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Innovative Practices in Physical Education and Sports in Asia

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Preface

The economic growth witnessed in many countries in Asia has led to significant changes in cultural and social practices. As people become more affluent, their lifestyles and habits reflect their shifting priorities and spending power. In general, people in urban Asia have grown more sedentary in tandem with greater technological advances that offer an escape from physical work and exercise. This trend has raised the concerns of educators who have noted a declining interest in physical education and sports in schools. Educational institutions play an important role in improving the health and well-being of their students, especially through their physical education, sports and recreation programmes. Unfortunately, increasing demands from other curricular areas have resulted in a reduction in time allocation, budget and status for physical education and sports in schools.

UNESCO has a mission to contribute to sustainable human development through educational, scientific and cultural programmes. This has led to its role as the lead agency spearheading the United Nations Decade of Education for Sustainable Development (2005-2014) in the Asia and Pacific region. To achieve the goals of the Decade, UNESCO strongly advocates the development of the intellectual capacity, morals and ethics, emotional maturity and physical well-being of children and youth, enabling them to become responsible citizens and leaders of the future.

To contribute to this effort, the Asia-Pacific Programme of Educational Innovation for Development (APEID) in UNESCO Bangkok is studying the current situation of physical education and sports in Asia. The research has given particular emphasis to innovative physical education and sports practices in schools and teacher training institutions in the region.

This publication is an outcome of the study. It provides an overview of physical education and sports within Asian school settings and five case studies from Malaysia, the Philippines, the People's Republic of China, Lao People's Democratic Republic (PDR) and Singapore. The examples from these countries reflect the different approaches taken to encourage school administrators, teachers, students and communities to value physical education and sports. The commitment of administrators and the quality of both the teaching and the curriculum will have an impact on students' fitness, as discussed in the paper from Malaysia. The potential role of physical education in building peace among youth is seen in the Philippines's case study, while China's educational policy reform has facilitated the revival of a traditional form of martial arts in schools and the community. Participation in competitive sports can also help to increase national pride, an approach favoured by Lao PDR. The case study in Singapore emphasizes the need to use all occasions, including recess time, to encourage more physical movement among children.

One tenet that underlies all the papers is the need for lifelong physical education and the need to ground the pursuit of physical fitness into the psyche of children as early as possible in order to ensure their mental, emotional and physical development.

We hope the findings of this study will prompt policy makers and educators to review their priorities and to ensure that physical education and sports are not sidelined by over-emphasizing the intellect and the attainment of material well-being. Closer to home, some of us may also have to take that extra step to show the younger generation that physical fitness is indeed a lifelong activity.



Sheldon Shaeffer

Director, UNESCO Bangkok

Asia and Pacific Regional Bureau for Education

Acronyms

AIDS	Acquired Immune Deficiency Syndrome	NVQ	national vocational qualifications
ASA	After-school activity	PA	physical activity
Asaphil	Amateur Softball Association of the Philippines	PAAF	Philippine Amateur Athletic Federation
ASP	Accreditation System Portal	PABA	Philippine Amateur Baseball Association
BAP	Basketball Association of the Philippines	PASA	Philippine Amateur Swimming Association
BPES	Bureau of Physical Education and School Sports	PCG	per capita grant
bpm	beats per minute	PE	physical education
BSD	Bureau of Sports Development	PFIFSS	Physical Fitness Inventory for Secondary Schools
CCCPC	Central Committee of the Communist Party of China	PRISAA	Private Schools Athletic Association
DYSD	Department of Youth and Sports Development	PSC	Philippine Sports Commission
FAQ	frequently asked questions	RM	Ringgit Malaysia (Malaysian dollar)
GAP	Gymnastics Association of the Philippines	SCAA	State Colleges Athletic Association
HIV	Human Immunodeficiency Virus	SCUAA	State Colleges and Universities Athletic Association
ICHPER.SD	International Council for Health, Physical Education, Recreation, Sports & Dance	SEPE	sports, exercise and physical education
ICT	information and communication technologies	SMI	small-medium industries
IOC	International Olympic Committee	SPEDI	Physical Education and Sports Development Index
IYSPeace	Institute of Youth Sports for Peace	SPM	steps per minute
JICA	Japan International Cooperation Agency	UAAP	University Athletic Association of the Philippines
MDGs	Millennium Development Goals	UN	United Nations
MECS	Ministry of Education, Culture and Sports	UNDP	United Nations Development Programme
MOE	Ministry of Education	UNESCO	United Nations Educational, Scientific and Cultural Organization
MVPA	moderate and vigorous physical activity	UNHCR	United Nations High Commissioner for Refugees
NAA	Negros Athletic Association	UNICEF	United Nations Children's Fund
NCAA	National Collegiate Athletic Association	UNV	United Nations Volunteers
NCPE	National College of Physical Education	VPA	vigorous physical activity
NRIES	National Research Institute for Educational Science	WFP	World Food Programme
NSA	national sports associations	WHO	World Health Organization

Contents

Preface.....	iii
Acronyms.....	v

Chapter 1: Overview of Recent Innovative Practices in Physical Education and Sports in Asia..... 1.

Introduction.....	2
Situational Analysis: The Asian experience.....	2
Physical Education and Sports Reforms.....	4
Conclusion.....	17
References.....	18

Chapter 2: Physical Education in Malaysia: A Case Study of Fitness Activity in Secondary School Physical Education Classes..... 21.

Introduction.....	22
The status of Physical Education in Malaysia.....	22
Lack of Continuous Upgrading for PE Teachers.....	29
Case Study: Fitness Activities in Physical Education Classes.....	31
References.....	38

Chapter 3: Physical Education and School Sports in the Philippines: A Historical Point of View..... 43.

Introduction.....	44
A Historical Review.....	44
Case Study: Institute of Youth Sports for Peace.....	52
Conclusions.....	56
References.....	56

Chapter 4: School Physical Education Reform and Development in the People’s Republic of China..... **59**

Introduction.....	60
History of Physical Education Reforms in China.....	60
Characteristics of the Current Physical Education Curriculum Reform in China.....	61
Case Study: Nanquan School-Based Course at Licheng Experimental Primary School in Quanzhou, Fujian Province.....	65
Conclusions.....	70
Bibliography.....	70

Chapter 5: Innovative Practices in Physical Education and Sports in Lao PDR..... **73**

Introduction.....	74
Situational Analysis of Physical Education and Sports in Lao PDR.....	75
Case Study: National Sports Competition.....	79
Conclusion.....	79

Chapter 6: Every Step Counts: School Physical Activity during Physical Education and Recess in Singapore..... **81**

Introduction.....	82
Literature Review.....	82
Case Study: Measurements of PA during Physical Education and Recess.....	87
Conclusions and Future Research.....	95
References.....	96

Chapter 1

Overview of Recent Innovative Practices in Physical Education and Sports in Asia

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This paper is based on a consultancy for the Royal Government of Thailand on the United Nations 2005 International Year of Sport and Physical Education International Conference on Sport and Education, 30 October-2 November 2005, Bangkok, Thailand.

INTRODUCTION

Physical education (PE) is the academic discipline and profession which focuses on the art and science of human movement (Kroll, 1971) with an emphasis given to sports, fitness and outdoor recreation. Sports refer to four kinds of physical activity: Olympic competitive sports, outdoor games and recreation, exercise and fitness, music and movement (IOC, 1990). Innovations, as stated in the Oxford Dictionary (1987), are new things or changes that are introduced. This paper provides an overview of innovative practices in PE and sports within Asian school settings.

Innovative ideas and practices in Asia must be viewed from the perspective of PE's status in the region, especially the value, importance and resources provided by the respective countries. In a worldwide survey on PE and sports in schools, Hardman (2005, p. 32) confirms a decline or marginalization of the subject: "Deficiencies were apparent in curriculum, time allocation, subject status, materials, human and financial resources, gender and disability issues, and quality and programme delivery." The author also emphasizes that "despite international advocacy supported by an overwhelming medical, scientific, economic, social and culture case for adequately time-tabled PE programmes in schools" (p. 34), physical activity levels are declining in most countries. Approximately two-thirds of the adult population are not active enough to ensure good health. Obesity among school children is an emerging concern – worldwide at 10%; Asia and the Pacific at 5.1%; United States at 31.8%; and Europe at 19.6%. Noting that about two million deaths annually are attributable to physical inactivity worldwide, the World Health Organisation (WHO) urges for more emphasis on school PE and sports. The WHO has also highlighted diet and inactivity as the two most common global risk factors for chronic diseases (Armstrong, 2005).

In updating the 2000 survey on the state and status of PE in schools globally, Hardman (2005, p. 33) points out that in "44% of the countries, PE lessons are more likely to be cancelled, whilst in 77% of the countries, its legal position is equal to other subjects, 52% of the countries its actual status is lower, 22% of these countries physical education teachers are deemed to have inferiority status..." In the same report, Hartman also finds "... a worrying trend towards decreasing curriculum time allocation from year 2000 to 2005, and this despite international advocacy supported by research for more time for physical education" (p. 34).

SITUATIONAL ANALYSIS: THE ASIAN EXPERIENCE

These observations are also reflected in Asian schools. De Vries (2003) identifies the following as constraints on PE curriculum in Asia:

- PE is perceived to be a low priority subject because to many people it does not contribute directly or substantially to a country's economy. This has given rise to policy makers and top administrative officials, such as heads of schools, to sideline PE and sports under growing pressures to include other 'more important' subjects.

- Priority subjects that will lead to jobs, and therefore economic growth, are allocated a longer teaching time, and subjects like PE struggle to retain timeslots of forty to eighty minutes per week in the school timetable.
- Often the schools run two sessions – morning and afternoon – to address large enrolments and insufficient classrooms and facilities. Limited space and equipment have serious implications for PE teaching and sports co-curriculum, with overcrowded classes of forty or more students each. This leads to the allocation of available classrooms to priority subjects, resulting in PE and sports classes being assigned to other unused areas and facilities indoors and outdoors.
- Each country's financial resources and budget also have a bearing on the length of teacher training programmes, and therefore the quality of teachers. In many Asian countries, a college teacher education is usually only two to three years long, and PE teachers again do not feature very high in terms of priority to ensure longer and better teacher training programmes.

De Vries (2003) believes that 60% of the PE and sports programmes in Asian schools suffer from low resources and deprived conditions because:

- PE and sports are not seen as an economically important subject.
- Asia does not have a strong sports culture (when at least 50% of the population are engaged in sports activities as part of their daily lives). Research has indicated that only 20% of the people are engaged in sports and physical activity for about three times a week in most Asian countries (De Vries, 1998), compared to the situation in the United States, where 70% of parents surveyed said they encouraged their children to play sports (Siedentop and Tannehill, 2000).
- Important decisions on PE and sports are often made by government officials, with no academic or professional qualifications in the discipline.
- PE and sports are commonly considered as “play” rather than subjects that develop the “thinking” capacity.

With such perceptions and findings, very little innovation has taken place in PE and sports in the region. Instead, attention has been focused more on ensuring that the school timetable has a slot for PE, and making do with limited resources. The centralized and bureaucratic system of education in most Asian countries is not an enabling environment for innovative ideas and efforts. Nevertheless, this overview will provide examples of ideas and practices that teachers are trying to implement in the hope that they will act as a catalyst for more innovations in PE and sports in Asian schools.

PHYSICAL EDUCATION AND SPORTS REFORMS

Physical Education and Student Lifestyle

PE and fitness have traditionally been emphasized to help the physical growth and development of students within the context of liberal education. Presently in Asia, the purpose is more focused on active living, fitness and healthy lifestyles. There is now a better integration of PE lessons and lifestyles, making the connection clearer for the students.

Physical Education and Knowledge

Traditionally, PE consisted mainly of practical exercises, with learning through doing or moving. Spurred by the active living concept, current PE pedagogies are also trying to transmit more knowledge-based lessons to students.

