) life, is widely recognised as important for social development and for physical health. Based on

experience and available scientific evidence, the World Health Organisation (WHO), proposed that:

Available experience and scientific evidence show that regular physical activity provides people, male and female, of all ages and conditions - including disabilities – with a wide range of physical, social and mental health benefits.

(WHO, 2003)

Research suggested that healthy habits, which includes engaging in appropriate physical activity and sports, need to be developed during childhood to ensure a higher likelihood of being sustained throughout adulthood (Kim, 2008). In order to contribute towards students with a disability's active futures, Schleien and Ray (1997) suggested that opportunities not only need to be available to students with a disability to participate in activity, but also transition planning was necessary from school based physical activity into adult sport and recreation opportunities.

The Office for Recreation and Sport (ORS, 2006) concluded, from ABS General Social Survey (2007) data, that "individuals with a disability were almost 50 per cent less likely to participate in sport or active recreation than individuals with no disability" and "those with an 'intellectual' or 'psychological' disability were least likely to participate in sport or active recreation compared to other types of disabilities" (ORS, 2006). According to ORS (2006) data, on average South Australians with a disability appeared less active than the Australian average for people with a disability.

In relation to children², Svensson (2005) reported that "children with physical disabilities have low levels of physical activity participation" (p. 143). Many other researchers suggested that children with intellectual disability engaged more often in sedentary and other obesity related behaviours (Bell & Bhate, 2008; Bertelli et al., 2009; Conod & Servais, 2008; Ells et al., 2006; Emerson, 2009; Murphy et al., 2005; Rimmer & Yamaki, 2006; Salvador-Carulla et al., 2008; Stewart et al., 2009). With relevance, Packer et al. (2006) examined the type, frequency and duration of physical and sedentary activity performed by children and adolescents with a disability in Western Australia and reported their major finding "that children with a disability rarely participate in organised sport outside of school hours" (p. ii).

When looking at adult and children's participation rates, questions may arise as to why children with a disability, on the surface, appear to be considerably less active than adults with a disability. The answer may well be that the relatively large numbers of adults with a disability represented in

² The term 'children', which includes students, has been used in accordance with the language of the literature cited.

research data include those with later onset disability, who had active habits established long before developing a disability—not necessarily adults who already had a disability as children.

In order to guide the focus of any educational intervention, the current research explored the opportunities currently available in mainstream schools for students with a disability concerning physical activity and participation, as well as the ways in which various people and organisations may operate and/or link together to make available those opportunities.

It is hoped that this report may contribute towards enabling the development of persons with a disability to reach their fullest potential, as well as sharing ideas that may provide opportunities for students and adults with a disability to participate actively and effectively in social life.

Project Design

On behalf of the former Minister for Education, the Ministerial Advisory Committee: Students with Disabilities conducted research regarding students with a disability and physical education (PE) in schools in South Australia.

The research project investigated the opportunities available to students with a disability, including practices on the inclusion of students with a disability in PE in mainstream South Australian schools. It examined teachers' behaviours and beliefs about inclusion of students with a disability in PE and what assistance they sought from internal and external organisations to support students.

Terms of reference

The committee agreed that the project would seek information on:

- What opportunities are currently available for students with a disability concerning physical activity and participation?
- How do families, education sites, disability and community organisations link together to provide opportunities for physical activity and participation for students with a disability?

The committee appointed Ms Pam Jacobs as the chairperson to oversee this project. Other members of the project group included professionals and community members with expertise in this topic.

Purpose of the research

This research was multifaceted. It aimed to provide demographic information about PE professionals in South Australia, including information on their inclusion of students with a disability in physical activity and the nature of collaborative relationships that may provide further opportunities for students with a disability to be active and to attain healthy lifestyles.

In doing so, the research purpose was to investigate and to document the following:

- statistics on the number and location of PE teachers state-wide
- the opportunities made available to students with a disability in mainstream South Australian schools to participate in physical

- the actual participation of students with a disability, in physical education, school sport, sporting events and physical activity generally
- school knowledge of and collaborations with disability, sport and recreation organisations for the purpose of facilitating students with a disability's participation in active school and community life
- exemplars of inclusive practice in physical education, school sport, sporting events and physical activity generally.

Research aims

The project aimed to:

- ascertain the opportunities available for students with a disability, attending mainstream schools in South Australia, to participate in PE, physical activity and community recreation and sport
- determine the participation practices of students with a disability, attending mainstream schools in South Australia, in PE and physical activity
- gather information about the current practices and theory concerning the inclusion of students with a disability in PE, physical activity and sporting events; during school, after school and in the community
- examine how South Australian education sites linked together with families, disability services and community organisations in order to provide physical activity and participation opportunities for students with a disability.

Literature search

The research literature published from 2005 onwards was systematically searched via electronic journal databases available via Google Scholar (University of South Australia Library, 2010). In relation to perceptions about the inclusion of students with a disability in physical education, school sport, sporting events, the search criteria was refined to full text peer-reviewed journal article titles with the Boolean search, 'inclusion' AND 'student' AND 'physical education' AND 'disability OR disabled', with 'education' OR 'disability'.

In addition, journal articles that presented practical ideas for curriculum design and inclusive teaching in PE were identified by hand-searching the following international journals: *British Journal of Physical Education*; *European Journal of Physical Education*; *European Physical Education Review*; *Physical Education and Sport Pedagogy*; *Sport, Education and Society*; *Strategies: A Journal*

for Physical and Sport Educators; and Journal of Physical Education, Recreation and Dance.

The systematic literature search returned a sample set of 17 journal articles on perceptions and practices of peers, pre-service PE teachers, PE professionals and tertiary educators in relation to the inclusion of students with a disability in PE. The hand-search of international journals returned 12 articles that presented ideas for teaching practice.

Informant literature, including agency brochures, facts sheets and policy documents, was used in research design and to provide context.

Methods

Four methods were used to investigate PE and physical activity opportunities in mainstream schools across the three education sectors (Government, Catholic and Independent), student participation and linkages with community in South Australia:

1. a brief survey of primary schools to obtain demographic data about whether they employed PE professionals and their role type
2. a review of public information regarding community opportunities for students with a disability to participate in physical activity, recreation and sport
3. a questionnaire to primary, secondary and combined schools concerning the opportunities and the participation of students with a disability in PE, physical activity, school sport and community opportunities
4. face-to-face, semi-structured interviews with PE teachers about inclusion practices, behaviours and beliefs.

The survey was dispatched via email to primary schools (n= 480) across the three education sectors. Non-respondents were followed up via telephone. The survey sought information about whether each site had a PE professional and the role type of those staff members (see Appendix 3).

A letter that provided information about the research, and which invited participation in the research via the completion of an online questionnaire, was dispatched electronically to primary, secondary and combined schools (n=721). It was requested that a staff member at each school, who was responsible for PE, complete the questionnaire. Schools that had 30 or more students with a disability, where an online questionnaire had not previously been completed, were followed up in writing and requested to complete a written version of the online questionnaire (see Appendix 4). Staff members who completed the written questionnaires were asked to return them to the Ministerial Advisory Committee: Students with Disabilities.

The six interview participants were purposively selected; two participants were from each education sector (Government, Catholic and Independent).

They each had a minimum of five years experience as a PE teacher and had taught students with a disability in their mainstream PE classes. The participants represented a cross-section of schools, including primary and secondary schools; schools located in both low and high socio-economic areas; and, both urban and rural schools. Face-to-face, semi-structured interviews were guided by a series of research questions that were adapted from a study on general PE teachers' inclusion behaviours and beliefs (Hodge et al., 2004) (see Appendix 5). Interviews were recorded electronically, transcribed and information that could personally identify participants was masked. Analysis was conducted in accordance with predetermined themes identified from the Terms of Reference, namely 'opportunities' and 'collaborations' and results are presented together with vignettes from the interviews.

Research participants

The principal, or delegate, of each South Australian primary school was asked to respond to the brief demographic survey.

In relation to the questionnaire, the participant criteria were:

- a staff member who was responsible for PE
- in mainstream primary, secondary and combined schools
- across the three education sectors (Government, Catholic and Independent).

Special schools and their representative staff members were excluded from all stages of recruitment and data collection. It was known that PE was already integral to the curriculum in special school settings. Language centres and The Open Access College were excluded due to having no PE curriculum.

Ethics

This research was approved by the Department of Education and Children's Services (DECS) and it was conducted in accordance with departmental policy and Research Ethics Guidelines. This included the application of standard research conventions, including informed consent, confidentiality, data security and the use of pseudonyms to protect the rights of individuals.

Following DECS ethics approval, approval was received from Catholic Education SA and from each Independent School participating in this research.

Background

Enabling opportunities for students with a disability to participate in inclusive physical education (PE), physical activity and sport has diverse dimensions. In the first instance, inclusion is a human right. The Australian Government's ratification of the Convention on the Rights of Persons with Disabilities in 2008 has required an inclusive education system that enables the rights of students with a disability to:

- the "full development of human potential and sense of dignity and worth"
- development of their "personality, talents and creativity ... mental and physical abilities."

(United Nations, 2006, Article 24)

In this section, pertinent sections of disability legislation and education standards that are underpinned by notions of human rights and social justice are presented. This is followed by a review of the literature on the issues surrounding the inclusion of students with a disability in PE, teachers' perceptions about inclusion and published practice examples on inclusive PE teaching.

Disability Discrimination Act 1992 (Cth)

The rights of all people with a disability are legislated under the Disability Discrimination Act 1992 (Cth). It addresses discrimination in many areas of public life. The broad objectives of the Act are:

- *to eliminate, as far as possible, discrimination of people on the grounds of disability*
- *to ensure that people with disabilities have the same rights before the law as the rest of the community*
- *to promote the principle that people with disabilities have the same rights as the rest of the community.*

(DECS, 2007)

The definition of disability under the Act is broad and may include current, future and/or believed conditions related to physical, intellectual, psychiatric, sensory, neurological, learning disabilities, physical disfigurement or the presence of a disease-causing mechanism (DECS, 2007).

In relation to education:

(2) It is unlawful for an educational authority to discriminate against a student on the ground of the student's disability or a disability of any of the student's associates:

(a) by denying the student access, or limiting the student's access, to any benefit provided by the educational authority ...

(Disability Discrimination Act 1992 (Cth), s.22)

In relation to curriculum, specific educational activities and school life:

(2A) It is unlawful for an education provider to discriminate against a person on the ground of the person's disability or a disability of any of the person's associates:

(a) by developing curricula or training courses having a content that will either exclude the person from participation, or subject the person to any other detriment; or

(b) by accrediting curricula or training courses having such a content ...

(Disability Discrimination Act 1992 (Cth), s.22)

If a student with a disability was not allowed to participate in physical education activities, school sport and sporting events, this would constitute an act of "direct discrimination" because the student has been denied the opportunity to participate on the same basis as other students. Direct discrimination can be avoided by offering the same opportunities to students with a disability to participate as the opportunities offered to other students.

However, if PE, school sport and sporting events were provided to all students equally, and a student with a disability was excluded merely for not having the capacity to participate in events at the same level as other students, this may constitute an act of "indirect discrimination". Indirect discrimination can be overcome with a curriculum design that facilitates equitable participation via the utilisation of adaptations to activities and reasonable adjustments to assessments, according to students' abilities and a consultative process with the student with a disability or an associate.

Disability Standards for Education 2005 (Cth)

The Disability Standards for Education 2005 (Cth) specify the obligations for education providers, including schools³, to make education accessible to students with a disability under the Disability Discrimination Act 1992 (Cth). With reference to participation, it states:

- (1) The education provider must take reasonable steps to ensure that the student is able to participate in the courses or programs provided by the educational institution, and use the facilities and services provided by it, on the same basis as a student without a disability, and without experiencing discrimination.*
- (2) The provider must:*
 - (a) consult the student, or an associate of the student, about whether the disability affects the student's ability to participate in the courses or programs for which the student is enrolled and use the facilities or services provided by the provider; and*
 - (b) in the light of the consultation, decide whether an adjustment is necessary to ensure that the student is able to participate in the courses or programs provided by the educational institution, and use the facilities and services provided by it, on the same basis as a student without a disability; and*
 - (c) if:*
 - (i) an adjustment is necessary to achieve the aim mentioned in paragraph (b); and*
 - (ii) a reasonable adjustment can be identified in relation to that aim; make a reasonable adjustment for the student in accordance with Part 3.*
- (3) The provider must repeat the process set out in subsection (2) as necessary to allow for the changing needs of the student over time.*

(Disability Standards for Education 2005 (Cth), s.5.2)

³ "These Standards apply to ... (b) schools in the public sector; (c) schools registered through school registration authorities in the private sector; ..."
(Disability Standards for Education 2005 (Cth) s, 1.4).

Therefore, to ensure that students with a disability are able to participate⁴ on the same basis as a student without a disability, education providers need to ensure that:

- (a) the course or program activities are sufficiently flexible for the student to be able to participate in them; and*
- (b) course or program requirements are reviewed, in the light of information provided by the student, or an associate of the student, to include activities in which the student is able to participate; and*
- (c) appropriate programs necessary to enable participation by the student are negotiated, agreed and implemented; and*
- (d) additional support is provided to the student where necessary, to assist him or her to achieve intended learning outcomes; and*
- (e) where a course or program necessarily includes an activity in which the student cannot participate, the student is offered an activity that constitutes a reasonable substitute within the context of the overall aims of the course or program; and*
- (f) any activities that are not conducted in classrooms, and associated extra-curricular activities or activities that are part of the broader educational program, are designed to include the student.*

(Disability Standards for Education 2005 (Cth), s.5.3)

Standards for curriculum development, accreditation and delivery, under part 6 of the Disability Standards for Education 2005 (Cth), reiterate the necessity to enable students with a disability's participation through flexible course or program design⁵ that have afforded reasonable adjustments, as necessary, in accordance with consultative processes between the education provider and the student with a disability (or an associate of the student).

In addition, 'Guidance Notes' (Attorney-General's Department, 2005) to the Disability Standards for Education 2005 (Cth) stated, "Good practice requires education providers to ensure that their staff are proficient in interacting with students in ways which do not discriminate against people with disabilities" (p. 8). 'Attitude' was cited as a main barrier to non-discriminatory and accessible education for students with a disability and,

⁴ Exceptions to ensuring participation exist under Part 10 of the Disability Standards for Education 2005 (Cth).

⁵ Flexibility and reasonable adjustments include to "the curriculum, teaching materials, and the assessment ... delivery modes and learning activities" whether in or outside the classroom (Disability Standards for Education 2005 (Cth), s. 6.3).

as a result, recommendations were made for “staff induction and professional development” to include “disability awareness and rights and on the obligations of education and training providers under the Standards” (Attorney-General's Department, 2005, p. 8).

Disability, physical activity and students' health

Australian research data has documented upward trends in children's obesity over the last two decades (Booth et al., 2006; Gill et al., 2009; Goodman et al., 2002; Magarey et al., 2001; Vaska & Volkmer, 2004), which may have recently slowed or reached a plateau (Gray & Holman, 2009; Olds et al., 2009). However, Colagiuri et al. (2010) expressed concerns about the health of the nation and projected increases in associated national health care costs if obesity trends are not reversed, particularly when as many as one in four Australian children may be obese, or overweight and at risk of obesity (Gill et al., 2009).

With respect to children with a disability, Australian and international research has also presented a rise in the coexistence of disability and obesity; some researchers believe that disability and obesity may be interrelated. For example, Emerson (2009) found an apparent risk for obesity in young children with intellectual disability; Ells et al. (2008) studied children with learning and physical disabilities and found a higher risk of obesity in this population; in an earlier study, Ells et al. (2006) confirmed links between obesity and “muscular skeletal conditions, mental health disorders and learning disabilities in both adult and child populations”, and Stewart et al. (2009) recorded a high prevalence of obesity in ambulatory children and adolescents with intellectual disability.

Researchers came to the conclusion that children with a disability, in general, were more likely to be overweight or obese than other children (Ells et al., 2006; Ells et al., 2008; Emerson, 2009; Stewart et al., 2009). Stewart et al. (2009) believed that upward trends may be due to all children being similarly affected by social and environmental changes across the generations.

Perrin (2002) argued that children with a disability faced higher rates of compounding health conditions; Sullivan (2009, p. 197) correlated increases in the chronicity of obesity related illnesses to children with a disability and Walter et al. (2009) argued that the health status and life expectancy of children with a disability was substantially compromised by obesity when compared to the general population.

To reduce obesity rates in children through increased activity, Kim (2008) argued that active habits need to be developed in children prior to the age of 16 to be sustained into adulthood. However, a number of studies acknowledged the tendency for children with particular disabilities, such as Down syndrome and other intellectual disabilities, to engage in obesity related behaviours (Bell & Bhate, 2008; Bertelli et al., 2009; Conod &

Servais, 2008; Ells et al., 2006; Emerson, 2009; Murphy et al., 2005; Rimmer & Yamaki, 2006; Salvador-Carulla et al., 2008; Stewart et al., 2009). In consideration, together with research previously cited, it could be suggested that more physical activity opportunities need to be made available to students with a disability during their school years alongside preparation for transitioning into adult recreation and leisure options once school support is no longer available (Schleien & Ray, 1997).

Buran et al. (2004), in a study of ambulatory children, noted that insufficient participation in PE prevented their engagement “in the full range of adolescent behaviours such as friendship activities, team sports and regular physical activity.” An and Goodwin (2007) also linked the lack of engagement in such peer appropriate activities with reduced opportunity to participate in social and physical activities in adulthood.

In a study of people with spina bifida across the lifespan, Dosa et al. (2008) found a relationship between obesity, inactive lifestyles and other related health concerns. However, they observed that adolescents with an “invisible disability”⁶ were more likely to participate in higher levels of “obesity-associated behaviours and/or social groups” than ambulatory children. It was possible to conclude from this study that when disabilities were less obvious, that children may receive less equitable encouragement to participate in physical activity.

Increasing opportunities for students with a disability to participate in physical activity, as a means to improved health into adulthood, is faced with many barriers. Dosa et al. (2008) identified the main barriers to include the cost of adaptive equipment, transportation difficulties and inadequate physical education in schools. In addition, Perrin et al. (2007) found that a range of social and environmental changes had decreased physical activity opportunities that resulted from family stress, parents with less time, decreased household incomes, increased television watching and other media use, higher consumption of fast foods and increased indoor time due to perceptions about unsafe neighbourhoods.

Finally, Sullivan (2009) revealed that children had different levels of health chronicity and illness duration to adults, as well as fewer lasting disabilities, and suggested that the prevention of compounding health concerns was possible with active and healthy lifestyles. Hence, the health benefits of increased physical activity for students with a disability, as well as the building of healthy habits that may persist beyond students’ school years, cannot be understated.

⁶ The notion of ‘invisible disability’ was applied by Dosa et al. (2008) to “adolescents with lower functional motor levels (e.g. sacral levels)” as opposed to “those with higher functional motor levels (e.g. thoracic levels) who have a readily apparent physical disability.

Perceptions on inclusive physical education

Australian Government policy objectives since the 1980s have mirrored world trends towards equity and justice in education (Armstrong et al., 2009; DECS, 2007; Sharma et al., 2008; Smith & Thomas, 2006), which had been greatly influenced by the United Nations Convention of the Rights of Children (United Nations, 1989) and the Salamanca Statement on Principles, Policy and Practice in Special Needs Education (United Nations Education Scientific and Cultural Organisation, 1994). As an end to the segregation of students with a disability in education, this required Australian schools to welcome changes in pedagogy, curriculum and organisation in order to embrace the spirit of inclusive education⁷.

According to Ballard (1997, p. 244):

Inclusive education means education that is non-discriminatory in terms of disability, culture, gender. It involves all students in a community, with no exceptions and irrespective of their intellectual, physical, sensory or other differences, having equal rights to access the culturally valued curriculum of their society as full-timed valued members of age-appropriate mainstream classes. Inclusion emphasises diversity over assimilation, striving to avoid the colonisation of minority experiences by dominant modes of thought and action. Thus, inclusion is concerned with teacher trainers, PE teachers and schools examining both the philosophy and practices of their delivery in an attempt to modify and adapt their services and respond positively to the individual needs of children with special education needs.

Inclusivity, however, has been subject of debate. Smith and Thomas (2006) suggested that some educators support segregation by engaging students with a disability in different activities to mainstream students, which “appears to be strongly associated with the ‘privileging’ of competitive teams sports over more individualized physical activities” (p. 81). Jerlinder et al. (2009, p. 340) declared that “disability ought not to matter”, but also found that “it paradoxically seems to matter very much ... particularly, in the specific context of PE for pupils with physical impairments” who were often judged against “normative aspects of parity of participation.” They noted that students with physical disabilities were often denied participation, not purely because of a lack of resources, but also because individuals’ identities were not socially recognised.

Slee (2001) drew on the notion of identity and stated that “inclusive education has been framed as a field for special educational research, training and bureaucratic intervention”, in which such perceptions have

⁷ In addition, Australia’s ratification of the Convention on the Rights of Persons with Disabilities in 2008 (United Nations, 2006) has required the Australian Government at all levels to ensure an inclusive education system (Article 24).

inhibited inclusion in mainstream schools. He suggested that students with a disability were often denied their individuality by fitting them into existing frameworks, which “enable schools to remain the same” (p. 173). However, in order to foster change, Sharma et al. (2008) argued that teachers’ attitudes needed to change. In their review of literature, Sharma et al. (2008) identified that ‘disability education’ was the single common variable that influenced educators to be more positive about inclusive education. Slee (2001, p. 174) hoped that pre-service teachers might be the innovators of future solutions to inclusive education.

Vickerman (2007) proposed that the role of PE teacher educators were essential to the success or failure of any political agenda on inclusive education. In exploring the perceptions of pre-service PE teacher educators (n=29), results indicated that all PE teacher educators (n=29) supported the teaching of inclusive education at the tertiary level and that 84 per cent of PE teacher trainers (n=29) supported students with a disability’s inclusion in mainstream PE (Vickerman, 2007, p. 392). In conclusion, Vickerman (2007) suggested that a flexible approach to PE teacher training, that addressed essential policy issues, theory and pedagogical applications on the inclusion of students with a disability was needed, as well as opportunities for pre-service PE teachers to reflect “upon the good practice and feedback from their fellow providers, trainee and qualified PE teachers and schools” (p. 397).

Australian researchers, Lancaster and Bain (2007), highlighted an international concern that training on inclusive education was inadequate. They, and others (Lavay et al., 2007), cited a “mismatch between pre-service preparation and the actual working conditions” of inclusive education, which led to “high levels of teacher attrition.” Lancaster and Bain’s (2007) pre-post testing of three groups of pre-service teachers (n=125)⁸, engaged in a 13 week program on inclusive teaching, found that self-efficacy towards future interactions with students with a disability increased with relevant training in the classroom and/or via applied field education experiences. Lavay et al. (2007) also associated teacher attrition with inadequate training, knowledge and ability to manage a diversity of student behaviours and abilities “in the same PE class” (p. 42).

Vickerman and Coates (2009) had mixed results upon examining the training experiences of trainee and recently graduated PE teachers and the

8 Students were divided into three groups: Engaged in mentoring students with a disability (n=77), pre-test (M=75.07, SD=8.07), post-test (M=83.17, SD=22.77); provided classroom support to students with a disability, pre-test (M=76.46, SD=27.04), post-test (M=92.81, SD=9.69); pure coursework with no applied experience, pre-test (M=69.08, SD=26.99), post-test (M=87.65, SD=12.52). Pre-test – post-test variance in self-efficacy: Mentoring (8.1), classroom Support (16.34), pure coursework (18.58); hence, variance for experience was not statistically significant (Lavay et al., 2007, p. 251).

relationship with the confidence to include students with a disability in PE, once in schools. A perceived lack of readiness to include students with special needs in PE was cited by 43 per cent of trainees and 84 per cent of recently graduated PE teachers, which corresponded with other research (Sato et al., 2007; Specht et al., 2009). As a result, it was suggested that a greater balance between practical and theoretical pre-service training was needed, as well as contact with children with special needs (Vickerman & Coates, 2009, p. 148).

Hodge et al. (2009) interviewed 29 PE teachers who worked with students with varying abilities and found that PE teachers “experienced a sense of accomplishment and gratification in helping students to succeed” (p. 416). Although the teachers were encouraged by their sense of professional responsibility to engage inclusive teaching practices, Hodge et al. (2009) discovered that PE teachers were not similarly gratified when “helping” students with a disability. The researchers related this finding to “the nature and severity of students’ disabilities ... PE teachers level of professional preparedness ... and contextual variables” such as class size, equipment and resources (p. 417). Recommendations included that PE teachers needed to be “better prepared and motivated to teach a diversity of students” (p. 416), which could be achieved with the following:

- *school districts should make available and hold physical education teachers accountable for participating in professional development workshops and conferences*
- *school districts should require directors or coordinators of physical education to conduct assessments of the teachers’ needs with the intention of supporting and enhancing teachers’ work*
- *inexperienced teachers should seek out mentoring from veteran teachers for support and guidance to improve their practice and enhance their self-efficacy in teaching students with disabilities.*

(Hodge et al., 2009, p. 416-417)

Morley et al. (2005) also correlated positive perceptions about inclusion with the level of participation that students with a disability could achieve in PE. In addition to their own findings, they cited earlier studies that confirmed professional development and teacher experience to play a vital role in teacher confidence to work with students with a disability.

Upon identifying that teachers’ attitudes were critical to the successful inclusion of students with a disability, Gursel (2007)⁹ explored the attitudes

9 Group undertaking coursework on disability and personal contact (n=47), pre-test (M=56.7, SD=13.4), post-test (M=65.5, SD=13.2), variance (8.8); Control group (n=34), pre-test (M=56.3, SD=12.4), post-test (M=57.1, SD=14.0), variance (0.8) (Gursel, 2007. p. 169).

of university students majoring in PE. Positive changes in confidence levels were observed amongst a cohort of 47 PE majors following a combination of coursework on disability and personal contact, which led to Gursel (2007) suggesting a need to focus on increasing confidences to work with students with a disability in the university curriculum. Other researchers similarly observed that attitudes and practices were positively influenced by pre-service learning that challenged preconceptions about disability and which fostered acceptance of diversity and inclusivity (Hopper & Stogre, 2004; Hutzler et al., 2005; Lancaster & Bain, 2007).

Penney and Hay (2008) reported from their research, conducted in Queensland and Western Australia, that PE course design, school and teacher decisions had “wide reaching significance for students’ educational and vocational futures” (p. 431). For this reason, they promoted the inclusion of student and stakeholder voice in negotiating conflicts between inclusivity, opportunities and barriers to participation in PE. Likewise, Fitzgerald (2005) stressed the importance of listening to what students with a disability say about their experiences in PE and school sport, as opposed to the majority of research that has asked for other people’s perceptions on students’ experiences.

In a UK study that explored literature on the perceptions of educators and students in relation to inclusive PE, Smith and Thomas (2006, p. 80) determined that very little was known about how the principles of inclusion were “informing what teachers do, and are able to do, in practice, when teaching pupils with special education needs and disabilities.” They highlighted the need for empirical knowledge, which was informed by demonstrated examples of ‘good practice’ from the field, from the perspectives of both educators and students.

Disability and strategies for inclusive education

Curtin and Clarke (2005) interviewed nine students with a disability aged 10-13 years, who attended both segregated and mainstream schools. Of particular interest were the participants’ expressed views that they were individuals and that they did not like being treated as a homogeneous group of students with a disability.

Likewise, Macdonald and Block (2005), who presented a case study of junior high school students with a disability, expressed the uniqueness of each child. In addition, they stated that students with a disability usually “know their own needs and capabilities better than anyone else” in relation to PE, but that they need to be taught self-advocacy skills and encouraged to use them (p. 47).