Physical Education and Asian Indigenous Activity

While European, American and Olympic sports are taught extensively in Asian schools, calls have been made for Asian physical activities and games to be included in the curriculum. This will help students identify with their own cultures and strengthen the development of a healthy image and self-confidence. Some efforts have been given to implement local Asian indigenous activities, especially Asian martial arts and physical health, into the curriculum.

Physical Education for Girls

In Islamic countries, girls are expected to follow certain rules and regulations. Studies have been conducted to develop strategies that enable Muslim girls to participate in PE and sports within the prescribed boundaries. The International Council for Health, Physical Education, Recreation, Sports and Dance Asia Region has formulated the following guidelines (ICHPER. SD Asia, 2000a-2000e):

- **PE curriculum:** The Ministry of Education and Ministerial Departments such as Sports, Recreation and Health should coordinate policy- and decision-making to ensure equitable opportunities and learning experiences for all, including girls with disabilities. The curriculum should accommodate the values, attitudes and aspirations of the girls. The programme for girls in both primary and secondary schools for this purpose and for improving the curriculum and teaching for them should be reviewed.
- **Constraints of women's participation:** Women's participation in sports is influenced by the range of activities available, and the commitment to overcome the constraints. The Ministry of Sports and non-government organizations should undertake a study to determine the constraints affecting women's participation in sports and develop strategies to increase their participation. Problems facing housewives and mothers should also be studied.

- **Leadership and decision-making:** Women are under-represented in leadership and decision-making in all sports and sports-related organizations. Those responsible for these areas, especially the Ministry of Sports, Ministry of Education and the private sector, should develop policies and programmes, and design structures which increase the number of women coaches, advisors, decision-makers, lecturers, officials, administrators, sports scientists and researchers. The percentage of women in decision-making positions for sports, fitness recreation and PE should reach 20% by the end of 2005, to fall in line with the International Olympic Committee's target.
- **Knowledge:** Those responsible for providing information on sports should develop policies and programmes to increase knowledge and understanding about women and sports, especially among the lower socio-economic groups and those in the rural areas.
- **Mass media:** How the media portrays women in sports will greatly influence the perceptions and attitudes of society toward sports for women and girls. Those responsible, especially the Ministry of Sports, Ministry of Education, sports associations and the private sector, should organize seminars and workshops to educate the media on women and sports. Promotions through print, radio, television and other media highlighting the benefits of PE and sports for girls and women should be encouraged.
- **Research:** Decision-making about women and sports in society should be based on soundly researched data. Sports research has traditionally used male subjects as samples; there is a need to replicate past research studies using female subjects. Universities and Ministries of Education, Sports, Recreation and Health should be encouraged to coordinate their research activities in determining constraints affecting women's participation in sports and fitness, and to undertake comparative studies, taking into account trends and developments in other countries and testing these conditions appropriately against local conditions.
- **Gender equity/high performance sports:** Government policy should focus on gender equity and non-discrimination practices aimed at giving women opportunities to achieve their athletic potential. Government policy should be implemented through relevant agencies, e.g., Ministries, Olympic Council of Asia, National Olympic Committees, sports associations and sports industries.
- **Gender equity/employment:** Gender equity and non-discrimination policies and practices in providing employment opportunities for both men and women in sports and related fields should be promoted. The government and private sector should make an effort to ensure a balanced representation of men and women personnel in the field.
- **Training programmes:** Those responsible for educating and training PE, sports, fitness and recreation personnel must ensure that the intake of men and women trainees is equal. The Ministry of Education, sports associations and industry must integrate this principle into the education and training policies. Leadership and other targeted training programmes aimed at enhancing the skills of women for a career in sports management are strongly encouraged.
- **PE profession:** Governments and communities should recognise the important role of ICHPER.SD Asia, national associations, academic and professional associations in raising the profile of girls in PE, sports, fitness and recreation.

Sports ICT

With advances in information and communication technologies (ICT), many schools have used computers and other technical tools to support curriculum and teaching. Some have taken advantage of the versatility of ICT in disseminating PE and sports content, teaching sports skills, managing PE and sports curricula, monitoring and testing of performance in elite sports. ICHPER.SD Asia has developed the following guidelines for the use of ICT in PE and sports (ICHPER.SD Asia, 2000):

- Governments in Asia must play a leadership role by ensuring that PE, sports, fitness and recreation are not left out when public resources are given to ICT. They must study how ICT can best be used for PE curriculum and teaching in primary and secondary schools and for school sports co-curriculum.
- Faculties of PE, sports, fitness and recreation at Asian universities must develop both degree and non-degree programmes using ICT and distance learning. For people in remote areas and working adults interested in getting a degree in PE and sports, access to quality university education in the field is important.
- The sports industry is expanding and is beginning to play an important part in the Asian economy. This provides the region with a great opportunity to capitalize on developments in sports, fitness and recreational e-commerce and to be competitive in the borderless world markets of today.
- Sports associations, clubs, stadiums, sports facilities and others have to manage knowledge and information more effectively using ICT.
- Governments should support or develop websites linking Asian academicians, professionals, and sports systems.
- Asian professional associations in PE and sports should develop and utilize ICT systems linking national associations to the state or district branches.
- Asia should support websites (portals) to meet the needs of its members by linking academicians and professionals in PE, sports and recreation to research and development studies.
- Asian resource centres in PE and sports should be established. Virtually reached and linked via the Internet, they can support research and development on PE and sports systems.
- Asia should develop ICT systems that will support e-learning and e-classrooms to support a virtual programme that would provide certification upon completion. Online programmes based on Accreditation System Portal (ASP) models should also be developed to support all registered members.
- Governments and private sectors should have a direct role in the development of e-sports commerce that will support business models such as sports auctions and sports bidding.
- ICT data repository systems should be established to enable data referencing and retrieval by registered members, such as the sports industries and public sectors.

- Professional PE and sports associations should serve their members the “24 by 7 by 365” approach through the development of programmes, such as Ask the Experts, Sports Chat and FAQ. Members should be able to access and retrieve information through the development of online e-sports magazines/journals that will support the needs of information and communication at a faster and cheaper cost.

People with Disabilities

Asian countries are giving more attention to the PE and sports needs of people with disabilities in school. The first point of entry is emphasizing its inclusion in the teacher training curriculum to produce PE and sports teachers and coaches with the necessary knowledge, skills and attitudes.

Physical Education as an Examination Subject

Subjects included in centrally administered national examinations receive the greatest attention from school administrators, educators, students, parents and society, at large. PE, traditionally, has not been an examination subject, and many scholars believe this is the reason for the lack of support and limited resources. This situation is changing with written examinations in PE and sports being introduced in several schools in Asia. The subject can also be taken at the final year of secondary schools, and as a requirement for further study at the college or university level.

Basic Physical Education and Sports Facilities and Equipment

Similar to other theoretical and practical subjects, PE and sports require basic facilities and equipment. However, the Ministry of Education or school administrators responsible for providing such necessities have not done so adequately. It is a difficult task because the context of each school is different, and identifying a standard set of basic facilities and equipment to fit all schools is complicated. Nonetheless, to enable a PE curriculum to function properly, governments and administrators must fund the most basic facilities and equipment.

Entry into the Profession

Concerns about the quality PE teachers and the need for improving the delivery of PE in school have resulted in demands for greater peer review and input on developing the standards for professional practice and entry into the profession, similar to professions in the medical, law and engineering fields. For example, governments have received requests from professional associations for licensing PE teachers. Another consideration is for university applicants who wish to study PE to undergo the interview (VIVA) conducted by professional associations, the results of which could be used as one criterion for acceptance into the university.

In 2001, the ICHPER.SD, in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO), developed global standards for the preparation of physical educators. These standards require essential knowledge and skills for all entry-levels, enable practising professional to design and deliver comprehensive, developmentally appropriate curriculum, and facilitate multi-national student and teacher exchange programmes (ICHPER. SD and UNESCO, 2001).

Physical Education and Sports Development Index (SPEDI)

The focus of the 2003 United Nations Development Programme (UNDP) Human Development Report was on the Millennium Development Goals (MDGs) (World Economic Forum, 2003). The aim of the MDGs was to reverse the spread of poverty and disease by 2015. The report, however, warned that the world is not on track to achieve these goals by 2015 unless radical changes take place, given the statistics as shown below:

- More than 1.2 billion people – one in every five – survive on less than US\$1.00 per day.
- Nearly 800 million people, or 15% of the world's population, go hungry everyday.
- Globally, one child out of five does not complete primary school. One in six of the world's adults is illiterate.
- More than 10 million children die of preventable diseases – 30,000 a day.
- Half a million women die in pregnancy or childbirth each year – or one every minute of every day. A woman in Sub-Saharan Africa is one hundred times more likely to die in pregnancy or childbirth than a woman in Western Europe.
- One person in five in developing countries lack access to safe water.
- HIV/AIDS has killed more than 22 million people and 14 million children lost one or both parents to these diseases in 2001. The number of AIDS orphans is expected to double by 2010.

More needs to be done, and this applies equally to PE and sports. A necessary first step is an in-depth study of the discipline's contribution to the MDGs:

- Goal 1: Eradicate extreme poverty and hunger

Providing development opportunities will help fight poverty. The sports industry as well as the organization of large sports events can create opportunities for employment. PE and sports provide life skills essential for a productive life in society.

- Goal 2: Achieve universal primary education

PE and sports are an essential element of quality education. They promote positive values and skills which have a quick but lasting impact on young people. PE and sports activities generally make school more attractive and improve attendance.

- Goal 3: Promote gender equality and empower women

Increasing access for girls and women to PE and sports helps build their confidence and a stronger social integration. Involving girls into sports activities alongside with boys can help overcome prejudice that often contributes to social vulnerability of women and girls.

- Goals 4 and 5: Reduce child mortality and improve maternal health

PE and sports can be an effective means to provide women with healthy lifestyles as well as to convey important messages because these goals are often related to empowerment of women and access to education.

- Goal 6: Combat HIV/AIDS, malaria and other diseases

PE and sports can help reach out to otherwise difficult-to-reach populations and provide positive role models who deliver prevention messages. Sports, through its inclusiveness and mostly informal structure, can effectively assist in overcoming prejudice, stigma and discrimination by favouring improved social integration.

- Goal 7: Ensure environmental sustainability

PE and sports can help to raise awareness about the need to preserve the environment. The interdependency between the regular practice of outdoor sports and the protection of the environment is strong and should be promoted.

- Goal 8: Develop a global partnership for development

PE and sports offer endless opportunities for innovative partnerships for development and can be used as a tool to build and foster partnerships between developed and developing nations to work towards achieving the MDGs. For poor countries to achieve the first seven goals, it is absolutely critical that rich countries deliver more effective aid, sustainable debt relief and fairer trade rules for poor countries – well in advance of 2015 (www.org/sport2005).

At a conference in Bandung, Indonesia, “Improving the Asian Quality of Life through Physical Education and Sports,” (Asian Society for Physical Education and Sport, 2004) the idea of a Physical Education and Sports Development Index (SPEDI) for Asia, along the lines of UNDP’s Human Development Index, was raised. Presently, development in sports is viewed from the narrow perspective of high performance sports development or the number of medals won at international sports competition. Developing the SPEDI would consist of a ranking system to be used in assessing a country’s success, or otherwise, in PE and sports in achieving development towards the MDGs. A sample of ideas and concepts that could be the basis for SPEDI is indicated below:

- Sports development should consist of at least three large areas, that is, Sports for All, High Performance Sports, and the Sports Industry.
- PE and sports play an important role in contributing to the six factors cited in the UNDP Human Development Index. These are: health, education, per capita income, human freedom, dignity and participation in decisions.