With the necessary self-advocacy skills, MacDonald and Block (2005) advised that students with a disability can gain the skills to be successful with not only including themselves in PE, but also within other extracurricular sport and active recreation activities and community

programs. They suggested a number of strategies that may assist students with a disability to be their own advocate in PE:

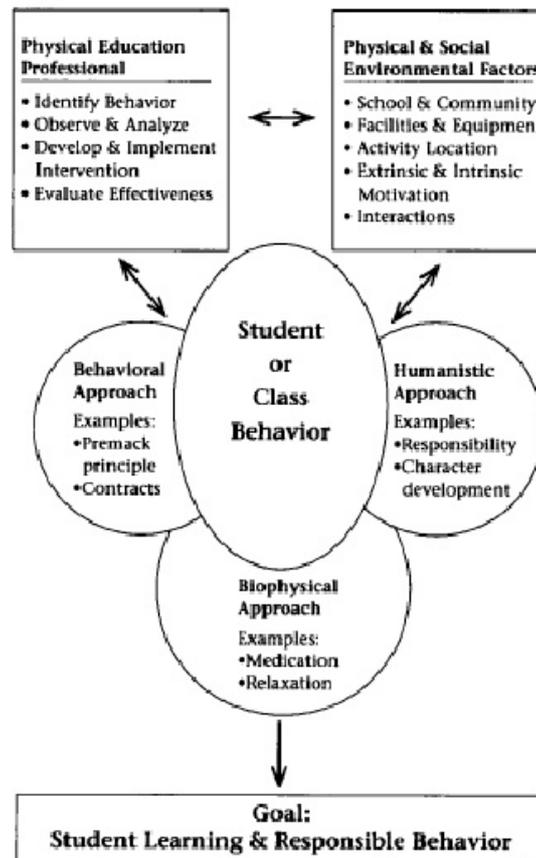
- *educate students about their disability, if necessary*
- *develop a rapport with the students so that they feel comfortable expressing their needs and wants*
- *provide examples – articles, books, movies, or personal knowledge – of individuals with similar disabilities who have experienced success in physical education, physical activity and sport*
- *depending on comfort level, have the students educate peers about their disability*
- *have a weekly or once-per-cycle meeting with the students to discuss modifications and address questions or concerns they may have*
- *be a good listener – listen to suggestions, ideas and modifications given by the students*
- *provide feedback – let the students know that they are doing a great job of assisting you with their physical education program*
- *do your homework – be prepared to assist students in modifying activities and sports in which they are less familiar.*

(MacDonald & Block, 2005, p.48)

Grenier et al. (2005) promoted 'cooperative learning' as an inclusive teaching and learning strategy, where 'student voice' and peer collaboration were integral to students with a disability's development of physical, social and psycho-emotional skills, including self-advocacy. In particular, they identified the need to engage peers in designing PE classes through "encouraging students to modify and/or problem-solve activities for team mates with disabilities" (p. 31). Tripp et al. (2007) added that "creating a truly inclusive environment required a change in culture" (p. 32) and the cooperative efforts of everyone.

For PE classes with students who had diverse emotional, social, cognitive, and physical abilities, Lavay et al. (2007) favoured an eclectic and ecological behaviour management model that incorporated theories, methods and instructional practices from education, psychology and physical education. They proposed the following behaviour management model as a means to assist PE teachers in managing diverse students with a disability in integrated PE classes, but also stressed that it should not be viewed as a 'one size fits all' model:

Figure 1. The Behavior Management Eclectic Ecological Model



(Lavay et al., 2006, cited in Lavay et al., 2007, p. 43)

Fittipaldi-Wert and Brock (2007) proposed that by simulating students' disabilities in integrated PE classes, that other students would be supported to understand and appreciate the challenges faced by students with a disability. They proposed a number of simulated activities for use in PE according to disability type:

- *disabilities affecting arm motion – immobilise elbow and finger joints by strapping and ask students to tie their shoes, button their shirts, complete a jigsaw puzzle, throw various size and textured balls or engage in racket or ball sports*
- *disabilities affecting leg motion – immobilise each knee by strapping and ask students to tie their shoes, sit down and stand up, run and skip, kick various size balls at various targets*
- *visual impairment – blindfold and practise throwing various balls with a partner (including balls containing bells), walk or jog around the perimeter of a gymnasium*

- *hearing impairment – students wear ear muffs and, while the teacher provides instructions in a low toned voice, students are to perform the movements they hear*
- *disabilities requiring a wheelchair –students in wheelchairs, with legs immobilised, are asked to pick up objects from the floor, jump rope, perform jumping jacks, kick balls, throw and catch various balls*
- *asthma – students run around a designated area for 30 seconds, stop and breath through a straw for ten seconds.*

(adapted from Fittipaldi-Wert & Brock, 2007)

In addition, Fittipaldi-Wert and Brock (2007) proposed that teacher and student reflection may also help teachers to modify future activities in order to meet the needs of their students.

For students with autism spectrum disorder, Zhang and Griffin (2007), stressed that it was paramount to change the attitudes of PE teachers that inclusion was “difficult, if not impossible” (p, 33). They presented the following eight imperatives as potential solutions for the inclusion of children with autism in PE:

- *understanding inclusive physical education*
- *individualized instruction*
- *targeting age-appropriate motor skills*
- *using appropriate teaching strategies*
- *managing challenging behaviours*
- *using unique and novel equipment*
- *developing social interaction skills*
- *using effective communication methods.*

(Zhang & Griffin, 2007)

To aid communication, Fittipaldi-Wert and Mowling (2009) reported positive outcomes in PE for students with autism with the use of picture cards, which could be in the form of task cards, rules and visual warnings and boundaries. They suggested that picture cards provided these students with clear expectations, order, predictable events and consistency.

With careful planning and support, Block et al. (2007) suggested that any student with a disability could be included in mainstream PE. They suggested that inclusion was achievable through: identifying and selecting suitable goals and objectives, as well as finding ways to help students with a disability achieve them; ensuring the physical setting is safe, and; facilitating meaningful social interaction between students with and without disabilities. What seemed most needed, however, were changes in perception and changes in culture (Gursel, 2007; Hodge et al., 2009; Morley et al., 2005; Slee, 2001; Tripp et al., 2007).

Results

Physical education professionals

It was believed that all schools with a secondary component in South Australia should have at least one PE professional at their respective schools. During 2009, this equated to 92 secondary schools and 76 combined schools across the three education sectors that had one or more PE professional on site. The number of primary schools in South Australia that had PE professionals and their associated roles and responsibilities was not previously known.

All primary schools registered in 2009 in South Australia (n=480) were emailed a brief survey that asked respondents to identify their school's region and the role type of their PE professional(s), if applicable (see Appendix 3). Non responding schools were followed up via telephone, which elicited 58 responses in addition to the 75 surveys returned by email.

A total of 133 surveys were returned by primary schools, which represented a 27.7 per cent response rate. Surveys facilitated via telephone follow up did not request school region. As a result, a regional analysis of PE professionals was not undertaken.

Table 1 indicates the role types of PE professionals in primary schools. The percentage totals exceed 100 due to respondents' (n=133) selection of multiple role types; it was not known whether multiple selections represented multiple PE professionals or singular PE professionals with multiple roles.

Table 1: Distribution of physical education professionals by role type in South Australian primary schools

Professional role type	Number of PE professionals in each role type	Percentage of primary schools according to each role type
Health and PE coordinator	18	14
Specialist PE teacher	67	50
Sports coordinator	18	14
Teacher responsible for PE	40	30
Dance teacher	2	2
Other	1	1
<i>Schools with no PE professional on site</i>	36	27

Community sport and active recreation

A review of publicly available information (websites and pamphlets) was conducted to identify programs, initiatives and support services that provide opportunities specifically for students with a disability to participate in community sport and active recreation.

In addition, community sport organisations (n=38) were identified from 'Sportshorts' (Office for Recreation and Sport, 2009). Contact persons were asked via email or telephone to provide information about the opportunities available at their respective organisations for students with a disability to participate.

Thirty-three government, non-government and club based opportunities were identified that provided information, supported participation and which coordinated sport, activity and recreation opportunities specifically for students with a disability. An annotated list of identified community sport and active recreation opportunities is provided, together with web addresses, as Appendix 6, organised under the following headings:

- government strategies with a specific disability component
- government funded activities delivered by non-government organisations
- disability organisations with a physical activity and recreation focus
- sporting organisations with specific programs for people with a disability

- physical activity and recreation organisations for specific disabilities.

It is acknowledged that there is a list of innumerable human services that provide inclusive opportunities to children, regardless of their abilities.

Teacher questionnaire on physical education, activity and sport

Of the 721 electronic questionnaire packages distributed to primary, secondary and combined schools across the three education sectors, and the 97 hard copy follow up requests sent to schools registered with DECS as having 30 or more students with a disability, a total of 167 completed questionnaires were returned.

Fourteen of the schools that completed the questionnaire did not respond to every question and, in some cases, schools were able to provide multiple responses to questions. Therefore, the number of responses and the statistical presentation of the data vary from question to question.

Participating schools

Demographic information was collected that allowed for the sample set and other data from the questionnaire to be viewed according to respondent type, school type and number of students with a disability.

Table 2 represents the number of respondents from Primary, Secondary and Combined Schools according to the number of students with a disability (verified as students with a disability on the DECS database in 2009):

Table 2: Schools participating in the questionnaire according to school type and number of students with disability

School type	Number of students with a disability			Total
	< 15	15-30	> 30	
Primary schools	22	22	42	86
Secondary schools	20	8	36	64
Combined schools	6	8	3	17
Total	48	38	81	167

Participating teachers

A teacher at each school, who was responsible for PE, was asked to complete the questionnaire. They were asked to identify themselves in accordance with one or more of six pre-determined role types thought most likely to have a responsibility for PE. The majority of respondents associated themselves with a single role type (n=121, 72%), 25 (15.0%) respondents nominated an occupancy of two roles, 16 (9.6%) respondents nominated three roles, four (2.4%) nominated four roles and one respondent (0.6%) nominated responsibility for five roles.

Table 3 represents the role types of teachers who were responsible for PE at their respective school and who completed the questionnaire.

Table 3: Professional roles of teachers completing the questionnaire

Respondents' role type	Primary schools	Secondary schools	Combined schools	Total
Principal	20	3	0	23
Health and PE coordinator	11	33	11	55
Specialist PE teacher	30	24	6	60
Sports coordinator	13	22	8	43
Teacher responsible for PE	40	16	2	58
Dance teacher	0	0	1	1

The remainder of the questionnaire was divided into five sections:

- physical education, school sport and events
- physical activity at school
- community connections
- barriers to participation
- required resources.

For ease of reference, the analysis of results is presented under these five headings and cross comparisons are offered as appropriate. Finally, an overview of teachers' ratings in relation to student participation in physical education and activity, opportunities and barriers to participation are provided.

Physical education, school sport and sporting events

A vast majority of respondents (94%) indicated that students with a disability participated regularly in PE classes at their respective schools, with approximately 92 per cent suggesting that at the very least participation took place weekly. However, the nature of participation in PE, in terms of modifications to enable participation, was variable. Approximately 22 per cent of respondents advised that their students with a disability participated in mainstream PE classes with no modifications; 75 per cent indicated participation with some modifications; and, 18 per cent suggested students with a disability participated in fully modified PE programs. Included in these figures were 18 (11%) respondents (n=164) who advised that different combinations of the mainstream/modification variables were applied when teaching PE in accordance with the PE module and disability type.

The questionnaire asked respondents about a specific PE module, namely swimming and aquatics. Approximately 52 per cent of respondents advised that their school's students with a disability participated in the mainstream DECS swimming and aquatics and 30.7 per cent advised that students with a disability attended the DECS swimming and aquatics program specifically designed for students with a disability. In addition, a few respondents offered that students with a disability at their schools participated in aquatics camps and the Royal Life Saving Program, alongside the students who did not have a disability. Levels of participation in swimming and aquatics appeared to be reasonably high, particularly when qualitative information indicated that many rural, remote and secondary schools did not offer swimming and aquatics¹⁰.

The number of schools that had students with a disability participating in school sporting events, such as sports days, was also high. Of the 141 schools with participating students with a disability, approximately 95 per cent of respondents believed that students with a disability engaged physically in sporting competition and only five per cent suggested that students with a disability were assigned non-sporting activities such as time-keeping. Respondents qualified that type of engagement often depended on the type of sporting event, whether or not there were modified activities at a particular event and the type of disability.

Results indicated that after school sport may have been less well utilised by students with a disability. Approximately 38 per cent of respondents advised that students with a disability at their respective schools did participate in after school sport. In relation to the participating students with a disability, approximately 52 per cent of respondents thought that participation was at least weekly, one per cent fortnightly and 49 per cent occasionally. Reasons cited for non-participation included parental capacity

¹⁰ It is acknowledged that swimming and aquatics programs differ amongst the three education sectors.

to provide transport and the additional costs related to particular types of sport.

Similar results were returned in relation to the South Australian Primary Schools Amateur Sports Association (SAPSASA) or the South Australian Secondary School Sports Association (SASSSA) sports days; approximately 32 per cent of respondents believed that students with a disability participated in these events. Sports days arranged by SAPSASA or SASSSA, specifically for students with a disability were believed to be less popular, with only 15 per cent of respondents indicating that students with a disability participated.

A number of respondents advised that other PE and sporting opportunities were provided at their schools and students with a disability were known to participate. This included lunch-time sport, school musicals, special 'be active' days and end of year active recreation activities; PE modules facilitated by 'outside' educators, such as from Wheelchair Sports and the Footsteps Dance Company; PE excursions to lawn bowls, horse riding, ten pin bowling, rock climbing and bicycle education; and holiday sport clinics that included Aus Kick and Milo Cricket.

Physical activity at school

Aside from physical education, school sport and sporting events, the questionnaire asked school representatives to provide information about the rate of students with a disability's participation in physical activity when at school. Approximately 93 per cent of respondents (n=158) advised that students with a disability participated at least once per week in physical activity, one per cent advised of fortnightly participation and eight per cent indicated that students with a disability occasionally engaged in physical activity. Further information provided by 11 respondents, who indicated that students with a disability engaged in physical activity at least once per week, suggested that their schools utilised a daily fitness program in which students with a disability participated. It was likely that other schools, in which respondents chose not to provide a qualitative response, similarly had daily fitness regimes.

Respondents to the questionnaire indicated that approximately 30 per cent of schools had students with a disability who engaged in physical activity with no modifications, 72 per cent had students with a disability who participated with some modification and 22 per cent of schools had students with a disability who engaged in physical activity in fully modified programs. Some respondents selected multiple variables to indicate the application and utilisation of different physical activity programs according to student variables.

An example of a physical activity program, namely the 'Premier's be active Challenge'¹¹, was provided in the questionnaire as an example of a physical activity at school. Fifty three (33%) respondents to the

¹¹ See Appendix 6 for a brief description of the 'Premier's be active Challenge'.

questionnaire nominated that their school participated in the 'Challenge', of which 41 advised that students with a disability also participated. Only three respondents indicated that their respective schools participated in the 'Negotiated Premier's be active Challenge'.

Respondents to the questionnaire indicated that other opportunities were available for students with a disability to participate in physical activity at their schools, in which students with a disability were known to have joined in. These included 39 respondents who advised that students with a disability often engaged in non-directed play with students without a disability during lunch times. A few respondents stated that, at 'Out of School Hours Care', students with a disability participate in the 'Active after School Communities Program'¹² or that a Nintendo Wii was provided for active play. However others comments, including that students with a disability "may join in all offerings", that "students freely mix", that "all students can participate" and "they [students with a disability] have as much opportunity as anyone else", suggested that students with a disability may have been viewed as somewhat responsible for their own active or non-active engagements.

Community connections

The questionnaire sought information on respondents' knowledge of and school collaborations with sporting bodies in their communities. Ninety (56%) respondents were aware that community sporting groups had been invited to their schools to deliver specialty modules during PE or sports training to students. Of these 90 schools, 37 had negotiated mainstream programs with no modifications for students with a disability and 62 had negotiated mainstream programs with some modifications for students with a disability. In addition, seven schools were believed to have negotiated specialist programs specifically for students with a disability. Some schools negotiated combinations of the above.

Forty respondents (25%) advised that they had facilitated community pathways for students with a disability through linking students with community sports clubs. Twenty eight respondents had linked students with a disability with community recreation opportunities and 21 had connected students with disability sport groups. Respondents were asked whether they had ever needed to negotiate with a community sporting or leisure pursuit group to enable the participation of a student with a disability. Forty-one respondents advised that they had done so.

The questionnaire presented a list of ten disability sporting groups. Respondents were asked to indicate whether they had any prior awareness of each group and, if so, whether their school and the group had any form of relationship. Results presented in Table 4 indicate that the respondents from schools with more than 30 students with a disability were not necessarily the most knowledgeable about the range of disability sporting groups available for students with a disability; nor were their schools seen

¹² See Appendix 6 for a description of the 'Active after School' Program

to engage collaboratively with the known groups more so than the schools with fewer students with a disability. The results are presented according to the schools' number of students with a disability.

Table 4: Respondents' awareness of disability sporting groups and school relationships according to number of students with a disability

Disability sporting group ¹³	Schools with fewer than 15 students with a disability (n=46)		Schools with 15-30 students with a disability (n=32)		More than 30 students with a disability (n=79)	
	Number with an awareness of the group	School relationship with the group	Number with an awareness of the group	School relationship with the group	Number with an awareness of the group	School relationship with the group
SASRAPID	7 (15%)	1(2%)	11 (34%)	1 (3%)	16 (20%)	6 (8%)
Wheelchair Sports	40 (87%)	15 (33%)	27 (84%)	10 (31%)	61 (77%)	18 (23%)
Riding for the Disabled	27 (59%)	2 (4%)	23 (72%)	2 (6%)	48 (61%)	13 (16%)
Special Olympics	31 (67%)	0	23 (72%)	2 (6%)	53 (67%)	4 (5%)
Blind Sports Association	20 (43%)	5 (11%)	13 (41%)	2 (6%)	28 (35%)	1 (1%)
Deaf Sports Association	18 (39%)	1(2%)	8 (25%)	1 (3%)	20 (25%)	0
ConnectAbility Program	14 (30%)	3 (7%)	6 (19%)	1 (3%)	19 (24%)	4 (5%)
Restless Dance Theatre	1(2%)	0	1 (3%)	0	5 (6%)	1 (1%)
YMCA Recreation Link Up	4 (9%)	0	4 (13%)	0	13 (16%)	2 (3%)
YMCA Sharing the Fun	5 (11%)	0	3 (9%)	0	8 (10%)	0

Almost all respondents (93%) displayed an awareness of one or more of the listed disability sporting groups. However, the majority also had an awareness of less than half of the named groups. For example, only 25

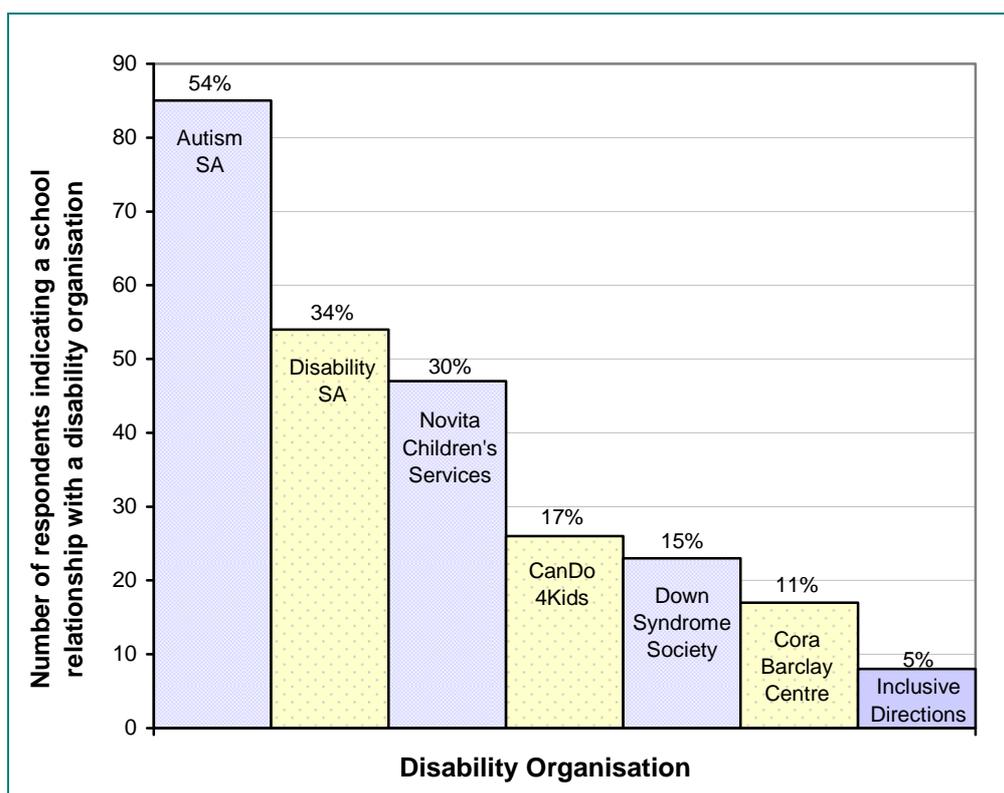
¹³ See Appendix 6 for a description of each disability sporting group.

(16%) respondents indicated an awareness of more than five disability sporting groups and 132 (84%) identified their awareness of five or fewer than five groups.

Ninety-five (61%) respondents indicated that their schools had no relationship with even a single disability sporting group. With regard to the 62 (39%) respondents who indicated that their schools had a relationship with one or more disability sporting group, the nature of those relationships remained uncertain. Qualitative data suggested that many tertiary relationships may have existed between schools and disability sporting groups as a result of students' associations and not due to direct relationships between the schools and disability sporting groups.

The questionnaire asked school representatives to indicate whether their school had a relationship with one or more of seven stated disability organisations. Figure 1 represents their responses.

Figure 1: Frequencies for school relationships with disability organisations



A total of 157 respondents completed this section of the questionnaire. Many indicated multiple relationships between their respective schools and disability organisations; 102 (65%) indicated a relationship with at least one organisation and 55 (35%) of respondents did not report a school relationship with any disability organisation. Two respondents indicated their school's relationship with the Muscular Dystrophy Association and the

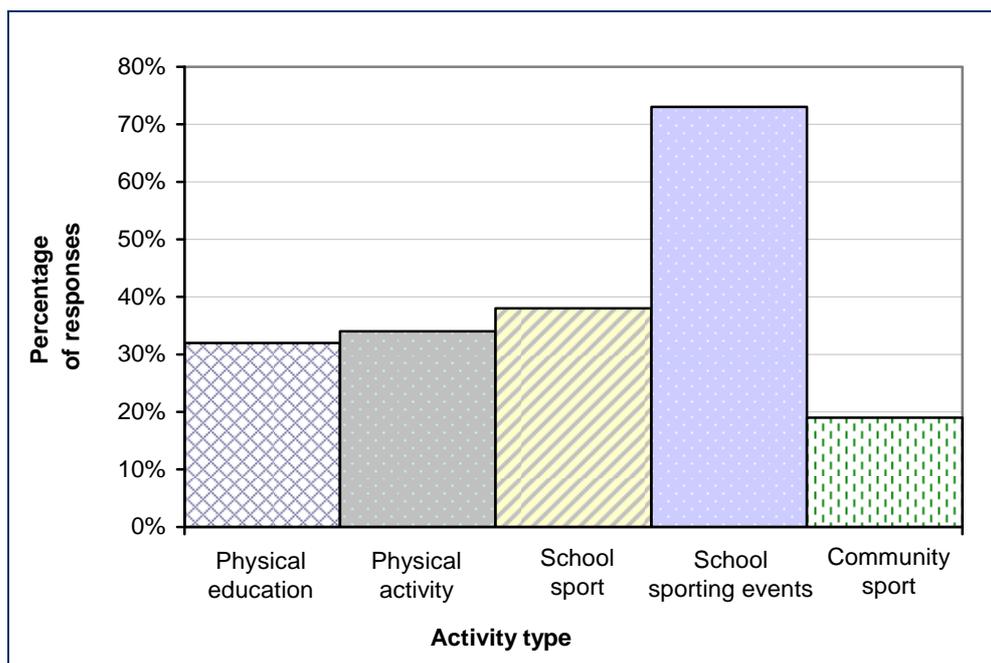
Special Education Resource Unit at DECS, in addition to the relationships already stated. The nature of those relationships, including whether they were proactive or reactive, was not explored.

Barriers and resources

Respondents were invited to provide comments about their perceptions of the barriers to participation for students with a disability at their respective schools. Approximately 82 per cent (n=134) of the completed questionnaires included qualitative responses about perceived barriers, which were analysed thematically across the five key focus areas: physical education, physical activity, school sport, school sporting events and community sport/recreation.

A significant number of the 134 respondents to this section articulated a perception that there were very few barriers to participation for students with a disability in the five key focus areas. These results are presented in Figure 2.

Figure 2: Number of respondents who perceived no or limited barriers to students with a disability's participation according to activity type



There was little difference observed in the distribution of responses in each category when examined according to school type or number of students with a disability, except in relation to school sporting events, such as sports days and swimming carnivals. The majority of respondents, who indicated 'no or limited' barriers to students with a disability's participation in school sporting events, were from primary schools.

Although the majority of these responses simply conveyed, “all students are encouraged to participate”, many responses from the primary schools suggested that it was easier to accommodate students with a disability in school sporting events because they could offer a range of traditional athletic activities, adaptations and party-game style activities from which students with a disability could choose.

One respondent from a primary school provided an example of ‘handicapping’ events in order to offer a fair advantage for students with a disability who participated against mainstream students:

There are no barriers at all with our sports day the SWD students [students with a disability] participate in all of the events and are identified by a wrist band and awarded points accordingly which go toward their house tally. All of the students embrace this method and the SWD kids [students with a disability] love racing the main stream students.

Another primary school representative believed that separation from students without a disability facilitated increased participation by students with a disability:

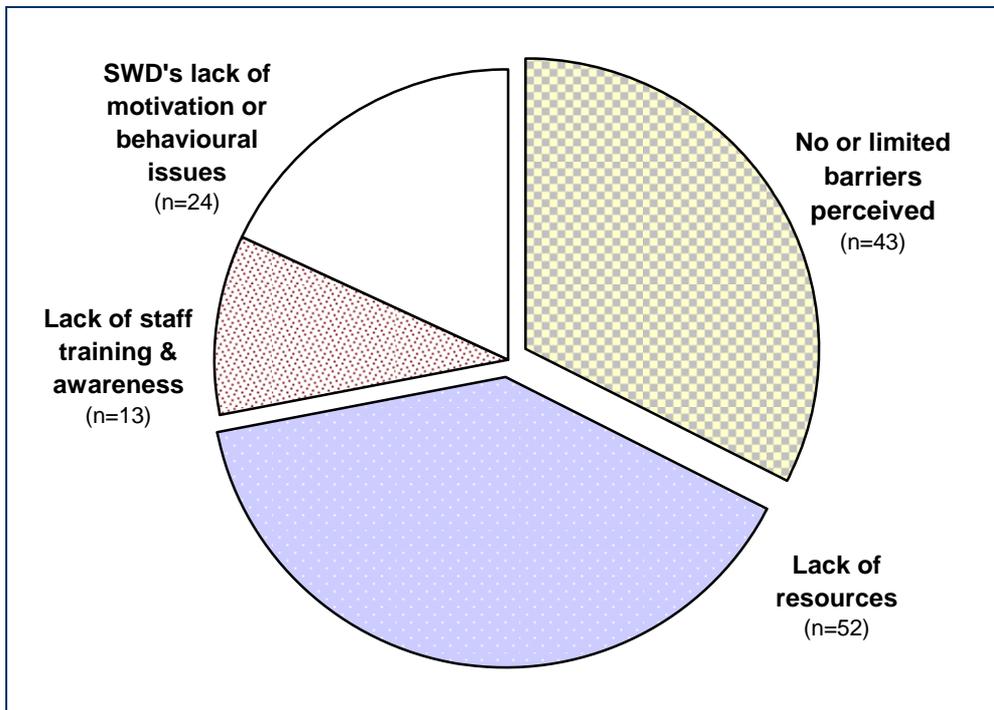
They participated well in sports day this year as they went around together as a group with a teacher and participated in the traditional sports day events they wanted to, as well as the "non traditional" sports day events like vortex throw.

One primary school respondent suggested that a modified sports day was provided for students with a disability, separate to the sports day for students without a disability. Likewise, another respondent advised, “We have modified events ahead of time.”

One respondent suggested that with modifications there were no barriers to participating in individual events. It was also a reasonable observation that when school sporting events were ‘over modified’, that students with a disability may risk being excluded from being “part of the school” by those very modifications.