- SPEDI would rank a country on the basis of its people's fitness level. This would be an important indicator of PE and sports in contributing to the health of the people.
- The creation of jobs in PE, sports, fitness and outdoor recreation, reflected in the extent of human resource training opportunities in these areas, would be an indicator of the economic well-being of a country.
- There must be an indicator relating to PE in school (De Vries, 2004). Within this context of human development, PE and sports has the potential to contribute to:
 - life expectancy and health;
 - human development of people and children in school; and
 - per capita income and the sports industry.

There is conclusive evidence from research that physical activity and fitness for health are the main factors in preventative medicine. In the United States, physical activity and fitness of the people have been placed on the top agenda of governments. Persons who are physically active and lead reasonably healthy lives not only gain many personal benefits, but also contribute to important national goals. The promotion of physically active healthy lifestyles has become a major public health issue because of the enormous costs associated with health care and health insurance. Three important public policy documents from the U.S. Department of Health and Human Services (1991, 1996, 1997) have contributed to this.

A few Asian scholars through their professional associations are making efforts to place PE and fitness in schools, colleges and universities on centre stage, but more has to be done. Fitness tends to be an urban idea. Greater efforts have to be made to provide fitness education to those in rural areas. Its positive effects equal, if not exceed, the effect of medicine, vitamins, food supplements and herbs for which Asians pay so much. However, Asians should be aware that in response to their sedentary lifestyles, the rationale for fitness in the West does not apply to many in Asia who earn a living through hard manual work or move their bodies all day long (De Vries, 2000). What kind of fitness or physical activity programmes should be provided? Sports for All as a stress reliever is being studied, and programmes are provided for people who work in jobs requiring hard physical efforts.

Physical Education and Poverty Reduction

Poverty reduction is a primary aim of the MDGs. In linking PE to poverty reduction, the following strategies could be considered:

- i. There will have to be a change in the focus of the academic discipline and profession of PE. The definition of this discipline is the art and science of human movement. The body of knowledge developed from research is the sub-discipline studying human movement in sports, games and fitness. These are exercise physiology, biomechanics, sports psychology, psychology of motor learning, sociology of sports, history of sports and philosophy of sports. The professional areas have been in curriculum, teaching, coaching, administration related to sports, games and fitness. Supporting the MDGs would shift the focus of this discipline to include the economics of sports, careers in sports, poverty, health and the world of work. Exercise physiology, for example, would focus on people in work situations.

- ii. PE in schools must do more for the poor. There are two main thrusts here. One is that PE must help to improve the standard of living of the poor. New curriculum and teaching that focus on “human movement” must be developed, specifically on human movement for the world of work in sports, fitness, recreation and PE. Emphasis can be given to the preparation for jobs in sports. National vocational qualifications for all work situations in sports, fitness, recreation and PE should be developed in each Asian country and applied in schools.

Two, the curriculum and teaching must focus more on making an impact on children from the lower socio-economic group. The key questions for curriculum designers are:

- What groups are best and most served by this curriculum?
 - How are the poor performing in PE and sports in our schools?
 - What sports and physical activity are they interested in?
 - How many are involved in elite sports and Sports for All programmes?
 - Are males better served than females?
- iii. PE and sports facilities in Asian universities will have to give more attention to the study, research and teaching of the sports industry, sports economics and careers other than teaching and coaching sports.
- Human resource needs of the sports industry and plans for careers in the industry could be part of the courses offered in colleges and universities.
 - Globalization of the sports industry will bring greater opportunities for Asian sports business. This will require quality sports products and services from Asia to compete in the global market. Universities should direct their research on quality sports products and services to assist the Asian sports manufacturing sector.
 - Leadership, coordination, monitoring, data collection and human resource development within the sports industry can also be key areas of study and research for the Faculties of Physical Education and Sports, with governmental assistance to support the programmes.
- iv. Physical educators in Asia must network and develop joint efforts with other disciplines and professions to achieve the MDGs. The achievement of health and well-being of the people can only be achieved if PE and sports professionals collaborate with the medical and health personnel in each country. Exercise and active living are important in preventative medicine, especially when health and medicine costs are high in comparison to activities such as walking or jogging, which cost nothing.

Tourism in Asia is an important economic activity, but expertise in sports tourism is lacking. The Ministry of Tourism can help to promote sports tourism by joining forces with sports, exercise and physical education (SEPE) professionals and social workers in addressing the plight of the poor in Asia to integrate sustainable economic and social development. The new SEPE social work is one key area in convincing governments to invest in Sports for All programmes. The Ministry of Tourism can take the lead in this effort by setting up a division, with qualified professionals in sports tourism, for research, product development and data collection to successfully implement foreign and domestic sports tourism.

- v. The Ministry of Physical Education and Sports must re-direct their funding strategies by allocating more to sports, creating jobs, training human resources and developing a sports culture. More emphasis must be given to Sports for All. Currently, government funding for sports favours high performance sports. This must change if governments in the region are serious about achieving the MDGs. They must understand and recognize sports as an industry and its potential for contributing to the economy. Support for the sports industry must be the same in terms of the resources they provide to other industries.

The Ministry of Trade and Industry should have a section or division to provide leadership, collect and disseminate data, and monitor the industry. The Ministry of Human Resources, together with other agencies and professionals, should ensure that the human resource training needs of the sports industry are given equal attention and resources as those given to other industries. The Ministry of Education should ensure that sports industry studies are integrated into school PE and sports curricula. The Ministry of Sports should support and work closely with the Ministry of Tourism on sports tourism. All these ministries should cooperate in matters relating to the sports component, and ensure that there is greater awareness and education of sports tourism among the sports community, including sports associations.

- vi. Certification programmes, such as the National Vocational Qualifications (NVQ) should be developed with standards for quality in terms of knowledge, skills and attitudes. It would also bestow status and recognition to jobs in sports fitness and recreation, besides providing workers the necessary training, education and certification. Salary schemes could also be based on the NVQ.
- vii. The creation of sports fitness and recreation entrepreneurs of small-medium industries (SMIs) in Asia should be encouraged by governments, targeting small industries, in particular. The goal should be to empower individuals by providing specific knowledge and skills, and by creating sustainable employment. Establishing trade zones and industrial parks for sports, fitness and recreation may stimulate the growth of the industry.

Main Themes for Physical Education Curriculum

In the U.S., the PE and sports curriculum in schools offers many specific themes, e.g., developmental PE, adventure education, physical activity, fitness and wellness education (Siedentop and Tannehill, 2000). In Asia, a similar approach has emerged, but the focus is mainly on the world of work, economy or more Asian-related issues (Royal Government of Thailand, 2005), such as:

- Sports, fitness, outdoor recreation and the world of work
- Sports industry education
- Martial arts, Asian physical activity and jobs
- Physical activity and fitness for girls
- Physical activity and the needs of the poor

Situational Analysis of Physical Education in School

The centralized national curriculum in PE prescribing the content and learning activities has not been effective because of the vast differences in the overall situation of the schools, such as the number of students in a class, attitudes of school administrators towards PE, facilities, equipment, finance and others. The most general process for curriculum planning begins with the statement of aims and objectives, then the selection of content to achieve objectives, the organization of content and finally the evaluation to determine how successful the curriculum has been in achieving the objectives. The curriculum plan is then matched with the context, and if the resources are not available, the required resources are provided. Unfortunately, this is not always the case in many Asian countries because of limited resources and lack of commitment.

Therefore, it is important to analyse the situation as a starting point before proper and realistic curriculum planning can take place. The concept of a centralized and common national system also needs to be reviewed. Suggestions have been made to develop a flexible curriculum by allowing teachers to select and adapt particular components that would match the situation and needs of their schools, and therefore be more relevant for teachers and students (De Vries, 2003).

2005 United Nations International Year of Sport and Physical Education

In November 2003, the General Assembly of the United Nations adopted Resolution 58/5 entitled "Sports as a Means to Promote Education, Health, Development and Peace" (www.org/sport2005). It recognizes the power of sports to contribute to human and healthy childhood development, and proclaims the year 2005 as the International Year of Sport and Physical Education. Four themes are identified as focal points for action:

➔ Sports and education

The positive impact of PE and sports on child education and as an integral component of quality education are important elements under this theme. Using sports to promote gender equality, girls are given opportunities to be leaders, to improve their confidence and self-esteem, and to interact with their peers outside the home and beyond family networks. Through such activities, they will have access to linkages and occasions to be more engaged in school and community life. Another group – students with disabilities – is also a target beneficiary of the United Nations (www.org/sport2005).

➔ Sports and health

According to the 2002 World Health Report, unhealthy diet and physical inactivity are among the leading causes of major non-communicable diseases. The United Nations also notes that "sports and physical activity are crucial for life-long healthy living, and good habits start early. The important role of PE is demonstrated by the fact that children who exercise are more likely to stay physically active as adults" (www.org/sport2005). In view of these findings, the United Nations signed a Memorandum of Understanding with the International Olympic Committee (IOC) in 2004 to involve the world of sports in addressing and combating the HIV/AIDS problem.

➔ Sports and peace

The United Nations strongly believes that sports can be a vehicle to promote peace, tolerance and understanding by bringing people together to participate in physical activities on neutral ground. The inclusive nature of sports crosses ethnic, cultural and religious boundaries, making it a powerful tool to increase peaceful collaboration. Table tennis, for example, set the stage for reconciliation of American and Chinese diplomatic ties in 1971; North and South Korea joined forces at the Sydney 2000 Olympic Games; and more recently, Israeli and Palestinian children regularly play soccer or basketball together. The United Nations High Commissioner for Refugees (UNHCR) has used the power of sports in its programmes to foster refugee reintegration and promote tolerance and understanding among communities.

➔ Sports and development

Despite the perception that sports is not a viable economical sector, the potential of sports to generate jobs and wealth should not be discounted, especially if a strategy is developed to optimize this potential and supported by a national Sports for All policy. The United Nations believes that securing government leadership is essential to ensure that PE and sports are incorporated into the national development and international cooperation policies and agendas (www.org/sport2005).

United Nations Conference on Sport and Education

The International Conference on Sport and Education, organized by the Royal Government of Thailand to celebrate the International Year of Sport and Physical Education, was attended by over 600 delegates from 65 countries. In the opening address, the former Prime Minister of Thailand said "... the foundations of basic education must surely change from the "3Rs" – Read, Write and Arithmetic – to the "4Rs," which include the right of all children to play freely and safely and to have quality physical education and sport programmes in their schools" (Shinawatra, 2005).

The outcome of the Conference was the Bangkok Agenda for Actions on Physical Education and Sports in School. Among the important items on the Agenda for implementation by all member countries of the United Nations are the following:

- PE and sports should be recognized as an integral part of quality education and should be a national priority.
- It should be mandatory for every school to provide all students with at least 120 minutes of curriculum PE and sports time each week, and in the longer terms, 180 minutes or more.
- The Bangkok Conference invites all countries to establish a 10-year strategy starting in 2006 to enhance quality PE and sports, comprising two 5-year medium-term plans.
- National strategies should be implemented by sports fitness scholars and professionals, ministerial officials charged with responsibility for PE and sports, as well as network and professional associations at local, national and international levels.

- The scope of the national strategy should include pre-school, primary and secondary school PE and sports programmes, including in-school and out-of-school programmes, professional preparation programmes, and PE and sports career paths for young people.
- The contribution of PE and sports towards achieving the MDGs, especially those addressing poverty, primary education, gender equality and health care, should be an important item on the national strategy.
- Professional preparation of PE and sports teachers should be an important topic of the national strategy. The focus should place greater emphasis on the body of knowledge of the discipline, school-based professional preparation and inclusion issues, e.g., gender, disability and ethnicity (Royal Government of Thailand, 2005a).

United Nations member countries planning to implement their national Sports for All programmes can use the Bangkok Agenda as the basis for their research, discussion and policies, particularly directing their focus on:

- Acquiring qualitative data on PE lessons and sports in schools;
- Identifying appropriate knowledge, skills and attitudes students should gain from PE and sports;
- Evaluating the impact of these programmes and lessons;
- Communicating with students, parents, educators and personnel;
- Formulating a rationale for increasing PE and sports budgets;
- Changing basic education from 3Rs to the 4Rs;
- Planning for a centralized but flexible curriculum to meet different school requirements;
- Formulating the concept, goal, objective and content of a national curriculum in PE and sports;
- Identifying how the PE curriculum can promote and impart knowledge, skills and attitudes about peace;
- Incorporating a fitness component into the PE curriculum that meets the needs of students in an exciting, relevant, interesting and educationally sound manner;
- Determining how the PE curriculum can contribute towards the MDGs;
- Ensuring gender equality in all matters of the PE curriculum; and
- Ensuring equality in all matters of the PE curriculum for marginalized children and children who are less skilled in sport games (Royal Government Thailand, 2005b).

After-school Sports

Sports facilities and programmes that cater to youth outside of educational institutions are limited and need to be assessed. Many sports clubs are privately run and charge high membership fees that only the well-to-do can afford. Without after-school sports, the chances of youth falling prey to the many social ills are much greater. Governments have to take a lead in addressing this issue. Besides providing the commitment and provision of resources, governments should influence and mobilize the private sector and society at large to collaborate in organizing affordable after-school sports (ICHPER.SD Asia, 2003). Public facilities, such as stadiums, swimming pools, sport grounds, sport complexes and open spaces are urgently needed not only for elite sports competitors, but also for the general public to take up sports-related activities.

Often, a major portion of the government budget is allocated to facilities constructed purely for high performance competitive sports such as state, national or regional games, Asian and Olympic games, or to meet the needs of elite athletes. There should be guidelines to support youth in their pursuit of excellence in such high performance sports, and every opportunity open to those with talents, especially the ones who cannot afford to pay for the facilities, equipment or training programmes.

Indeed, if the concept of Sports for All is to be developed, then the needs of ordinary people must be considered. For example, state-sponsored sports clubs for youth should be established, similar to the practice in the 1950s when clubs were set up specifically for one particular sport, e.g., badminton. Facilities, office space, management skills and incentives to maintain proper management of the clubs can be provided fully by the government or on a co-sharing arrangement with private sponsorships. Unused buildings in urban areas could be converted into fitness and sports centres. Programmes, facilities and equipment to support youth aerobic activities, such as cycling, jogging, swimming, hiking, camping and other types of games of interest to youth can be held in public parks and playgrounds. Furthermore, the police and armed forces should have a community service policy to engage vulnerable and marginalized youth (such as those from the inner city or remote areas) in sports. This will require staff training courses in sports management and coaching. Organized sports could be planned for evenings, offering young people alternative ways to spend their time other than movies, TV, discos, pubs and so on.

Sports Industry

The sports industry can be divided into three primary areas:

- Sports entertainment and recreation (events, teams, individual athletics);
- Sports product design and services (equipment design, production and distribution of sports goods); and
- Supporting sports organizations (leagues, marketing agents, legal activities).

The growth of the sports industry in Asia is very much dependent on cultivating a strong sports culture. The more people in the region engage in sports, physical fitness and recreational activities, the more will be the demand for sports apparel, equipment, facilities and services. Stadiums will be filled because of greater interest in sports. This can be enhanced through a vigorous Sports for All programme, and through early exposure of young children to sports.

The reality of globalization presents both threats and opportunities to the sports industry, especially to SMEs. They are forced to innovate and expand their markets and client base to compete with multinational and more established companies. This means continuously striving to produce quality products, services and marketing strategies. ICHPER.SD Asia (2003) plans to set up a centre to monitor, research and support quality products and services in Asia. To make this succeed, the sports industry in the region has to support the centre with commitment and resources, both human and financial.

Governments will have to work closely with industry and educational interests to establish the NVQ for PE and sports, and introduce licensing (especially for the fitness sector) to develop necessary human resources. Lower manufacturing and human resource costs have driven many multinational companies to locate their production factories in Asia; governments in the region should also take this opportunity to enhance the transfer of technology and skills to local staff.

Sports tourism offers another area for investment by the sports industry, but knowledge and skills in this area are still limited. There must be a commitment to allocate resources, both human and material, to capitalize on this potential for economic development. A sub-sector for sports tourism should be established within the Ministry of Tourism to facilitate such a development.

To ensure proper planning and investment, both government and industry should commission research and collect data to assess priority areas and needs. Educational institutions should be involved in this task, and provide necessary support for the academic, professional and research needs of the sports industry.

CONCLUSION

In summary, innovative practices and ideas in Asian physical education programming must be viewed from the perspective of the current status of sports in Asian schools. The priority for PE and sports teachers in many Asian schools is to maintain their limited time slots on a tight and competitive school timetable, and not on initiating innovative practices. Based on results from global surveys (Hardman and Marshall, 2002) and the low priorities given to the sector (De Vries, 2003), there is a worrying trend that PE and sports are being marginalized. However, this overview has highlighted the importance of PE and sports in terms of promoting health, peace and economic development and has outlined many potential areas for innovation, in strong support of the United Nations' call to promote the Sports for All initiative.

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Chapter 2

P hysical Education in Malaysia: A Case Study of Fitness Activity in Secondary School Physical Education Classes

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INTRODUCTION

Physical education (PE) is an integral part of the school curriculum throughout the world (Bucher, 1979; Magnotta, 1993; Nash, 1963; Nixon and Cozens, 1959). Bucher (1979) stresses that PE helps young people develop skills for leisure and activities conducive for healthful living, contributing to their physical, social and mental health. Magnotta (1993) notes that one important factor for effective PE is the quality of teaching, and Sadiman (2004) highlights the teacher's role as an essential player in promoting quality education. All these observations reinforce the World Confederation of Organizations of the Teaching Professions' call for teachers to be given adequate training to discharge their teaching responsibilities (ICHPER, 1968).

Apart from teacher qualifications, the attitudes of school administrators and PE teachers also have an impact on the quality of teaching. William and Smith (1980) and Woolfolk (1987) emphasize that attitudes are acquired through both positive and negative experiences, and through modelling. Fishbein and Ajzen (1983) note that, in general, individuals with positive attitudes are expected to demonstrate favourable behaviours; likewise, those with negative attitudes can induce unfavourable outcomes.

Despite its importance, PE is often among the first on the list of subjects which are considered to be expendable (Corbin, 1984). This sentiment is reflected in a newspaper report noting that physical education is "given little regard in the scheme of things in an exam-oriented school culture. Often, its periods are used to teach subjects which are of more academic value" (Frederick, 1998, p. 8). School administrators and teachers influence their students' attitudes towards PE (Fowler, 1974). In fact, teacher and curriculum are ranked as the top two factors determining both positive and negative attitudes (Figley, 1985). The decisions of the administrators, namely the principal and the senior assistant, in assigning teachers who are not interested or trained in PE to teach the subject can lead to indifference, discontent and tension among the staff. This, in turn, results in poor quality of instruction and lessons. Locke's comment thirty years ago is still valid today (1977, p. 13):

"It is not inadequate teaching that bedevils us, it is mindless teaching: the non-teaching teacher. How to keep the teacher alive and struggling with the problem of doing good work, is now and will continue to be the question from which any great leap forward must begin."

THE STATUS OF PHYSICAL EDUCATION IN MALAYSIA

Reflecting the concept of the development of the "whole child," Malaysia's National Philosophy of Education supports the "total school programme" designed to assure the optimum growth and development of school children through directed physical activities (Ministry of Education, 2001, p. 3):

Education in Malaysia is an on-going effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief and devotion to God. This endeavour strives to produce a nation of knowledgeable, competent, honourable and responsible people, capable of attaining self-fulfilment as well as contributing towards the unity and prosperity of the family, the community and the nation.

More specifically, the objectives of the Malaysian PE curriculum are to (Ministry of Education, 1999, pp. 1-2):

- Increase and maintain students' fitness level based on their health and physical activities;
- Enable students to master basic movements and basic games skills based on their individual capabilities;
- Inculcate the practice of exercise and physical activities as a daily routine;
- Enable students to apply their health and safety knowledge while doing physical activities;
- Develop personality and self-discipline; and
- Enable students to make wise decisions in daily living.

School System

Education in Malaysia is centralized and under the purview of the Ministry of Education (MOE). Children begin their formal schooling when they are six years old. They go through six years of primary education (Standard One to Standard Six) and five years of secondary education (Form One to Form Five). A further two years of post-secondary education (Form Six Lower and Form Six Upper) are provided for those who intend to enter universities or other higher education institutions.

Administration and Organization of PE in Malaysia

PE is a compulsory subject for primary and secondary schools. However, students in vocational and technical schools are exempted. At the federal level, the School Division within the MOE is responsible for administering, implementing and supervising the PE programmes in schools and teacher training colleges through the State Education Department. The Federal Inspectorate of Schools in the MOE supervises and recommends improvement to the country's PE programme. At the state level, the organization and supervision of the PE programme is carried out by the State Inspectorate of Schools and Specialist Officers, otherwise better known as State PE Organizers from the State Education Department.

Curriculum

All primary and secondary schools in the country follow a standardized PE curriculum formulated by the Centre of Curriculum Development in the MOE, in consultation with other agencies. The curriculum is printed and distributed to the schools, which use standard text books supplied by the Text Book Division of the MOE. All schools are required to teach a minimum number of hours per week as specified by the Time-table Regulations 1998. The scheduling of PE periods in the school time-table is at the discretion of individual schools. Teaching approaches and pedagogies are the responsibility of the respective schools.

PE is a non-examination subject, but formal evaluation for various components is done at least twice a year through Secondary School-based Evaluations (Penilaian Kendalian Sekolah Menengah) (Ministry of Education, 1997, p. 15). Results are recorded on the students' progress cards. The present development in PE, which has resulted in a new curriculum, has consequently given the subject a boost. Since 1999, physical fitness tests for all physical fitness components for every student have been carried out in schools, and the results have been recorded.

Organization of Content for Secondary School PE Programmes

The PE curriculum emphasizes learning through activities that enable students to acquire knowledge, skills and values. The activities are tailored to match the characteristics and needs of students to help them be physically fit. Active participation of every student in a PE class is compulsory. Students are given opportunities to express their emotions, develop their mental processes, foster healthy relationships and carry out physical activities in a safe and conducive environment.

The PE curriculum comprises three important aspects:

- fitness;
- sport skills; and
- sport-related issues.

Financing the PE Programme

Schools in Malaysia receive an annual per capita grant (PCG) from the government for their operating expenditure, including sports and PE. They are also provided basic facilities, such as fields and playing areas. Some schools may have halls, gymnasiums and swimming pools. In addition, all schools are authorized to collect "special fees" from students (Ministry of Education, 1994) and can utilize a certain portion of the collection for sports and PE: between 30-50% for secondary schools. Nonetheless, the PCG is insufficient, a problem acknowledged by the government (Anon, 1999). The cost of maintaining and managing schools has risen sharply over the years, while the PCG rates remain unchanged. Consequently, effective implementation of the PE programme in secondary schools has become strained.

Personnel

Under the centralized educational system, the MOE plans the curriculum for teacher training, selects the trainee teachers, finances the cost of training, and awards teaching scholarships to undergraduates in universities. In Malaysian secondary schools, PE is taught by the following teachers:

- i. Non-specialist teacher: The shortage of qualified PE teachers in secondary schools has forced non-specialist teachers to assume the role of PE teachers. Prior to 1993, a non-specialist teacher would have attended a two-year certificate course; between 1993 and 1996, the three-year certificate course; and after 1996, the three-year diploma course at government-sponsored teacher training colleges. The non-specialist PE teacher may be a graduate teacher who has received specialized training in other subjects, but has attended a one-year Diploma in Education course either in a teacher training college or university.
- ii. Semi-specialist teacher: A semi-specialist teacher has attended a two-year or three-year course in teacher training colleges or a one-year Diploma in Education course in teacher training colleges or universities. Besides taking core courses, this teacher would have taken a compulsory or elective subject of PE in their college or university. In the teacher training college, the trainee might have minored in PE and studied PE-related subjects.
- iii. Specialist teacher: A specialist teacher has received either a two-year or three-year college or university education majoring in PE, and has acquired both theoretical and practical knowledge of PE. The specialist teacher could also be a trained teacher who has attended one year of specialized training in PE at a teacher training college.