In relation to the barriers to participation for students with a disability in PE, a further analysis was conducted. As reported previously, forty-three (32%) responses suggested the perception of no or very few barriers. However, 52 (39%) responses cited a lack of resources, such as staff, equipment and financial and 37 (28%) personalised the barriers, such as indicating students’ motivation, ability and/or behaviour as a barrier or, alternatively, teacher skills, lack of training and disability awareness. These 37 responses, that personalised barriers and which tended to focus blame on individual agency rather than the structures surrounding them, are displayed as two conjoined segments in Figure 3 below.

Figure 3: Perceived barriers to students with a disability's (SWD) participation in physical education



Further analysis of school and respondent variables in relation to perceived barriers for students with a disability's participation in PE revealed consistent trends. Hence perceived barriers to participation in PE according to respondent role, school type or number of students with a disability have not been reported separately.

Additional themes, although less prevalent, were identified in barriers for students with a disability's participation in physical activity, school sport and school sporting events. These perceptions of barriers included 'exclusion by peers' and 'lack of parental support'. A cross comparison of non-PE, school based activities is offered in Table 5.

Table 5: Perceptions of the barriers for students with a disability's participation in non-PE school and community activity

Barriers	Physical activity (n=127)	School sport (n=112)	School sporting events (n=107)	Community sport / recreation (n=99)
No or limited barriers perceived	34%	38%	73%	19%
Resources (staff, equipment & financial)	31%	20%	10%	25%
Staff's training, knowledge & awareness	7%	22%	1%	11%
Students with a disability's motivation or behavioural issues	24%	21%	13%	14%
Exclusion by peers	3%	7%	2%	7%
Parental support	1%	3%	1%	23%

In relation to the expressed barriers in Table 5, the lack of staff training, knowledge and awareness about inclusion and adaptations was reported by 22 per cent of respondents in relation to school sport, which far outweighed perceived barriers in other categories.

Student motivation or behavioural issues appeared to be less of a barrier to participation during school sporting events and community sport/recreation, than in the other two activity categories. It was possible that student excitement, higher levels of inclusion and the social aspect to these activities may have motivated higher levels of participation. As one respondent suggested in relation to sports carnivals, "Most children participate and are excited."

School and community resources were indicated as a significant barrier to students with a disability's participation, with 39 per cent identifying resources as a barrier for PE, 31 per cent for physical activity, 25 per cent for community sport/recreation, 20 per cent for school sport and 10 per cent for school sporting events. Later in the questionnaire respondents were asked to clarify the resources they thought might assist with the inclusion of students with a disability.

Almost one third (31%) of respondents to the question about needed resources advised that their schools required equipment for wheelchair bound children, for the development of gross motor skills and sensory equipment. Many of these responses were presented as requests and

appeared to be related to specific students with particular needs. Nearly two thirds (61%) of the responses indicated not knowing what resources were available to help encourage the participation of students with a disability. Predominantly they asked for books, catalogues of activities and information and, specifically in relation to PE classes and team sport, the want for “practical ideas” prevailed. Only seven per cent of respondents suggested that additional staff was needed.

Respondents were asked whether they regularly accessed professional development concerning students with a disability in PE, of which approximately 18 per cent advised that they had and 82 per cent advised that they had not. They were asked to specify the training that would assist them with promoting students with a disability’s participation in PE. Twenty-two respondents advised that they would welcome any information on disability and PE, and 25 suggested they needed assistance on how to develop modified PE classes and team sports. Seventeen respondents articulated a desire for information on how to include students with specific disabilities, such as Autism Disorder, Asperger’s Disorder, Down Syndrome, Tourette Syndrome and Vision Impairment. Other respondents suggested that they would consider professional development as specific needs arose.

It is worth noting that two respondents suggested that teachers needed training on inclusive ‘learner-centred teaching’ approaches, disability or not, that involved individual students in the designing of their own PE programs, goal setting and working towards achievable outcomes in less-competitive environments. As stated by one of the respondents:

We involve the students in the process of designing their physical education programs. Providing the students the opportunity to have some input into their learning and involvement has proved very useful and the participation numbers are way up as a result.

This comment is reflected in education literature on ‘learner-centred teaching’. It was noteworthy that only one respondent articulated a connection between education theory and the teaching of students with a disability in PE.

Finally, respondents were asked to share any examples of successful and/or innovative practices that they had observed. As there were few examples provided, all have been presented below:

Coordination classes for new starters to identify/implement strategies for any delayed gross motor development.

Shorting [sic] length of hockey sticks, lacrosse sticks and cricket bats to increase hand-eye coordination with a student with cerebral palsy.

Allowing students to watch first and then have a try themselves, as well as setting different challenges for special needs students.

Making negotiated rules changes, encouraging the students and creating a positive, fun environment.

Using peer tutors to work with students to help model correct behaviour and skill techniques.

Hiring wheelchairs for use in a sports carnival to enable able bodied students to compete against a wheelchair student.

Special Olympics at Salisbury High School.

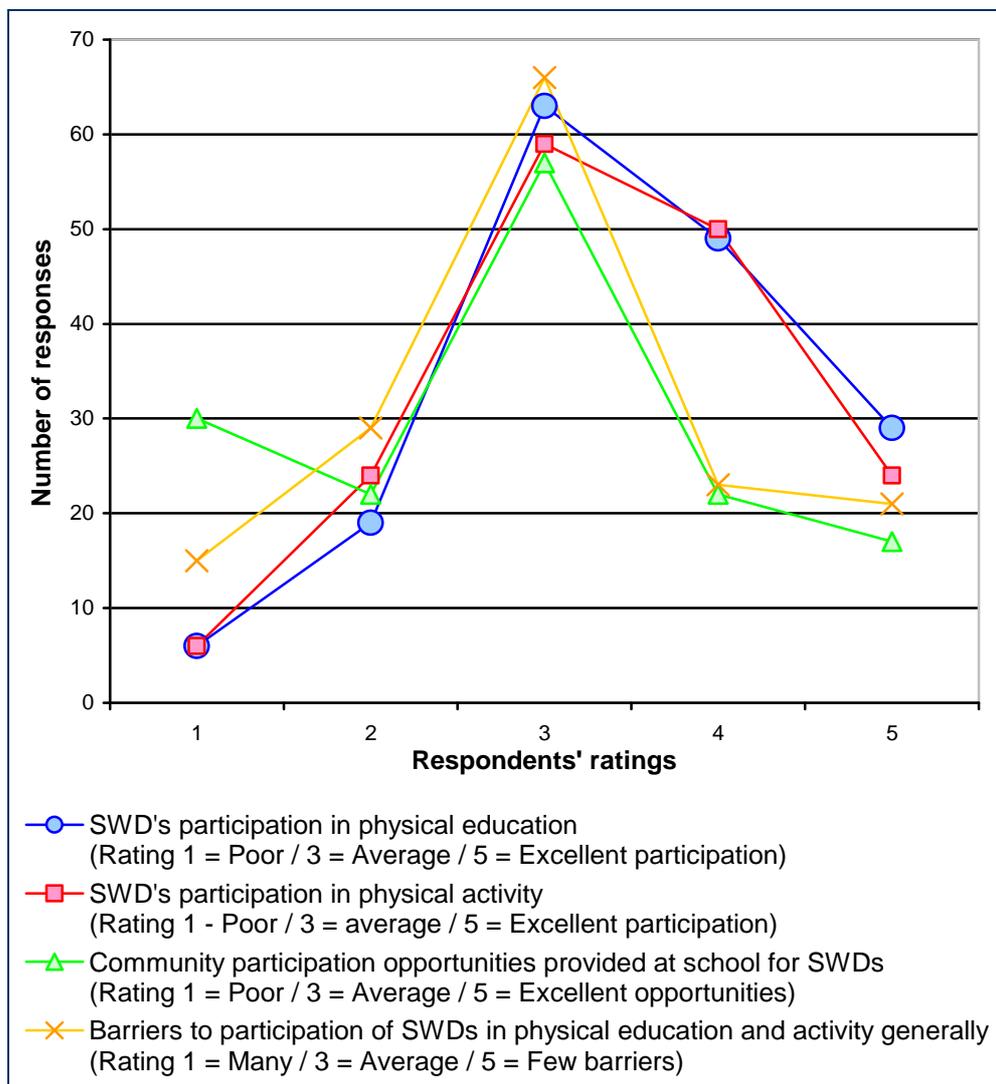
Embracing a whole of school ethos of "everyone has a go" because all students can participate in a physical way.

Comparing participation, opportunities and barriers

Teachers who completed the questionnaire were asked to provide their overall ratings in relation to the participation levels of students with a disability in physical education, participation in physical activity at school, community participation opportunities provided at schools for students with a disability and barriers impacting students' participation.

A graphical representation of the distribution of teachers' ratings in response to the four scaled questions is provided below in Figure 5:

Figure 5: Teacher ratings of students with a disability's (SWD) participation in PE and physical activity, opportunities and barriers



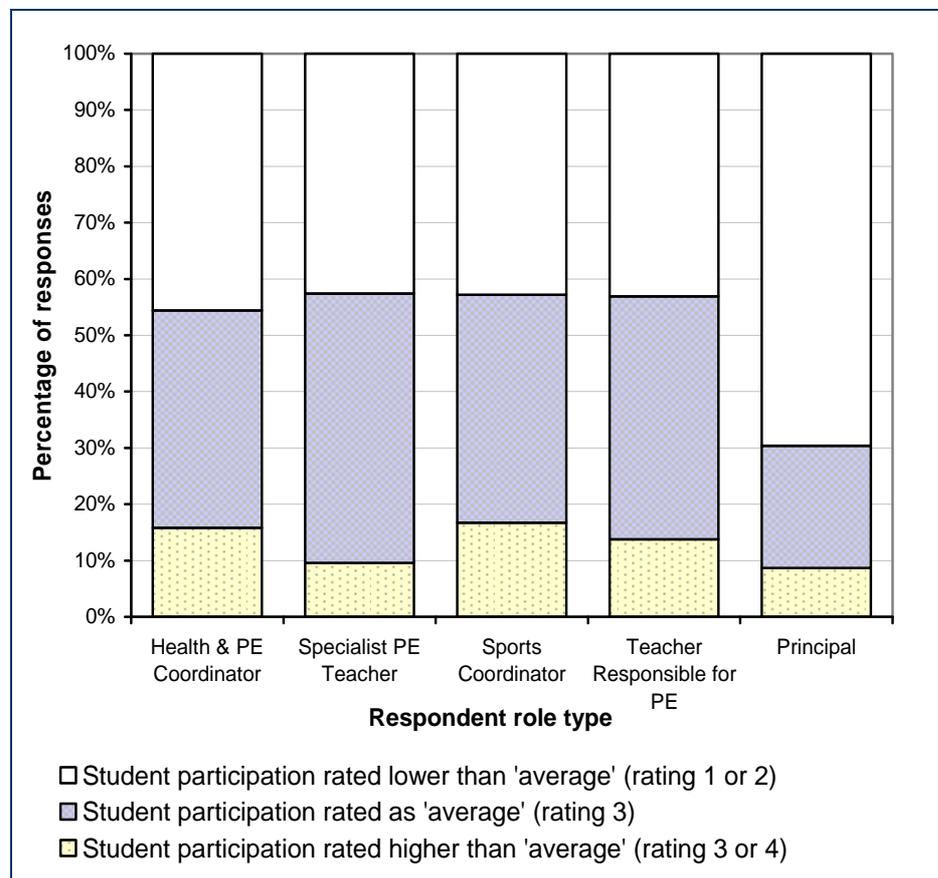
One could assume from Figure 5 that that the majority of teachers selected an 'Average' rating across all of the four scaled questions. However, only 19 (11.4%) teachers actually provided an 'average' rating in all four rating scales. Although a central tendency bias was evident, it was not significant.

Approximately eighty-three per cent of respondents (n=138) who provided a particular rating for the first scaled question, students with a disability's participation in physical education, provided the same rating for the second scaled question, students with a disability's participation in physical activity. This suggested a correlation between the two variables; hence it was likely that students with a disability with any particular participation level in physical education were likely to have similar participation levels in their other physical activities when at school. For this reason, comparisons between the respondent role type and their perceptions of student

participation are reported primarily in terms of students with a disability's participation in PE.

Principals who completed the questionnaire (n=23) returned the lowest ratings for students with a disability's participation in PE; sixteen principals (69.6%) indicated that students with a disability's participation in PE was below 'average' and only two principals (8.7%) provided a rating that indicated above 'average' participation. Figure 6 presents a comparison of the ratings in each 'role type' cohort in relation to perceptions of students with a disability's participation in PE. The single dance teacher who responded to this survey was excluded from this comparison. Attention is drawn to the variance between principals and the four other role types that are more likely to have regular contact with students during PE lessons.

Figure 6: Ratings for students with a disability's participation in PE according to respondent role type



Correlations were observed between the principals' ratings of 'barriers to participation of students with a disability in PE and activity generally' and the perceived level of 'community participation opportunities provided at school for students with a disability'. Five of the seven principals (71.4%) who rated 'opportunity' at the lower end of the scale also rated 'barriers' in the higher range. Likewise, five of the eight principals (62.5%) who rated 'opportunity' at the higher end of the scale also rated 'barriers' as 'few', and all seven principals who rated 'average' did so in both rating scales.

Conversely, the responses to the rating scales on 'opportunity' and 'barriers', as returned by teachers who were not principals, were variable and mixed. This suggested no correlation between the two.

No further trends in relation to employee type and rating tendency were observed.

Interviews with physical education professionals

The six face-to-face, qualitative interviews were analysed in accordance with predetermined themes identified from the Terms of Reference. Hence, analysis involved the searching for indicators of 'opportunities' at school for students with a disability to participate in physical activities, as well as 'collaborations' between families, education sites, disability and community organisations that helped to facilitate additional opportunities. Results from each interview are presented individually.

As stated prior, names and places have been altered in order to protect the confidentiality of the individuals involved.

Michael Winter

Michael's time was divided equally between two roles at the rural primary school where he worked; as a specialist health and PE teacher and as an assistant principal. In addition, he coordinated a number of inter-school sporting competitions. Michael shared, advocated for and applied his school's philosophy that every student should be included in every activity.

Michael advised that he attended professional development activities to build on his knowledge as a PE teacher. His training in the use of the Sport Ability kit was a catalyst for significant changes in his approach to teaching students with a disability in PE. Michael advised that he used the Sports Ability kit with every PE class for a unit of work each year. He commented on the suitability of the activities for use indoors, as well as for pairing up of students with diverse abilities. Michael emphasized the importance of engaging students without a disability in peer support for students with a disability, which had facilitated greater opportunities for these students in PE.