In secondary schools, due to the small number of trained PE teachers, the subject is taught mainly by the non-specialist and semi-specialist teachers. This situation, together with the unsupportive school environment, has affected the effective implementation of PE programmes in secondary schools. Under such conditions, quality PE programmes cannot be expected. The non-specialist teachers are generally not interested in the subject, and therefore do not have positive attitudes towards the teaching of PE.

Professional Preparation

Teachers in Malaysia have two routes to specialize in PE:

- Teacher Training Colleges: basic PE (elective subject), major or minor in PE or Health Education, one year specialist course and Diploma in Physical and Health Education; or
- Universities: Diploma in Education and Degree in Education, undergraduate degree or postgraduate degree majoring in Physical and Health Education.

The basic course in PE was a required course for all teacher trainees from the 1970s until 1996, when a three-year Diploma in Education course was introduced. However, even with this new programme, PE was still not a compulsory subject: only trainees who majored or minored in PE would be trained in the subject. It was only in 1999 that PE became a compulsory subject for all trainee teachers, thus improving the ability of teachers to handle PE in schools.

Major Issues and Concerns




The importance of PE in Malaysian schools cannot be denied: PE is a compulsory subject in both primary and secondary schools. It is accorded the same status as other subjects in the school curricula, on par with other core subjects. The weekly teaching duration for PE has been increased since December 1994. Currently, it is allocated two 40-minute periods per week. Nonetheless, since it is still not an examination subject, the observations of De Vries (1975, 1990) still raise the same concerns:

- PE was a non-examination subject that was always considered last in school, after important decisions affecting other examination subjects had been considered.
- Teachers who were qualified in PE were assigned to teach “more important” or examination subjects.
- Some schools had PE on paper only, but in reality the administrators used PE periods for other more important examination subjects.

De Vries (1975) notes three situations which could be summarized as shown in Table 1. Salleh (1997) asserts that culture plays a part in determining the value and status accorded to PE. It seems that the Malaysian educational system and the public do not value the role of physical activity and sports in life and society (De Vries, 1990). Salleh questions the impact of PE on students, since many may finish their schooling with a negative view of the subject. The health status of the population appears to support such conclusions: for example, it was reported in 2005 that an average person was ill for 41 days a year and about RM 46 billion would be lost to illnesses (Anon, 2005a). The 1996 statistics from the Ministry of Health revealed that 4.4% of adults were obese and the number would increase three-fold to 12.2% in 2004 (Anon, 2005b). Even more alarming is the finding that 80% of Malaysians had never exercised (Krishnamoorthy, 2006).

The lack of quality PE teaching has contributed to the fitness problem among school children to some extent. This problem raised concerns from the government, as duly noted by Datuk Najib Tun Razak, the then-Minister of Education, in 1998: “There is a need to change the notion among some school heads that PE is less important than other subject...” (Frederick, 1998, p. 7).

Table 1: PE Situation in Malaysian Schools

Situation	Administrators	Teachers	Facilities	PE programme and students
 <p>Urban schools</p>	<ul style="list-style-type: none"> • School heads are motivated to provide quality PE programme to students 	<ul style="list-style-type: none"> • Mostly qualified and capable • Specialist PE teachers, usually the Chairs for PE panels/ committees • Can control class very well 	<ul style="list-style-type: none"> • Schools have enough financial support • Schools have physical facilities 	<ul style="list-style-type: none"> • Follow prescribed curriculum • Have proper planning • Students learn skills associated with sports and gymnastics • Schools have well organized inter-house programmes*
 <p>Rural and urban schools</p>	<ul style="list-style-type: none"> • School heads provide leadership • Utilize staff with experience in various sports 	<ul style="list-style-type: none"> • Lack adequate training, but full of initiative and enthusiasm 	<ul style="list-style-type: none"> • Lack facilities 	<ul style="list-style-type: none"> • PE programmes narrowly implemented • Follow part of curriculum • Have some planning • Experienced staff handle successful school teams
 <p>Rural and urban areas</p>	<ul style="list-style-type: none"> • School heads lack leadership qualities • PE not planned to achieve any purpose 	<ul style="list-style-type: none"> • Assigned without any consideration of professional training in PE 	<ul style="list-style-type: none"> • Lack facilities 	<ul style="list-style-type: none"> • Do not follow curriculum • Have no planning • Students play football all the time without teacher supervision • Periods used to prepare students for examination subjects

* Inter-house programmes: For PE and sports activities, students are assigned to a “house” each, and generally, there will be four houses in each school, differentiated by colours or names.

The Role of Administrators and Problems Faced in the Implementation of the PE Programme in Schools

In the Malaysian school context, administrators who are directly responsible for PE programmes are the principals and senior assistants (vice-principals). In the course of administering a PE programme, they face a number of problems (Kachar, 1989; Zainuddin, 1995):

- i. Schools have no control over the placement of teachers and are forced to accept teachers who are not needed because those teachers are posted to the school by the State Education Office.
- ii. There exists an imbalance of teachers in terms of subject majors and capability. Teachers who are not qualified to teach PE are required to teach the subject to fulfil the number of required teaching periods.
- iii. Decisions on the assignment of teachers teaching PE are done without much consultation or not done in collaboration with those teachers involved.
- iv. The majority of Malaysian schools are not equipped with gymnasiums, thus limiting the teaching of PE to the morning hours only (first and second periods in the main time-table). This consequently creates a need for more teachers to teach PE.
- v. Since PE is not an examination subject, and often considered unimportant by administrators, parents and certain community sectors, PE periods are used for other examination subjects.
- vi. There is little effort in school to organize in-house courses systematically to train teachers who are ill-equipped to teach the subject.

PE Taught by Non-majors

The importance of providing appropriate PE training in teacher training colleges is supported by Indra Devi (1992): 95.7% of beginning teachers surveyed responded that the PE programme was useful in their daily teaching responsibility. Unfortunately, Wee (2001) finds that only a small number of PE teachers (15.2%) majored in the subject, indicating an acute shortage of trained PE teachers in secondary schools in the country. Data collected also reveal that 20.9% of the teachers had never taught PE before, and about 48.1% out of the 1,637 respondents taught PE for less than five years. More than half of the PE teachers only taught less than 5 periods of PE per week and a majority of them (85.7%) taught less than 11 periods per week. On the contrary, a majority (85%) of the teachers taught 11 periods or more of non-PE subjects, a clear indication that PE is not considered a specialist subject. Rather, it is often used to supplement the total number of teaching periods. Furthermore, Wee's research shows that, on the average, 88.6% of the respondents had never attended any PE courses since becoming a qualified teacher. Only about 3% had attended 1 to 2 courses.

These observations substantiate Normar Ali's findings that 64.8% of PE teachers were non-PE majors and 75.2% had never attended any PE course since teaching the subject. Ali stresses further that 95.5% of the PE teachers were appointed to teach PE by their principals, and they were compelled to accept the job for various reasons (Ali, 1998).

Such findings are worrying educationists because assigning non-qualified teachers to teach PE places the quality of PE at risk. The 1994/1995 report by the Federal Inspectorate of Schools on the performance of teachers in seven states of Peninsular Malaysia shows that the performance of 65.4% of PE teachers was average or weak (Ministry of Education, 1994/95). Over the years, reports from the MOE support this conclusion: 62% of female PE teachers lack knowledge and skills in football, sepak takraw (rattan ball), basketball and hockey, and majority of them do not understand the learning objectives (Ministry of Education, 1982); some are weak in basic PE concepts (Ministry of Education, 1993a). The untrained PE teachers lack confidence to teach effectively (Ministry of Education, 1990a) as they rely on personal knowledge and experience (Ministry of Education, 1993a).

LACK OF CONTINUOUS UPGRADING FOR PE TEACHERS

PE and Sports-related Courses

The research findings that PE teachers are not receiving sufficient in-service sports-related training to upgrade their knowledge and skills are complemented by statistics from the MOE. For example, teachers who never attended any sports-related courses conducted by State Education Departments and District Education Offices range from 82.4 % to 97.2% (Wee, 2001).

The Centre of Curriculum Development, State Education Departments and District Education Offices play major roles in organizing such training courses for PE teachers. The State Education Departments and District Education Offices conduct 17.6% of the courses, while the Centre for Curriculum Development and Teacher Education Division in the MOE are responsible for only 2.7% and 2.8% of the courses, respectively. The Curriculum Development Centre focuses on training key personnel who will, in turn, provide training to other teachers at the zone or district level. Similarly, the Teacher Education Division provides only short courses for interested teachers. Non-education agencies, such as the Malaysian National Sport Council and National Sport Associations, also offer training opportunities for teachers.

Staff Training for Teachers

Given that a majority of PE teachers in secondary schools are not PE specialists, in-service staff training would be an important factor to upgrade their skills and knowledge. However, staff development in this area was also found to be lacking with little support from the school administrators. Only 41.9% of school administrators "frequently" and "always" assume that PE is important, while 91.9% of the administrators "never", "rarely" and "occasionally" organize staff development programmes (Wee, 2001).

In a study of 120 secondary schools, the Federal Inspectorate of Schools found that 75.9% of the principals had no planning for their staff development programme in their respective schools (MOE, 1988). The 1993 report reveals that many schools did not hold any in-house courses, although some schools did organize in-house training for their non-major PE teachers (Ministry of Education, 1993b).

When training is available, the contents of the courses are often found to be inappropriate or ineffective, and the administrators unable to provide proper guidance and professional directions to teachers (Vellapan, 1977; Ibrahim, 1979; Special Committee on the Status of Subjects in Schools, 1982; Sukumaran, 1984).

However, observations made by the Federal Inspectorate of Schools (Ministry of Education, 1993b) on the implementation of PE in six secondary schools in the states of Perak and Terengganu find that PE teachers who had attended courses organized by the Centre of Curriculum Development, State Education Departments, District Education Offices or schools demonstrated the ability to carry out their teaching duty well. The report also confirms that all six schools have established PE committees that meet at least twice a year to discuss curriculum, resources, purchase of equipment and problems in teaching and learning of PE.

Teachers' Ability and Training Needs

The Federal Inspectorate of Schools has conducted several studies to assess the skills and needs of PE teachers. A 1982 report notes a mismatch of assigning female teachers to teach sports about which they had no knowledge (Ministry of Education, 1982). An evaluation of PE teachers in 11 schools shows a weakness in basic PE concepts (Ministry of Education, 1990a). In fact, 45.2% failed the test. The report also points out that the teachers lacked pre-teaching preparation and failed to use other reference materials apart from the required text books. A 1993 report finds that teachers who had no training relied on personal knowledge and experience, and thus lacked the confidence to teach effectively. Even though teachers who attended courses conducted by the Centre of Curriculum Development were able to improve their techniques, they still lacked the necessary expertise to help demonstrate certain game skills (Ministry of Education, 1993b).

A high percentage of PE teachers are aware of their limitations and have indicated the need for further PE and staff training programmes. Only 53.7% have admitted that they had "knowledge to teach PE", 53.2% could "teach games skills", 57.0% could "detect students' weaknesses" and 55.0% could "correct" them (Wee, 2001).

Assigning Non-qualified Teachers to Teach PE

A study has found that although the majority of teachers teach their option subjects, 16.3% of teachers have been assigned subjects for which they have not been trained (Indra Devi, 1992). The assignment of non-qualified teachers to teach PE has spurred serious discussions about the quality of PE teachers. It is understandable why such teachers are not enthusiastic about their assignments. Unfortunately, the scarcity of qualified PE teachers has compelled

administrators to fill up teaching slots, and the majority of teachers are given PE periods to make up the total number of teaching periods (Ministry of Education, 1990a).

Assigning the right teachers to teach the right subjects is a serious responsibility that school administrators have not adequately considered. The low priority and status accorded to PE can be partly attributed to the leadership of the school administrators. Wee (2001) reports that, in general, administrators do not consult teachers prior to their assignments, thus giving teachers the impression that PE classes are assigned to them without considering their qualifications and interests. On the contrary, most administrators maintain that they “frequently” and “always” followed certain criteria to base their decisions, and that they had discussions with teachers before making the final assignments.

CASE STUDY: FITNESS ACTIVITIES IN PHYSICAL EDUCATION CLASSES

Between 20% and 40% of school children’s physical activities take place at the school, much of which are during PE classes (Ross and Gilbert, 1985; Simons-Morten et al., 1990). Corbin (1987) and Simon-Morten et al. (1987) agree that school is responsible for the development of children fitness.

In Malaysia, fitness testing among school children started in the early 1970s. It was compulsory, and was a part of the PE programme. Over the years, test batteries have changed as more people began to understand the importance of fitness promotion in schools. In 1989, this was given a big boost when the new Integrated Secondary Schools Integrated Curriculum was implemented.

Generally, Malaysian children have no time for exercise after school as they have co-curricular activities, extra classes and tuition (Anon, 2004). This problem has become more severe with increasing concern about the safety of urban children. As a result, greater emphasis is placed on physical activities during PE classes in schools to ensure that school children become and stay fit. The skills learnt during PE classes will expose them to specific recreational activities that can continue into their adult life. The Malaysian PE curriculum also aims to teach values – love, self-reliance, gratitude, mental and physical health – indirectly to the students. It is hoped that this will help in promoting values related to healthy living, and consequently encourage students to be physically active even outside of school.

This case study was conducted to gather information on PE activities and their contribution to students’ physical fitness, as assessed by the Physical Fitness Inventory for Secondary Schools (PFISS) (Ministry of Education, 1992). The results of the study were intended to:

- Disseminate information and raise awareness that PE lessons can be used to improve physical fitness;
- Encourage more in-service courses to be conducted for PE teachers by the Teacher Education Division, State Education Departments and District Education Offices;

- Encourage more in-house courses to be conducted in schools or jointly among a few schools within a designated area or zone;
- Encourage administrators to follow certain criteria when assigning teachers to teach PE;
- Persuade the MOE, State Education Departments and District Education Offices to train and recruit Specialist PE teachers (teaching more than ten periods of PE per week); and
- Deter administrators from using PE as a filler subject to make up the total number of teaching periods.

Case Study Design

The case study was structured on the PFISS. Pre-test and post-test measurements were administered to students in performing a battery of five tests – push-up, sit-up, sit and reach, quadrant jump and endurance run of 1,500 m – following the protocol established by the MOE.

After the pre-test, the students were taught various basic sports skills according to pre-planned lesson plans – for example, netball (for girls), handball (boys) and volleyball (boys and girls) – for four weeks during their regular weekly PE classes. They were divided into groups of 8 to 10. Two teacher trainees were assigned to each student group to deliver the standard pre-designed lesson plans. The students were expected to keep moving, although no mechanical devices were employed to monitor their activeness, with the assumption that on average, 8.6% of the activity was moderate to vigorous, 23.4% was minimal and 67.8% was sedentary (Simon-Morten et al., 1993).

During each PE class, after a 5-minute warm-up session, students were put through the respective activities. Short games were introduced after the practice session, followed by cooling down activities at the end of the class. A total of eight sessions of two 40-minute classes were conducted. At the end of the four weeks, the performance of the students was again tested to measure their fitness.

Case Study Subjects




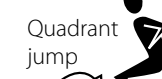

The study was conducted in a secondary school in Shah Alam, Selangor, Malaysia. The target groups were students from lower secondary (Form One to Form Three) PE classes that had been assigned to trainee teachers. In total, 152 students were involved (71 males and 81 females); 50 were 13 years old (Group A), 48 were 14 years old (Group B) and 54 were 15 years old (Group C). Among them were 133 Malays, 3 Chinese and 16 Indians.

The teachers involved were trainee undergraduate teachers pursuing a Bachelor in Education (PE and Health) programme. They participated in class lectures which, among other things, focused on teacher sports skills and physical fitness. They were trained to administer the physical fitness test.

Results

The Body Mass Index (BMI) showed that 3.9% of the students were obese, 5.9% overweight, 38.8% were normal and 51.3% were underweight. Table 2 and Figures 1-5 show the pre-test and post-test results of the students. The mean scores, standard deviations, minimums, maximums and gain scores for the tests are reported in Table 3.

Table 2: Summary of the Students' Fitness Test Performances

Test	Males						Females							
	Age	13 years		14 years		15 years		Age	13 years		14 years		15 years	
	Score	Pre	Post	Pre	Post	Pre	Post	Score	Pre	Post	Pre	Post	Pre	Post
 Sit-up	>26	2	5	0	5	6	6	>16	5	9	5	10	9	14
	21-25	9	11	7	16	9	10	11-15	19	15	16	12	17	9
	16-20	9	7	10	5	9	7	6-10	1	1	5	4	3	6
	11-15	5	2	1	1	0	1	1-5	0	0	1	1	0	0
	≤10	0	0	3	0	1	1							
 Push-up	>21	9	7	7	3	16	19	>21	5	9	2	4	4	8
	16-20	12	9	6	11	4	5	16-20	12	8	8	7	11	9
	11-15	3	5	4	5	2	0	11-15	6	6	13	14	7	9
	6-10	1	4	3	2	3	1	6-10	2	2	4	1	7	3
	≤5	0	0	1	0	0	0	≤5	0	0	0	1	0	0
 Sit and reach (in cm)	≥10	4	8	0	1	8	10	>13	1	3	0	4	1	2
	7-9.9	4	6	1	2	5	4	9-12.9	3	7	1	2	4	6
	4-6.9	6	4	3	3	5	3	5-8.9	6	3	4	9	9	8
	1-3.9	2	6	3	6	1	0	1-4.9	5	6	10	8	7	5
	≤0	9	1	14	9	6	8	≤0	10	6	12	4	8	8
 Quadrant jump	>30	0	2	0	0	0	0	27-32	1	9	0	0	0	1
	25-30	11	11	0	7	3	8	14-26	18	16	18	5	25	25
	13-24	13	12	20	13	21	16	8-13	6	0	7	22	4	3
	7-12	1	0	1	1	1	1	0-7	0	0	2	0	0	0
	0-6	0	0	0	0	0	0							
 1,500 m run (in sec)	5:31-6:30	0	0	0	0	0	0	6:31-7:30	0	0	0	0	0	0
	6:31-7:30	2	0	0	0	0	0	7:31-8:30	0	0	0	0	0	0
	7:31-8:30	2	0	0	0	0	0	8:31-9:30	0	0	0	0	0	0
	>8:30	21	25	21	21	25	25	>9:30	25	25	27	27	29	29