Michael provided examples of successful collaboration between mainstream and special school, for which he adapted and modified games and activities to include all children. This initiative not only provided inclusion in sporting activities, but also fostered social skills between the students.

Michael described how activities had been adapted for a sight impaired student by:

- playing cricket with a bell in the ball
- attaching a rope from a student to a guide/teacher during a running race at an athletics carnival

- swimming a race with the help of a guide/speaker on the side of the pool.

To facilitate greater opportunities for participation for students with hearing impairment, Michael provided portable receivers and microphones to the players of competitive team sport.

Finally, Michael advised that teaching any student was not necessarily easy:

You have to cater for all individual differences, reluctant kids in PE lessons or kids that have trouble reading or writing during health lesson or whatever. So I wouldn't say it's any more difficult than any other student. I think you need to cater for all students.

Michael related back all his positive examples to the acceptance, inclusion and provision of opportunity for students with a disability that grows out of social learning opportunities. Michael expressed that the school's philosophy on inclusion, the school support for his professional development activities, his reflective teaching practices and capacity as a PE teacher were key for enabling opportunities for students with a disability at his school.

John Sanderson

As the only specialist PE teacher at his primary school, John conducted a PE lesson with each class for two hours per week. He advised that there were more than 30 registered students with a disability at his school. John acknowledged initial difficulties with designing an inclusive curriculum in relation to particular students with a disability in PE, whilst also facilitating maximum opportunities in PE for the students without a disability. He tried to resolve this by collaborating with the drama and the special education teachers in relation to curriculum design and student management. He also acknowledged that, through 'trial and error' and with experience, this task had become easier and that it was helpful to involve the classmates of students with a disability to generate ideas to facilitate inclusion.

John related how he sought professional development regarding autism spectrum disorder in order to be more able to accommodate the individual needs of particular students. As a result, he used alternative equipment to better cater for the sensory needs of one student, he facilitated small group activities for a student who had difficulty working in large groups and he devised non-competitive games. John expressed that his professional development provided him with a better understanding of how students with autism spectrum disorder may function under certain circumstances, including how to interpret bodily signs that may indicate oncoming mood changes. Knowledge about the impact of the environment on students with this particular disability allowed him to develop proactive and reactive strategies, both of which were necessary for inclusion and safety.

John stressed that it was important not only to prepare for lessons, but also to prepare through professional development, gaining knowledge about each student, their disability and their capacity to engage in the range of PE activities. He advised that patience and a constant vigilance was necessary for specific disabilities. Being equipped with better understanding ensured that John was addressing each student's needs "in a different way without isolating them." This is what he believed could provide the best opportunities to all his students to participate in PE.

Tom Pringle

In addition to teaching PE at a primary school, Tom coordinated intra-school sports carnivals and the inter-school sporting competition. His role included the coordination of parents who volunteered to assist with coaching and team supervision. Tom was particularly pleased with the popularity and success of the Active After School Communities Program at his school, which engaged students who were not previously active. He hoped that the program would help to build the confidence of students, including students with a disability, to participate in sport and to provide a conduit to sport in the community.

Tom's school was co-educational, with composite classes across all year levels. This meant that the students in each class had variable ages, maturity and physical ability, disability or not. Tom stated that his capacity to facilitate participation opportunities for his diverse mix of students developed with training, experience and with maturity.

With reference to his professional development activities, Tom collaborated with the Australian Sports Commission and attended workshops at the University of South Australia. What he valued the most, in terms of building opportunities for students with a disability to participate in his PE classes, was his learning of the 'TREE' principle from the Sports Ability kit. Tom explained:

I learned the overall principle of including students with disabilities using the TREE principle for making changes. T stands for the teaching, R stands for the rules of the game, E stands for the equipment and E stands for the environment. So I use that TREE principle to consider how I can change it.

Under the TREE principle for inclusion, Tom emphasised the importance of engaging in collaborative activities and learning about individual children's disabilities, which in turn informed changes to his teaching approach. Tom continued:

I try and find out what the disability is because every single child is different. For example, the severity of the disability and the nature of the disability, be it mild or severe. So you've got to do your homework first and find out from the teacher and the parents and talk to them so you know where you're at. Whether they love physical activity or not, or whether they're somewhere

in between ... so you do your homework and I guess then you would adapt your lessons accordingly.

Finally, Tom was concerned that the PE teaching profession tended to attract people who were “perhaps good athletes themselves and were very competitive and very elitist”, which may lean “to more of an elitist type of ideology, rather than an inclusive ideology.” He believed that all teachers should be required to collaborate with professional associations that had “key people who were very philosophically inclusive.” In doing so, Tom hoped that there “might be a shift, particularly with the new generation coming through.”

Morris Helmsdale

Morris worked at an R-12 school and he was a member of a PE faculty. The majority of his time was dedicated to teaching PE to upper primary and junior secondary school students. The other part of his workload was applied to sports coordination and administration.

A competitive sports environment was obvious at Morris’s school. Many school sports teams had won state titles over recent years and a large number of students competed in state teams. Morris stated that the “best players” were chosen for interschool sports and carnivals, but that there were many sports for students to choose from and some were less competitive.

Morris was of the opinion that all children needed to be active and that the PE staff at his school all tried to do their best to make sure that all students were. He observed a positive attitude from most students with a disability in his upper primary classes and the students without a disability frequently competed to help or to ‘buddy’ with them. Hence, the issue was to manage the other students so that students with a disability did not become overwhelmed, more so than to encourage students with a disability’s participation.

As students with a disability became older, Morris observed that the uptake of opportunities for students with a disability to participate in PE often declined. He believed this resulted from decreased peer support and increased self-consciousness.

The benefits of working in a school with a PE faculty, said Morris, were that he could “bounce ideas off others” and seek “ways to improve practice.” The school employed special education teachers who provided in-service training days and personal advice, when necessary, on how to accommodate students with particular disabilities. The PE faculty also collaborated with and enlisted the help of outside organisations, such as Autism SA and Novita, to provide practical advice regarding particular students and their disabilities.

In terms of accessing professional development opportunities that may help to facilitate greater opportunities for improving students with a disability’s

participation in PE, Morris was of the opinion that “There’s not a lot specifically for PE teachers to go to.”

Suzette Patterson

Under a broad umbrella of ‘health’, Suzette taught health, PE, personal development and home economics at a secondary school to both mainstream students and to students in a special class. Suzette explained that her workload was divided equally between the two student cohorts. Students in her special class had intellectual and/or physical disabilities.

Suzette highlighted that the students in her special class had “the right to do exactly the same sort of subjects and have the same opportunities as students in the mainstream.” She advised that some students from the special class had competed in interschool athletics, sports carnivals and lunch time sport with mainstream students. However, Suzette believed that segregated PE classes allowed for activities to be tailored so that students with a disability could engage equitably and achieve to the best of their abilities.

Suzette was keen to encourage general fitness amongst her students, especially with the knowledge that her students often did not have active lifestyles outside of school:

They tend at home to sit and watch television or work on a computer for a lot of the time ... so one of the biggest pushes here is for fitness and to do that we’ve got ourselves hats, we’ve got ourselves little hand-weights and pedometers and every week we walk in one of our lessons. We measure our distance ... we split into two groups and, ... because obviously there’s different abilities in how fast the girls can walk, I might take a faster group and we’ll walk a bit further distance than the slower group of girls. When we get back to school, we keep a record of that for a term ... we actually get a map of South Australia and they choose to walk to a particular country place by the end of a semester ... So they actually really love their walks and usually each term, as a part of a reward, ... we’ll hop on a bus or if there’s enough money we’ll get a hire bus and we’ll go on a walking excursion.

Suzette’s engagement of students in general fitness has provided her students with a disability with opportunities to realise cost effective ways in which to participate in active lifestyles. She has observed change in activity levels that has extended into her students’ personal lives:

This is an activity they can do at home for free and I’ve found that lots of girls who leave here, and even some of the girls in the class now, will say to me, “We still walk Ms Patterson”, “We still walk the dog” or “We go for a walk with our family every night” or every weekend or something. So it’s something that I can teach them that doesn’t cost money.

Duncan Smith

Duncan, who was the head of the PE faculty at a secondary school in South Australia, taught physical education to upper secondary school students. In addition, he coordinated a number of sports teams. At Duncan's school, PE was an elective subject for senior secondary school students, but compulsory for junior secondary school students. All students were required to be involved in extracurricular activities and being part of a sporting team that competed against teams from other schools was only one of the many extracurricular options available to them.

Duncan advised that he once supported the belief that "If the school couldn't cater effectively for someone then it shouldn't be accepting someone." However, a turning point in his philosophy took place following collaboration with one particular parent who advocated for her child's mainstream inclusion in PE. Duncan recognised that, in order to provide opportunities for students with a disability to participate, he needed to re-evaluate and change his approach to teaching PE. This involved the following:

- being open to new ideas and ways of working with students
- collaborating with students and their families to build individualised PE plans
- using physical activities external to school as benchmarks for what is possible to achieve in school
- modifying mainstream PE classes to provide opportunities for students with a disability to be involved
- providing alternative options for students with a disability when unable to engage in mainstream PE classes
- including students with a disability in the formulation of goals for PE and the evaluation of outcomes
- encouraging students to challenge themselves, to strive to achieve and to work towards improving their 'personal best', rather than competing against each other.

Duncan experienced that his change in attitude provided a role model to mainstream students and acceptance of diversity. He observed that peers provided greater opportunities for students with a disability with diverse conditions to participate in PE as a result of their acceptance, inclusion and support during classes.

Discussion

There is a growing need to ensure that all students, and more so students with a disability, are adequately participating in physical activity during their school years. This is evidenced by the upward trends in childhood obesity in Australia (Booth et al., 2006; Gill et al., 2009; Goodman et al., 2002; Magarey et al., 2001; Vaska & Volkmer, 2004), disability and obesity correlates (Christakis & Fowler, 2007; Ells et al., 2006; Ells et al., 2008; Emerson, 2009; Stewart et al., 2009) and higher rates of chronicity, compounding health issues and compromised life expectancies when disability and obesity coexist (Perrin, 2002; Sullivan, 2009; Walter et al., 2009).

In addition, research data supported the understanding that students with particular disabilities may be prone to obesity related social behaviours (Christakis & Fowler, 2007). As well, it was believed that active children are more likely to become active adults (Kim, 2008). Both these findings are supported by results from the current research in which many teaching professionals suggested limited participation by students with a disability in PE and physical activity, as well as students with a disability's motivation as a limitation. Likewise, one teacher reported in an interview that she observed students with a disability in her class to have tendencies not to engage in exercise outside school hours. Upon constructing routine walking activities at school that involved rewarding students' physical achievements, she learned about the students with a disability active habits that had been extended beyond school life and into adulthood.

All considered—health, wellbeing, and chronicity of illness, together with associated health care costs into adulthood—it has become critical for a greater emphasis on encouraging students with a disability to be active when at school.

The findings indicated that:

A greater emphasis should be placed on fostering physical activity opportunities for students with a disability and on encouraging their participation during their school years.

Schools should continue to raise awareness about how the development of healthy, physical habits in childhood correlate with healthier physical habits into adulthood, including the benefits of lifelong fitness for people with a disability.

Preparing to teach inclusive physical education

Studies cited indicated that pre-service PE teachers were not adequately prepared to teach PE to students with a disability in inclusive settings (Sato et al., 2007; Specht et al., 2009; Vickerman & Coates, 2009). This was confirmed by the reflective comments of teachers in the current research.

Other researchers found that pre-service PE teachers benefited from appropriate learning opportunities on disability, particularly because it helped to build self efficacy, confidence and it prepared teachers with skills for teaching students with a disability in inclusive PE settings (Gursel, 2007; Hopper & Stogre, 2004; Hutzler et al., 2005; Lancaster & Bain, 2007; Morley et al., 2005; Vickerman & Coates, 2009). In the current research, teachers interviewed expressed that their confidence and skills to teach students with a disability in PE only increased with training and application of acquired knowledge. They expressed that knowledge about particular disabilities enabled proactive and strategic planning for particular students. Training on adaptations to PE lessons changed mindsets about the need for competitiveness between students in PE, which helped to facilitate inclusive environments especially for students with particular social and behavioural disabilities. Finally, the current research indicated perceptions that appropriate training for working with students with a disability in PE would have been highly welcomed during pre-service PE teacher training.

With significance, Australian researchers cited that the preparation of PE teachers for teaching students with a disability in inclusive settings was marred by apparent disparities between the pre-service training and the contextual conditions once employed as teachers (Lancaster & Bain, 2007). A brief review of teaching curriculum, via the websites of South Australia's three universities (Flinders University, 2010; The University of Adelaide, 2010; University of South Australia, 2010), revealed that inclusive teaching was a key focus in general education (which PE majors also undertook). However, there was no evidence in the course syllabuses that the focus on inclusive teaching extended beyond classroom settings or beyond traditional academic contexts.

In also considering that many PE professionals, such as in primary school settings, do not undertake PE majors when at university, it is important that they too have the opportunity to develop understandings on how to apply the principles of inclusive teaching to learning tasks that require students to engage in physical activity.

Tertiary educators are critical for the success or failure of any political agenda on inclusive education in PE (Vickerman, 2007) and many positive benefits for PE teachers and for teaching PE to students with a disability result from appropriate pre-service training opportunities (Gursel, 2007; Hopper & Stogre, 2004; Hutzler et al., 2005; Lancaster & Bain, 2007; Morley et al., 2005; Sharma et al., 2008; Vickerman & Coates, 2009). However, only the University of South Australia explicitly stated a focus on disability in the online versions of PE teaching syllabuses. One subject extended to teaching diverse students, motor development and health

outcomes, and strategies for teaching students with diverse and special needs. In another subject there was a small focus on anti-discrimination in sport (University of South Australia, 2010).

From both self-reports and in responses to a range of questions about disability knowledge and the teaching of students with a disability in PE, the current research found that most participants were not equipped with adequate information and skills to teach students with a disability in PE when they commenced as a teacher. A couple of interviewees reported learning about particular disabilities, as much as they could from the learning opportunities that became available to them, and reflecting on their new understandings when teaching. However, this ad hoc professional development took place, because there were not sufficient learning opportunities specific to inclusive PE teaching available to them when in pre-service teacher training, nor when in practice. This highlights the need for systematic planned learning opportunities specific to PE teaching.

It can be speculated that, in South Australian universities, a shortage of both compulsory and elective learning on inclusive teaching exists for teaching subjects such as for PE and for coordinating physical activity and sport at school. Likewise, there is insufficient focus in specialist PE teacher training on disability knowledge and practical solutions for facilitating truly inclusive PE classes.

Overwhelmingly, questionnaire participants in the current research indicated that 'any' information on disability would be welcomed. As well, many respondents simply asked for practical ideas and innovations for adaptations that could be used in PE classes, in school PE settings and sporting events.

With an assumption that pre-service teacher training may have a greater focus on disability than in bygone years, one interview participant from the current research expressed hope that the 'new generation' of PE teachers may bring to the field a range of new approaches to teaching. In particular he hoped that they may have more positive attitudes on inclusive PE teaching, knowledge for working with particular disabilities, motivational strategies and fresh ideas for inclusive PE activities.

However, such transformation may only be achieved with changes to PE pre-service teacher training that offers a wider range of options (and an equitable ratio) in the curriculum for developing PE teachers' repertoire of ideas, confidence, skills and motivations to work with students with a disability in mainstream PE classes. As suggested by Australian researchers, Vickerman and Coates (2009), a wider range of options, as well as a balance between practical and theoretical options is needed to ensure pre-entry teachers are equipped for their futures.

The findings indicated that:

South Australian tertiary institutions, in the provision of pre-service PE teacher training, fitness and sport coaching, should include compulsory theoretical and practical coursework on disability, inclusion and adaptations.

Consideration should be given for all pre-service teacher training available through South Australian universities, from early childhood teaching to secondary teaching, and including PE teaching, to include a range of optional coursework and field experience components on the inclusive education of students with a disability in PE, from which a minimum of options should be undertaken.

In-service training

Recent studies indicated varying abilities, motivations and gratification amongst PE teachers in relation to teaching of students with a disability in PE and, in particular, they correlated positive PE teacher attitudes towards teaching students with a disability with increased opportunities for students with a disability in PE and sport (Hodge et al., 2009; Penney & Hay, 2008). As well, they confirmed that in-service training and other professional development activities played a vital role in developing inclusive teaching approaches, which were important for maximising the life long opportunities for students with a disability in terms of health and wellbeing.

Even if changes were made to pre-service teacher training to ensure an equitable focus on teaching PE to students with a disability, it would take many years for pre-service teaching curriculum to change and for new graduates with new knowledge to have an impact in the field. For current PE professionals, not all schools have a PE teaching faculty, which limits individual PE teachers from sharing knowledge with like colleagues, reflecting on PE teaching applications with students with a disability and for building confidence. Schools with PE faculties were not necessarily better off. Although PE teachers may have had the support of colleagues, often opportunities for professional development beyond their immediate schools were overlooked.

Questionnaire respondents from the current research confirmed that teacher skills, lack of training and disability awareness were inhibitors of successful, inclusive PE teaching. Hence, it becomes necessary to encourage knowledge seeking, disability awareness and skill acquisition amongst the PE teaching faculty. The uptake of opportunities to extend teachers' learning on disability and on inclusivity in PE should be both promoted by schools and supported by schools.

In addition, it seemed that few teaching professionals were consulting students with a disability (or associates) in accordance with the Disability Standards for Education 2005 (Cth), in which contemporary theory and research on learner-centred education suggested that student consultation and engagement on planning, goal setting and work towards meeting learning outcomes resulted in higher levels of student engagement and satisfaction, including in physical education (Gibbons & Humbert, 2008; Răman, 2009; Sturm & Bogner, 2008).

Despite the teaching policy and educational theory, only one primary school questionnaire response, and one secondary teacher who participated in an

interview, indicated theoretical principles of 'learner-centred' teaching approaches in which teachers worked together with students in devising their own activities and goals for PE.

In addition, it is important to make available a range of forums in which ideas and strategies can be communicated between PE teachers and innovative ideas diffused, which is discussed later in this section.

The findings indicated that:

PE teachers would benefit from being supported to undertake an accredited disability training course in PE, coaching, sport or fitness as a professional development activity, particularly in relation to the application of learner-centred educational approaches for PE.

Appropriate forums should be created in which PE teachers may have the opportunity to share knowledge and to diffuse innovative practices used in their inclusive PE teaching.

Physical activity

As already stated, it is well known that benefits exist for students to engage in physical activity when at school in order to develop healthy habits and active lifestyles. For example, engagement in physical activity may lessen the frequency of disability and obesity co-morbidity, as well as the chronicity of illness and disease (Christakis & Fowler, 2007; Ells et al., 2006; Ells et al., 2008; Emerson, 2009; Perrin et al., 2007; Stewart et al., 2009; Sullivan, 2009; Walter et al., 2009).

All students with a disability are individuals and they know their own ability to participate in various physical activities better than anyone else (MacDonald & Block, 2005). In addition, the life long benefits of exercise and opportunities to develop socialisation skills through participation in physical activity are invaluable for students with a disability, as with any other student (An & Goodwin, 2007; Buran et al., 2004). However, students with a disability's lack of engagement in physical activity, as found in the current research, may be due to a range of variables. This may include past experiences of discrimination, students with a disability's lack of confidence or self-advocacy skills and/or schools', teachers' and peer attitudes towards inclusion (Grenier et al., 2005; MacDonald & Block, 2005).

Many teaching practitioners have tested a range of inclusive teaching practices and some have written about their successes. In doing so, strategies that welcomed learner-centred education strategies, encouraged students with a disability's voice, engaged cooperative learning amongst peers, fostered peer empathy through disability simulations and the use of developmentally appropriate physical activity have all proven to have some success in creating inclusive physical environments (Fittipaldi-Wert & Brock, 2007; Grenier et al., 2005; Lavay et al., 2007; MacDonald & Block, 2005; Tripp et al., 2007; Zhang & Griffin, 2007).

In the current research, encouraging practices were observed in relation to broadening the opportunities for students with a disability to be physically active. This included daily fitness programs, the inclusion of party-style activities in sporting carnivals, regular walking activities, offering the 'Premier's be active Challenge' and the 'Active after School Communities Program', provision of a Nintendo Wii at Out of School Hours Care and the use of modifications in each of these activities according to student ability. The success of these activities, as reported by participants in the current research, appeared due to the non-competitiveness nature of engagement.

However, the majority of questionnaire respondents maintained that it was the responsibility of students, including students with a disability, to choose from the range of activity options available to students. At the same time, many of the questionnaire respondents stated that students with a disability's own motivation was a barrier to their participation in physical activity. It is problematic that students with particular disabilities may be prone to obesity related and non-active lifestyles (Christakis & Fowler, 2007) and may not be encouraged to participate when inactivity is viewed as their own problem.

The findings indicated that:

Schools and educators should acknowledge the responsibility for strategies and options that may encourage and motivate students with a disability to be more physically active at school—in PE, general education and in extracurricular activities.

Students with a disability may benefit from the greater inclusion of non-competitive activities in PE, including appropriate adaptations to traditionally competitive PE modules such as team sport.

Community connections

It is generally acknowledged in research that collaborative activities between schools and communities have the potential to create more teaching and learning opportunities, as well as to provide solutions to meet multiple, interrelated needs in education (for example, see Battista et al., 2008; Delaforce & Buckley, 2003; Hands, 2010; Higham & Yeomans, 2009; Smith et al., 2007).

The current research revealed relatively little knowledge amongst PE professionals about the organisations that provided sporting and active recreation opportunities for students with a disability and the programs or events on offer. Even fewer participants in the current research knew of examples of collaborative activities between their schools and disability organisations.

The findings indicated that:

Greater opportunities for students with a disability to be physically active may be fostered via PE teacher awareness and collaboration with disability

organisations that have physical activity and recreation focus, or sporting organisations with specific programs for people with a disability.

Disability sport and recreation organisations should be encouraged to develop a higher profile with PE teachers across the three education sectors.

Sharing successful innovations

Presented in the literature review were a series of teaching strategies, in which authors argued some success for fostering inclusive learning environments in PE (Curtin & Clarke, 2005; Fittipaldi-Wert & Mowling, 2009; Grenier et al., 2005; Lavay et al., 2007; MacDonald & Block, 2005; Zhang & Griffin, 2007). As well, ideas for successful teaching of inclusive PE with students who have a range of disability types were presented in the current research.

High levels of creativity, innovation and expertise should be a true inspiration to all, but without communication of ideas, successes and outcomes, positive change is less likely. The key, therefore, is to promote the uptake of teaching innovations for inclusive PE that have shown to be effective, such as with examples from the current research:

- successful application of learner-centred educational techniques through the use of the Sport Ability kit for inclusive activities
- use of non-competitive activities in PE and non-scoring team sport for students
- proactive techniques for recognising warning signs for students with social and behavioural disorders
- reward systems for regular walking activities; and, so forth.

However, research suggested that for successful innovations to diffuse and become mainstream practice, that they need to be communicated (McLaren et al., 2008; Rogers, 2003). The current research indicated a number of inhibitors to the spreading of ideas for PE, such as few opportunities for solitary PE teachers to reflect with others on PE teaching, or for PE teachers who are members of PE faculties and who may not extend beyond their own work sites for professional development.

In addition, for successful spreading of innovative teaching ideas for PE and physical activity, ideas need to be practicable, be perceived as having potential benefits, easy to trial and, when found successful, adopted by others into their repertoire of teaching practices. When many participants in the current research simply advised that they needed “ideas” for use in PE, it would be favourable to build professional development forums in which the communication and sharing of ideas can take place. This is important for ensuring that practical ideas for use in inclusive PE settings are communicated and that innovative practices for inclusive teaching in PE are diffused.

The findings indicated that:

Professional knowledge, practice innovations and the practice exemplars identified from the current research should be communicated and diffused, via education and disability conference presentations and in relevant professional journals.

The development of appropriate forums, where PE teaching ideas and innovations may be shared less formally between recently graduated and more experienced PE teachers, should be encouraged—such as via ‘swap-meets’ facilitated through Regional Offices.

Schools should encourage PE teachers, both those in schools with and without PE faculties, to undertake site visits with other schools for the purpose of sharing ideas and innovations for inclusive PE teaching.

Future research

This research only sought the perceptions of PE professionals on teaching students with a disability within inclusive PE classes, which presents as a limitation to this research. For an extended understanding on the opportunities available to students with a disability and the experiences of students with a disability in PE, physical activity, sport and sporting events, the voice of students, parents, carers and other stakeholders need to be considered for future research.

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Appendix 1

Project group membership

Chairperson

Pam Jacobs Member of the Ministerial Advisory Committee: Students with Disabilities

Head of Primary Years/Manager of Special Needs at Mark Oliphant College, Department of Education and Children's Services.

Members

Tara Andrews Project Officer, Social Inclusion, at the Office for Recreation and Sport.

Vivian Cagliuso Parent Representative and Member of the Ministerial Advisory Committee: Students with Disabilities.

Stephanie Grant Member of the Ministerial Advisory Committee: Students with Disabilities; Senior Advisor, Special Education at Catholic Education SA.

Adele Mayrhofer Representative of the Association of Independent Schools of South Australia; Principal of Suneden Special School.

Manuella Reynolds Executive Officer of the South Australian Sport and Recreation Association for People with Integration Difficulties Inc.

Debbie Wright Project Officer, Sport, Swimming and Aquatics, at the Department of Education and Children's Services.

Ministerial Advisory Committee: Students with Disabilities

Christel Butcher *Executive Officer*

Helen McLaren *Project Officer (from January 2010)*

Fiona Snodgrass *Project Officer (until December 2009)*

Appendix 2

Request for information to community sport organisations

Dear Officers

The Ministerial Advisory Committee: Students with Disabilities is conducting a project for the Minister for Education concerning students with disabilities and physical education and health. The project is a year long project and will focus on physical activity and participation opportunities for children with disabilities in SA.

A project group comprised of members from the three education sectors (DECS, Catholic Education and Independent), disability organisations and sporting organisations that cater for this diverse group of people has been convened.

The project group has determined terms of reference and is now seeking information about opportunities currently available for students to participate in various sporting activities throughout the state. This information will be collated and will inform our project and potentially policy in this field.

I have taken your organisation's name from the 'Sportshorts 2009' handbook put together by the Office of Recreation and Sport.

Could you please advise (a short paragraph) if and what opportunities your organisation provides for children/students with a disability? Please feel free to add any other comments you think may be relevant.

Please respond by email by Wednesday 29 April.

Thankyou for your cooperation and I look forward to your response. For more information on the work we do please refer to our website <http://www.macswd.sa.gov.au/>

Project officer,
Ministerial Advisory Committee: Students with Disabilities

Appendix 3

Short demographic survey

1. School Region
2. Does your school have a:

Health and PE Coordinator	<input type="checkbox"/>
Specialist PE teacher	<input type="checkbox"/>
Sports coordinator	<input type="checkbox"/>
Teacher responsible for PE	<input type="checkbox"/>
Dance teacher	<input type="checkbox"/>
Other: _____	

Appendix 4

Teacher questionnaire

Who are you?

- Health and PE Coordinator
- Specialist PE teacher
- Sports coordinator
- Teacher responsible for PE
- Dance teacher
- Principal

Other: _____

Students with a disability and PE

1. Do students with a disability regularly attend PE in your school?
 - Yes
 - No
2. If yes, how regularly do they participate in PE?
 - Weekly
 - Fortnightly
 - Other
3. How do students participate the majority of the time in PE?
 - In existing programs with no modification?
 - In existing programs with some modification?
 - In a modified program?
4. Do students with a disability regularly participate in after school sport at your school?
 - Yes
 - No
5. If yes, how regularly do they participate in after school sport?
 - Weekly
 - Fortnightly
 - Occasionally

6. Do students with a disability regularly participate in school sporting events at your school?
- Yes
 No
7. How do students participate the majority of the time in school sporting events?
- Physical/sporting participation?
 Non-sporting participation (eg time keeper)?
 Other
8. Do students with a disability regularly participate in any of the following:
- SAPSASA or SASSSA Sports Days
 SAPSASA or SASSSA Sports Days for students with a disability?
9. Do students with a disability access the following:
- DECS Swimming and Aquatics programs for all children?
 DECS Swimming and Aquatics weekly program for students with a disability?
 Other
10. Other opportunities to participate (eg dance classes). Please describe.
11. How would you rate the participation of students with a disability in PE opportunities at your school?
- Excellent
 Very Good
 Good
 OK
 Poor

Students with a disability and physical activity

12. Do students with a disability regularly participate in physical activity in your school?
- Yes
 No
13. If yes, how regularly do they participate in physical activity?
- Weekly?
 Fortnightly?
 Occasionally?
 Other
14. How do students participate the majority of the time in physical activity?
- In existing programs with no modification?
 In existing programs with some modification?
 In a modified program?