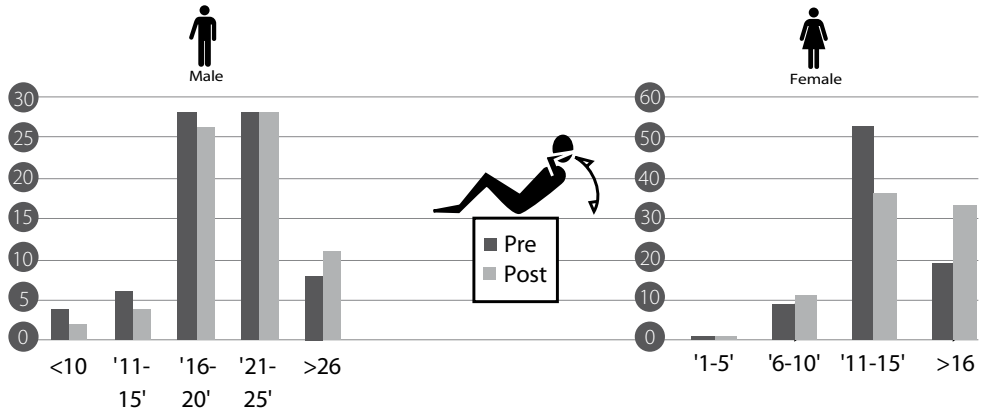


Figure 1: Sit-up Test Results

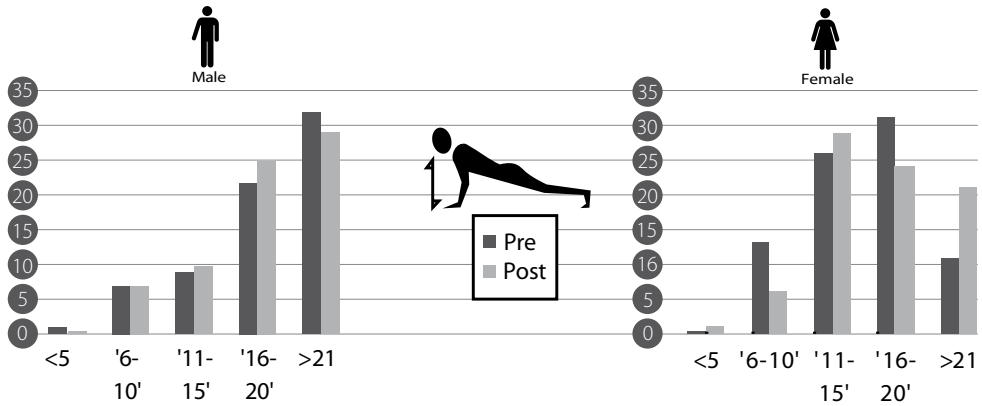


Figure 2: Push-up Test Results

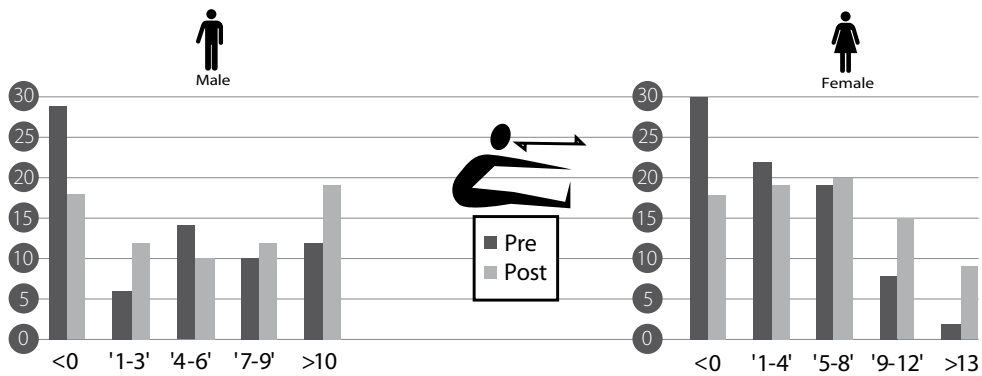


Figure 3: Sit and Reach Test Results

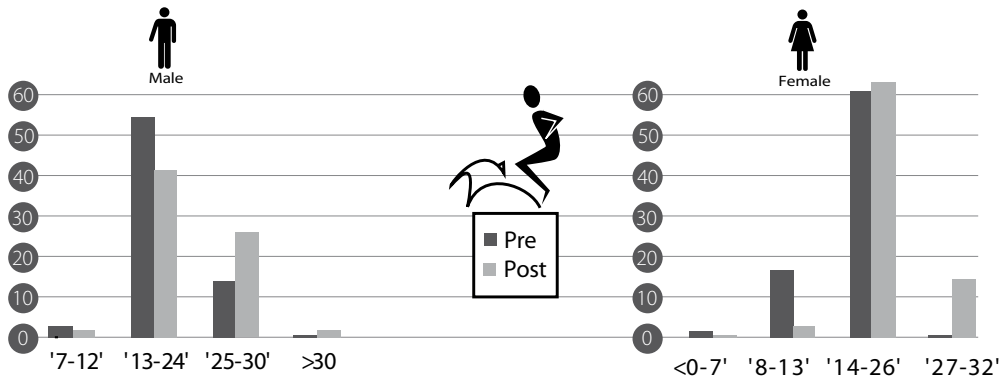


Figure 4: Quadrant Jump Test Results

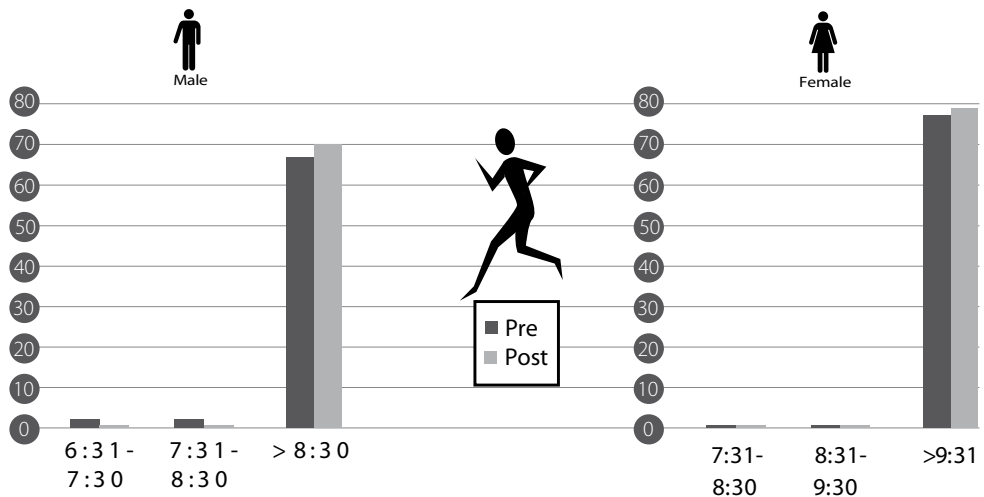


Figure 5: Endurance Run Test Results (1,500 m)

Table 3: Group Comparisons for the Tests

Age group/Activity	Pre-test		Post-test		Pre-test		Post-test		Gain scores
	Mean	S.D.	Mean	S.D.	Min	Max	Min	Max	
Group A (13 years old)									
Sit-up	16	5.0	17	6.1	2	23	2	40	+1
Push-up	15	5.1	17	6	4	25	5	27	+2
Sit and reach (cm)	-1.1	5.7	3.2	6.4	-13	9	-11	17	+4.3
Quadrant jump	16.5	4.1	21.3	4.8	5.5	23.5	11	32	+4.8
Endurance run 1,500 m (sec)	788	135.6	676.6	78.7	456	1057	541	900	-111.4
Group B (14 years old)									
Sit-up	17	4.6	19	6.6	7	29	6	35	+2
Push-up	19	6.7	18	7.4	9	34	6	46	-1
Sit and reach	2	7.4	6.0	6.6	-12	15	-10	19	+4
Quadrant jump	20.1	5.5	24.0	4.8	9	29	15.5	31	+3.9
Endurance run 1,500 m (sec)	695.3	110.2	693.5	96.6	432	900	455	840	-1.8
Group C (15 years old)									
Sit-up	18	6.5	18	5.9	8	38	8	30	0
Push-up	19	8.7	21	8.4	7	56	9	49	+2
Sit and reach	4.9	6.6	5.5	6.8	-10	20	-10	22	+0.6
Quadrant jump	18.6	3.9	21.4	4.6	9	26	9	27	+2.8
Endurance run 1,500 m (sec)	636.4	29.1	620.5	69.9	551	770	360	779	-15.9

Overall, the students’ performances improved, as can be seen from Table 3. The increase in their fitness levels can be attributed to the success of the four weeks’ PE lessons. The main challenge was to motivate the students to keep moving throughout the duration of the study. Grouping the students into small clusters enabled greater student involvement and participation in all the activities.

Recommendations

The positive impact of the physical activities on the students’ fitness is commendable and should be used to support an awareness campaign that increases the quality of PE teachers and lessons in schools. As discussed earlier, the positive attitude and support of those in authority are critical to the success of PE programmes. Therefore, such a campaign must be directed at government officials and school administrators on the one hand, and at teachers, students, parents and the community on the other.

More research on teaching of PE that focuses on active involvement of students in physical activities should be carried out to facilitate the development of appropriate pedagogy and techniques. Both pre-service and in-service training should be provided to increase the

capacity of trainees and teachers. Seminars and courses must be organized for the school principals and teachers to convince them that:

- PE is important for healthy living of individuals and well-being of society;
- PE needs to be taught in schools to ensure that students acquire knowledge of basic movements, physical skills and social skills so that they can spend their free time more usefully and meaningfully;
- Teachers teaching PE should be well trained so that they can fulfil the curriculum requirements and ensure that the basic skills are delivered to students; and
- School administrators should place PE on par with other examination subjects.

Furthermore, it is recommended that:

- The MOE should prepare a more stringent and mandatory monitoring procedure to be implemented by the administrators;
- The Teacher Education Division should review the PE curriculum to ensure that every trainee teacher, irrespective of their majors, will be able to teach PE upon graduation, for example by allocating more time for PE training;
- More in-service courses should be conducted for PE teachers by the Teacher Education Division, State Education Departments and District Education Offices;
- More in-house courses should be conducted in schools;
- Teachers selected to teach PE must fulfil the following criteria:
 - They must agree voluntarily to teach PE;
 - They must have a sports background;
 - They must possess an acceptable standard of motor ability and skill level; and
 - They must undergo an orientation programme conducted by the school or Education Department;
- A mentoring system should be established to enable senior teachers to advise and support junior teachers; and
- More workshops and seminars should be conducted for teachers, especially non-PE major teachers, to upgrade their teaching skills and to inculcate a positive attitude towards PE.

The success of PE as a lifelong tool to enhance national prosperity can, indeed, be assured with a concerted effort from policy makers, administrators, educators and students.

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Chapter 3

P hysical Education and School Sports in the Philippines: A Historical Point of View

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INTRODUCTION

Physical education and school sports in the Philippines mirror the system and practices of the United States. This is mainly because the Philippines' public education was introduced by Americans after the U.S. bought the country from Spain for US\$20 million in 1898. This legacy has transformed the Philippines' social and political structures to resemble those of the U.S.

Thus, to analyze the current state of PE and school sports in the Philippines, it would be useful to understand the historical development of the PE curriculum and how it became part of youth activities both in and out of school. It is also interesting to note the formation of athletic leagues in the U.S., and how the positive and the negative aspects that grew from them are duplicated in the Philippines.

The United Nations through its various agencies, such as UNESCO, UNICEF, UNDP, UNHCR, UNV and others, formed the Inter-Agency Task Force on Sports Development and Peace to emphasize the importance of the needs of children and their "right to play" as guaranteed in the Convention on the Rights of the Child in 1989. This paper describes how a consortium of universities in the Visayas region has established an Institute of Youth Sports for Peace (IYSPeace) in response to the UN's call for the utilization of PE and sports in achieving the Millennium Development Goals and for promoting sports as a tool for health, education, development and peace. The IYSPeace is an innovative approach to insure that the rights of children and youth to participate in sports is addressed – including the necessity of promoting values that will counteract the dysfunctional practices in sports today.

A HISTORICAL REVIEW

The Philippines' two colonizers, Spain and the U.S., have influenced the conduct of youth education in the country. Under four centuries of Spanish regime, PE and sports were discouraged in accordance with certain religious beliefs that disapproved of bodily urges and pleasures.¹ In contrast, under the American rule, the educational system expanded when the Taft Commission passed the Education Act No. 34 in 1901 to establish the Department of Public Instruction and to deploy educators from the U.S. to the Philippines. The first American teachers were 80 former soldiers, who were joined by teachers recruited in America. These pioneers collectively became known as the "Thomasites," namely because many arrived in the vessel, USS Thomas.

1. "A close study of the curriculum during the Spanish regime shows that no provision was made for physical education. Physical education and material well-being was subordinated to a wholesome spiritual life that is looked to Heaven for a reward. In this kind of philosophy, physical education had no place. Play was regarded as a sign of laziness and was therefore not only discouraged, but even suppressed to a certain extent. Thus, there was no serious and systematic physical education during this period" (Bocobo-Olivar, 1972, p. 16).

The Thomasites included 365 males and 165 females – an impressive number considering that this took place at the turn of the 20th century. They came from all over the U.S. and from all kinds of schools, including Ivy League universities, such as Harvard, Yale and Princeton. Many were young and fresh out of school, but some were also older teachers with many years of experience and with impressive backgrounds. In total, about 1,074 were stationed all over the Philippines. Their pioneering work in education transformed the Philippines into the third largest English-speaking nation in the world. The Thomasites were in many ways the forerunners of present-day U.S. Peace Corps Volunteers.

Early Roots of Philippine PE and School Sports

In the beginning, the Thomasites organized inter-team sports and competitions, teaching players the rules of the games, and thus laying down the foundation for competitive sports.² The American teachers noted that the Filipinos were fond of celebrating town fiestas, a practice inherited from the Spaniards, and utilized these occasions for promoting sports competitions. This approach has proven to be very successful – even today.

So pervasive was the encouragement given to competitive sports that a:

“credit of 1% on the general average was granted to pupils who had done regular and systematic work in athletics and who took part in provincial (athletic) meets. As an alternative, 5% was added to the average in any single subject in which the student was deficient. Under similar conditions, 2% was added to the general average of (athletes) who represented the Bureau of Education in the carnival interscholastic and open meet.”

(Bocobo-Olivar, 1972, p. 48)

Likewise, collegiate sports were given special attention. Two collegiate leagues, which continue to be the dominant movers of inter-collegiate competitions up to now, were founded by Filipino physical educators who acquired their master’s degree from Springfield College in the U.S., which was then the leading institution for physical educators from all over the world. The National Collegiate Athletic Association (NCAA) – composed of leading universities and colleges, namely University of the Philippines, University of Santo Tomas, University of Manila, National University, De La Salle College, Ateneo de Manila and the Institute of Accounts – was established by Dr. Remigio Ylanan, the Physical Education (PE) director of the University of the Philippines, in 1924. Interestingly, the NCAA in the U.S. was launched only eight years earlier in 1916. Professor Candido Bartolome, who succeeded Dr. Ylanan when he became the national PE director, organized the University Athletic Association of the Philippines (UAAP)

2. “In the beginning there was no definite policy towards the promotion of athletics. Rather, individual teachers exerted their enthusiasm and lent their prestige to events. American teachers, many of whom were former varsity letter men in the United States, took charge of coaching the teams at their own initiative and during their free time. The teachers trained school athletes. To enlist the interest of a greater number of pupils, athletic color competitions patterned after those of the Public Schools Athletic League of New York were introduced...”
(Bocobo-Olivar, 1972, p. 46).

– an association of the University of the Philippines, University of Santo Tomas and National University, which was popularly known then as the “Big Three” – a take-off from similar sports leagues in the United States.

In addition to the NCAA and UAAP, the Private Schools Athletic Association (PRISAA), through the encouragement and effort of Dr. Manuel Carreon (former Director of Private Schools), was formed in February 1953 and the first PRISAA athletic meet was held in Manila a month later. State schools that were granted collegiate status, such as the Philippine Normal College, the Philippine College of Commerce and the Central Luzon Agricultural College, formed the State Colleges Athletic Association (SCAA) and held their first athletic meet in Manila in 1953. Nineteen years later, the SCAA became the present State Colleges and Universities Athletic Association (SCUAA) of government colleges and universities, holding their first athletic competition in March 1972.