15. Does your school participate in the following:
- Premier's *be active* Challenge?
 - Negotiated Challenge aspect of the Premier's *be active* Challenge?
16. Do students with a disability participate in the following:
- Premier's *be active* Challenge?
 - Negotiated Challenge aspect of the Premier's *be active* Challenge?
17. Other opportunities to participate in physical activity (eg lunchtime activities). Please describe.
18. How would you rate the participation of students with a disability in physical activity opportunities at your school?
- Excellent
 - Very Good
 - Good
 - OK
 - Poor

Students with a disability and community pathways

19. Do you link students with a disability to any of the following:
- Community sport clubs?
 - Community recreation opportunities?
 - Disability sporting groups
20. Have you ever negotiated a student's participation into a community sporting or leisure pursuit?
- Yes
 - No
21. If yes,
- Mainstream?
 - Disability?
22. Are you aware of any of the following disability sporting agencies/programs?
- SASRAPID
 - Wheelchair Sports
 - Riding for the Disabled
 - Special Olympics
 - Blind Sports Association
 - Deaf Sports Association
 - Novita's Connect*Ability* program
 - Restless dance Company
 - YMCA Recreation Link Up
 - YMCA Sharing the Fun
 - Other

23. Does your school have any relationship with any of the following disability sporting agencies?
- SASRAPID
 - Wheelchair Sports
 - Riding for the Disabled
 - Special Olympics
 - Blind Sports Association
 - Deaf Sports Association
 - Novita's Connect*Ability* program
 - Restless dance Company
 - YMCA Recreation Link Up
 - YMCA Sharing the Fun
 - Other
24. Does your school have a relationship with any of the following disability agencies?
- AutismSA
 - CanDo4Kids
 - Cora Barclay Centre
 - Down Syndrome Society
 - DisabilitySA
 - Novita Children's Services
 - Inclusive Directions
 - Other
25. Do you negotiate for any of the following community sporting programs to participate at your school?
- Mainstream programs with no modifications for students with a disability?
 - Mainstream programs with modifications for students with a disability?
 - Specialist programs for students with a disability? (e.g. Gymnastics SA)
26. How would you rate the opportunities available at your school for students with a disability to participate in community activities?
- Numerous
 - Above average
 - Average
 - OK
 - Few

Barriers to participation for students with a disability

27. What do you perceive to be the barriers to students with a disability participating in *PE* at your school?
28. What do you perceive to be the barriers to students with a disability participating in *physical activity* at your school?

29. What do you perceive to be the barriers to students with a disability participating in *school sport* at your school?
30. What do you perceive to be the barriers to students with a disability participating in *school sporting events (eg Sports Day)* at your school?
31. What do you perceive to be the barriers to students with a disability participating in *community sport and recreation*?
32. How would you rate the barriers to participation of students with a disability in PE and activity generally?
- Many
 - Above average
 - Average
 - OK
 - Few

Support and resources for teaching students with a disability

33. Have you ever sought assistance from any of the following groups to improve students' participation in PE and activity?
- Special education staff in schools or in the region
 - Sector disability support staff
 - DECS Outreach Teaching Services
 - Government and non-government disability organisations
 - Parents
 - Other
34. Do you have access to specialist equipment and resources?
- Yes
 - No
35. Would you like more information on available resources?
- Yes
 - No
36. What equipment or resources would assist you?
37. Do you regularly access professional development concerning students with a disability and PE?
- Yes
 - No
38. What training would assist you?

Examples of successful practice

Do you have any examples or know of any examples in other schools of best practice?

Appendix 5

Interview questions

- What are your overall beliefs about inclusion and teaching students with various types of disabilities?
- In what ways has the inclusion of students with a disability changed your lesson planning, teaching behaviours, style and/or effectiveness?
- In what ways has the inclusion of students with a disability changed the learning environment for students with and without a disability in your PE lessons?
- In what ways are you motivated to comply with inclusion practices given how others feel about including students with a disability in PE lessons?
- How confident are you in your effectiveness with teaching students with various types of disabilities, from a mild to a severe disability?
- What strategies have you used (or intend to use) in teaching students with a mild to a severe disability, what challenges have you faced in implementing these strategies and what has been critical to your success?
- Where do you think that various students with a disability (from mild to severe) are best taught in PE, for example with other students who do not have a disability, in specialised adapted PE lessons, etc?
- How easy or difficult is it for you to teach various students with a disability (from mild to severe).

(Adapted from, Hodge et al., 2004)

Appendix 6

Participatory opportunities for students to be active

Government strategies with a specific disability component

Active After School Communities (AASC) Program – A national initiative that provides primary school children with access to free, sport and other structured physical activity programs in the after-school time slot of 3.00pm to 5.30pm. Coordinators involve sporting clubs and the local community in delivery of the program. Australian Sports Commission <http://www.ausport.gov.au>

Active programs in schools (Be active Physical Education Week, Be active Corporate Cup, Jump Rope). Australian Council of Health, Physical Education and Recreation <http://www.achper.org.au>

DECS Swimming and Aquatics Program – A modified program for students with a disability encourages the use of water as a form of exercise. Department of Education and Children's Services <http://www.decs.sa.gov.au>

DECS Surf Education – An inclusive program for students in which sessions are conducted in the classroom and at the beach. If necessary, additional supports enable students with a disability to participate. Department of Education and Children's Services <http://www.decs.sa.gov.au>

Move It! Making Communities Active Program – Provides financial assistance to sport and active recreation organisations for projects that target groups with limited access and low participation rates in recreation and sport. Funded projects have included those focused on students with a disability. Department of Recreation and Sport <http://www.recsport.sa.gov.au>

The Premier's *be active* Challenge – Encourages children of all abilities to be active and to complete 60 minutes of physical activity daily for four weeks. The 'negotiated challenge' allows for teachers and caregivers to work with students with a disability on a modified challenge. Government of South Australia, Premier's Be Active Challenge www.pbac.sa.edu.au

SAPSASA – Primary school sport that offers elite pathways in sport for all students (10-13 yrs) and includes multi-disability events in state championship competitions for Swimming, Athletics and Cross Country. Department of Education and Children's Services <http://www.decs.sa.gov.au>

SASSSA – SA Secondary School Sports Association consists of a number of committees that determine the senior school state championship program each year. Included in the program for 2009 were multi-disability events for Swimming, Track and Field, Cross Country, Lawn Bowls, 9-a-side Football, 5-a-side Soccer and Basketball. Department of Education and Children's Services <http://www.decs.sa.gov.au>

Sports Ability – A national program aimed at increasing participation levels of people with disability, in school and community club sport and physical activity, in a structured, safe, inclusive and fun environment. Sports Ability games are inclusive and they include Boccia, Goalball, Sitting Volleyball, Polybat and Table Cricket. Australian Sports Commission <http://www.ausport.gov.au>

Government funded activities delivered by non-government organisations

Club Slick – A Rock and Roll Dancing program – Down Syndrome Society of South Australia Incorporated <http://www.downssa.asn.au>

ConnectABILITY – Specialised, supportive and practical 'linkup' service between Novita children with disabilities (5-13 yrs) and community sporting groups. Novita <http://www.novita.org.au>

Inclusive Directions – Training, resources, support and advocacy for care and education staff, including at before and after school care, to provide inclusive programs that support the participation of all children and their families. Inclusive Directions <http://www.directions.org.au>

Jump Rope for Heart - Physical activity and fundraising program run by the Heart Foundation and conducted in schools, which provides a non-competitive activity that allows for all students to develop at their own pace. The teacher's manual contains a chapter for students with 'special needs'. The Heart Foundation <http://www.heartfoundation.org.au>

PAKA SOKA – Soccer skills program for children with Autism Spectrum Disorder. Autism SA <http://www.autismsa.org.au>

Restless Dance Theatre - Creates dance theatre and run community workshops with young people (15-26 yrs) with and without a disability. Restless Dance Theatre <http://www.restlessdance.org>

Disability organisations with a physical activity and recreation focus

CLASS Inc. – Coordinates a number of programs that link coaches, facilities and sport to provide social community leisure and sport competitions for people with intellectual disability, including for ‘Come and Try’ activities, Duke of Edinburgh Award Scheme, Murray 200 Canoe Marathon and Adventure Camps. The Reach Recreation program is for 11-16 year olds. CLASS Inc. <http://www.classinc.com.au/index.htm>

Nican – an information service on recreation, tourism, sport and the arts for people with a disability that creates links between people, places and resources to enable improved access. Nican <http://www.nican.com.au>

Riding for the Disabled – Horse riding instruction, carriage driving and related equestrian activities for people with a disability. Riding for the Disabled Association SA Inc. <http://www.rdasa.org.au>

SASRAPID – Provides people with an integration difficulty the opportunity to pursue their sporting and recreational interests while accessing the same facilities and benefits as the rest of the Australian community, focusing on the ability and choice of each individual. In conjunction with specific sport and recreation clubs SASRAPID programs include Rapid Swim, TRAC (Teenage Recreation Access into Community) and Get a Slice of the Action. SASRAPID <http://www.sasrapid.com.au>

Special Olympics – Teams up with schools, community groups and disability services to provide a social community program in which students with intellectual disability may compete in Athletics, Basketball, Figure Skating, Gymnastics, Sailing, Swimming, Table Tennis, Tennis and Ten Pin Bowling. Special Olympics Australia <http://www.specialolympics.com.au>

YMCA – Sharing the Fun program is for children (5-13 yrs) with a disability and facilitates activities to support the development of necessary movement skills for successful involvement in integrated physical activities, sports or recreational opportunities in their communities, whilst also having fun. YMCA of South Australia <http://www.ymca.org.au/>

YMCA – Link up and Y-Options recreation and educational programs are for youth with a disability (minimal to low support needs) and it enables participation in a variety of recreational opportunities to promote active lifestyles, such as 10-pin bowling, martial arts, dance, fitness, balloon volleyball, bushwalking, canoeing, squash, lawn bowls, tai chi and yoga. YMCA of South Australia <http://www.ymca.org.au/>

Sporting organisations with specific programs for people with a disability

Archery – all clubs have a variety of opportunities for students with disabilities, ranging from disability specific programs to inclusive programs. Archery SA <http://www.archerysa.org.au>

Baseball – The T-Ball Fun Project, facilitated in 2007/2008 was specifically designed for students with a disability. Baseball SA continues to provide a specialised school clinic that caters for students with a disability. Baseball SA <http://www.sa.baseball.com.au>

Basketball - The Inclusive Basketball Program (IBP) is a basketball competition that provides playing and training opportunities for players with an intellectual disability or integration difficulty. It provides pathways for more experienced and skilled players to compete at various levels and in a range of events. Basketball SA <http://www.basketballsa.com.au>

Canoeing – Canoe SA conducts an annual paddle event for school students and young people with a disability. The event is called the "Paddle Challenge" and includes canoeing and orienteering over two days. In conjunction with Wheelchair Sports, opportunities are also provided for people with a mobility disability to canoe or kayak during warmer months. Canoe SA <http://sa.canoe.org.au/>

Croquet – Aussie School Croquet program facilitates a modified version of croquet to meet the needs of students with a disability. Croquet SA <http://www.croquetsa.com.au/>

Elizabeth Special Needs Judo Club – This 'disability specific' club caters for children with intellectual, physical and mixed disabilities (5-18 yrs) to learn and enjoy the sport of Judo, to play recreational Judo and to compete in disability events. Pathways to mainstream Judo competitions are fostered, depending on individuals' needs. Judo SA <http://www.judosa.com.au>

GymAbility – Gymnastics program designed for children with a disability to engage in physical fitness and gain confidence with skills to enable pathways for some children to join their local gymnastics club. Gymnastics SA <http://www.gymsa.com.au>

Netball – Specialist sessions are offered to groups and schools with children who may have a disability. Netball SA <http://www.netballsa.asn.au>

Sailability[®] – Promotes and facilitates social and competitive sailing opportunities for everyone regardless of age or ability. A disability specific focus develops sailors from entry level through to elite World Championships and Paralympic training. Sailability South Australia <http://www.sailability.org/au/sa>

Squash – The squash ‘Bullseye’ Inschool Program uses inflatable squash courts, mini bats, big hands, balloons, foam balls, multi-coloured plastic balls, buckets, targets, Frisbees, skipping ropes, step ladders, leg twirls, nose balls and reaction balls to offer a session with a high degree of variety and challenges for all participants. It is well suited to introducing fun activities to students with a disability. Squash SA <http://www.squashsa.asn.au>

Surfability – Learn to surf ‘summer time’ lessons for adults and children with a disability. A mobile service attends at various metropolitan beaches according to the needs of individuals. Surfing SA <http://www.surfingaustralia.com/sa>

Physical activity and recreation organisations for specific disabilities

BlindSports SA – Active encouragement of blind and vision impaired persons to take part in the sport of their choice by promoting and developing competitive and recreational sports of all kinds. Association of SA Blind Sporting Clubs Inc. <http://www.blindsportssa.org.au>

Deaf Sports Recreation SA Inc. – Promotes and encourage deaf people's participation and skill development in all forms of sport through advocacy, education, information, support and fostering relationships with mainstream sports bodies. Deaf Sports Australia <http://www.deafsports.org.au>

Wheelchair Sports – The junior movement within Australia provides opportunities for children with a physical disability including paraplegia, quadriplegia, spina bifida, cerebral palsy and acquired brain injuries to participate in a large range of sports to enable social growth, independence and participation to the best of their ability. Junior athletes progress through junior ranks and into the elite international level. Wheelchair Sports Association of SA Inc. <http://www.wheelchairsports-sa.org.au>