The Philippine Amateur Athletic Federation (PAAF) was created in 1911 to control amateur sports in the Philippines. For the next 50 years, the PAAF was primarily responsible for guiding and nurturing amateur sports development and the country’s participation in international competition. The original officers of the Federation were all prominent American sportsmen.

The formation of national sports associations (NSAs) further reinforced the primacy of sports competition over PE and “Sports for All.” The earliest among the Charter Members of the PAAF were the Philippine Amateur Baseball Association (PABA), Basketball Association of the Philippines (BAP), Gymnastics Association of the Philippines (GAP), Amateur Softball Association of the Philippines (Asaphil) and the Philippine Amateur Swimming Association (PASA). While the NSAs were committed to providing opportunities for youth sports participation, the emphasis was on competition at all school grade levels, and at the regional and national levels. Currently, about 42 NSAs are affiliated with the Philippine Olympic Committee. They constitute a body of sports stakeholders projecting a public image that elite competitive sports is more important than mass-based sports. Unfortunately, opportunities for non-competitive participants have not been given equal importance, and the expectations that the PAAF and NSAs would promote PE and grassroots sports have not materialized.

The biggest and most successful promoter of competitive school sports is the *Palarong Pambansa*, or national school games. The origin of the national school games came from the Carnival Games in 1908. Although the first National Interscholastic Meet was held in 1910, it was only in 1974 that it was officially named as the Palarong Pambansa or the Palaro, as it is better known today. More than 8,000 elementary and secondary students compete in sports disciplines during the Palaro, including badminton, boxing, chess, football, gymnastics, *sipa* (a native game played with rattan balls which are smaller than that used in sepak takraw), sepak takraw, softball, swimming, table tennis, taekwondo, volleyball, *arnis* (a native martial arts also known as “stick fighting”) and dance sports. Events for differently-abled children are slated to be included in the programme in 2007.

The Palarong Pambansa is supported by government funding of P100 million³ annually. Interestingly, PE and school sports receive no specific funding. In fact, PE activities are subsidized only through negligible funding from Local School Boards.

Successful as it is, the Palarong Pambansa has been riddled with reports of cheating (Magno, 2006; Philippine Daily Inquirer, 2007). Teachers, coaches and parents of athletes were suspected of conniving with school officials in submitting spurious documents so their children could participate in the competitions (Mequi, 2006). During the 2006 games in Naga City, the elementary school baseball teams supposedly included college-aged students (Manila Times, 2006). Such allegations reflect poorly on the Palarong Pambansa, and signify the loss of desirable values attached to the world of school games and sports.

The participation of Filipino athletes in international sports is another factor that persuades those in positions of power to support competitive sports. Except for boycotting the 1980 Summer Olympics, the Philippines has participated in all the Olympic Games since the 1924 7th Games in Paris. So far, the Philippines has won two silver medals in boxing and seven bronze medals. The motivation to win a gold medal has spurred greater financial investment in elite competitive sports, once again at the expense of PE and grassroots participatory sports.

The Republic Act No. 9064, passed in April 2001, mandates that “not less than five percent of the National Development Fund shall be set aside for the selection of athletes at the elementary and high school level” to be administered by the Department of Education. However, the Philippine Sports Commission has not remitted a single centavo to the Department, further illustrating how politicians in the Philippine Congress dutifully provide funding for school athletes, but not for general PE programmes.

Thus, through the years, in the minds of Filipino educators, politicians, policy makers and the public, sports is competition, and not participation and fellowship. Such perceptions hinder a more egalitarian approach to the practice of PE and sports. The Philippines is a signatory of UNESCO’s International Charter of Physical Education and Sports, but there is little evidence to illustrate the country’s commitments in upholding the Charter’s principles.

A Diminished Status of PE and School Sports

Several other factors have served to diminish the importance of PE and sports in Philippine elementary and high schools, including the following:

- During the Marcos regime, the ‘Green Revolution’ (which encouraged people to grow vegetables in garden plots) affected PE classes unexpectedly when gardening took the place of PE and playgrounds were converted into vegetable plots.
- When PE classes were substituted by Boy/Girl Scouts activities, PE almost became a forgotten subject.

3. P = Philippine peso. As of 25 April 2007, US\$1=P47.53

- In the early 1980s, students in Grades 1 and 2 were no longer expected to take PE, thus depriving young children of the opportunity to learn basic movement skills that are important for their physical growth and development.
- The National College of Physical Education (NCPE), the leading training institution for many PE teachers, coaches and sports officials who had been responsible for the development of the PE and sports in the country, was closed, thus removing another important source of training for key PE and sports personnel.
- The Bureau of Physical Education and School Sports (BPSS), which was responsible for the promotion of PE and school sports in the public schools, was abolished through the passing of Republic Act No. 9155 without any input from educators and sports teachers during the public hearing conducted on the provisions of the law.
- The implementation of *Makabayan* (as part of the Basic Education Curriculum for Secondary Schools in 2002 and under which PE was grouped with Social Studies, Education Technology at Home and Work, Music, Health and Values Education) resulted in PE being taught only once a week despite an accepted principle that children should have PE at least three times a week, if not daily.
- An Administrative Order was issued in August 2004, which in the long term will result in a centralized system of administration without any regional and lower-level officials to oversee PE and school sports. Effectively, this Order mandates that regional offices in dire need of *plantilla*⁴ positions may employ personnel who are not PE or school sports specialists, but are needed in other disciplines such as Science, English, Mathematics and others. This order ultimately serves to remove all positions occupied by PE and school sports chiefs and supervisors. Such a situation would significantly affect the promotion of PE and school sports in the public school system.

These policies and actions ultimately implied that PE and school sports are of secondary importance, a stance that contradicts the 1986 Constitution:

The State shall give priority to education, science and technology, arts, culture, and **sports** [bold letters supplied] to foster patriotism, nationalism, accelerate social progress, and promote total human liberation and development (Section 17).

(1) The State shall promote **physical education and sports programmes** [bold letters supplied], league competitions, and amateur sports, including training for international competitions to foster self-discipline, teamwork, and excellence for the development of a healthy and alert citizenry; (2) All educational institutions shall undertake regular sports activities throughout the country in cooperation with athletic clubs and other sectors (Article XIV, Section 19).

4. Plantilla: A Spanish term which refers to the specific designation of employees in the budgets of the government bureaucracy.

Attempts at Reforming PE and School Sports

The backdrop of undue emphasis given to competitive sports provokes the question as to whether the negative aspects of sports in the Philippines today, such as cheating, violence, unsportsmanlike conduct and the use of banned drugs, may be due to the lack of opportunities for children and youth to participate in PE and sports. Too much attention appears to be focused on the glorification of the Olympics and professional sports, and not enough on the constitutional mandate and that of the International Charter of Physical Education and Sport espousing the principle of “Sports for All.”

To offset this imbalance, several attempts have been initiated by educators and sports leaders, including the following:

- Enactment of Republic Act No. 3155, “The Sports Federation Law,” in June 1961 revised the Charter of the Philippine Amateur Athletic Federation and ended 50 years of centralized control of amateur sports in the country. The revision permitted the formation of associations, with their respective leaders, coaches, technical officials and other stakeholders, for each sport. Organized according to regional divisions, the provincial chapters of the associations were set up to promote their respective sports at the rural or grassroots level. While the association leaders failed to achieve this objective, using their positions for personal gain instead (Llanos, 1972), this development facilitated the establishment of the autonomous NSAs later.
- The loss of the Asian Games basketball championship to South Korea in 1966 spurred a national cry for reform in sports. An extensive review of the situation resulted in many recommendations, which subsequently resulted in the following programmes (Bocobo-Olivar, 1972, pp. 150-151):
 1. Adoption of a national fitness programme;
 2. Provision of adequate nutritional aids either to school children, in general, or to those involved in athletics, especially national athletic programmes;
 3. Launch of a nationwide PE programme, particularly in terms of training PE instructors, establishing a centre for training coaches, employing foreign experts, and setting up an Institute of Physical Education at the University of the Philippines;
 4. Research on the type of sports in which Filipinos might excel;
 5. Appropriation of public funds for an adequate sports programme;
 6. A programme of awards and recognition for outstanding Filipino athletes, and celebration of national sports festivals and a national sports day;
 7. Enactment of legislation to promote physical fitness, for example:
 - a. Sub-divisions, realtors, etc., to provide playground facilities following a specific playground-to-living area ratio;

- b. Schools to provide athletic and/or gymnasium facilities;
 - c. Lifeguards, coaches, referees and umpires to be certified and licensed; and
 - d. Funds and donations for sports to be tax deductible;
8. Scholarships for deserving persons in the sports community;
 9. An athletic development programme for the Armed Forces of the Philippines, as well as for the private sector;
 10. A well-rounded, year-long sports programme for schools and universities; and
 11. Provision of sports facilities for youth by municipal governments.

Commendable as they are, such programmes continue to reinforce the bias in favour of competitive sports. No specific provision is made for encouraging and supporting PE and participatory school intramural sports programmes. Earlier attempts to implement a nationwide fitness programme failed because of the “lack of encouragement and support from the officials concerned and the lukewarm attitude of teachers in the field” (Ylanan and Ylanan, 1974). Similarly, a pilot project to test the physical fitness of students, undertaken with the help of Peace Corps Volunteers in 1972, and the replication of the test in public schools in 2004, faced the same difficulties with no follow-up or impact on PE programmes in schools.

The Department of Youth and Sports Development (DYSD), created by virtue of Presidential Decree No. 604 for the purpose of “integrating nationwide youth development, physical fitness and amateur sports development programme,” was abolished eight years later through Executive Order No. 805. The functions of DYSD were transferred to the Ministry of Education and Culture, which was renamed the Ministry of Education, Culture and Sports (MECS). A Bureau of Sports Development (BSD) was created to be “responsible for the development and evaluation of programmes for promoting and improving organized sports and physical fitness for all members of the community.” The programmes planned by the BSD showed a bias for the promotion of mass-based sports, indigenous games and sports, and preservation of the environment through aquatic sports (Bureau of Sports Development, 1989), as seen below:

- Programme I: Human Resources Development (“Preservation of Man and His Attributes”);
- Programme II: Cultural Heritage Revival (“Preservation of Man and His Cultural Heritage”);
- Programme III: Mass Sports (“Preservation of Man and His Moral Values”);
- Programme IV: Sports and Natural Resources (“Preservation of Man and His Environment”); and
- Programme V: Equipment and Facilities Development.

These programmes marked the first attempt to identify the components of a comprehensive sports development for the Philippines that is grassroots-oriented and in accordance with the UN’s policy to promote Sports for All, promotion of indigenous games and sports, and concern for the environment. After the February Revolution of 1986, the name of the BSD was changed to the Bureau of Physical Education and School Sports (BPSS), but the programmes remained the same because there was no substantial change in the leadership and personnel of the Bureau.

The Philippines is probably the only country in Asia that has included in its Constitution specific provisions for the promotion of PE and sports. Likewise, under Republic Act No. 7160, “Local Government Code of 1991”, all levels of local government units are to conduct regular physical fitness and sports activities for the community. Unfortunately, neither the Constitutional nor local governmental mandates were translated into action on the ground.

Funding for the annual Palarong Pambansa has always been a problem because no resources have been appropriated for its preparation – from the school intramurals, to the district, division, regional and national Palaro. Instead, the onus for funding has fallen onto the teachers, with school principals asking the teachers to make a “voluntary contribution.” This “contribution” could even be arbitrarily deducted from their salaries. It was only in 1992 that the public school teachers were relieved of this burden. However, Executive Order No. 81, issued in March 2001, transferred the sports programmes and activities to the Philippine Sports Commission (PSC), which discontinued the P100 million funding of the Palarong Pambansa.

The PSC was established through Republic Act No. 6847 to provide leadership, formulate policies and set priorities and direction for all national amateur sports promotion and development, particularly for grassroots participation. It organized the Palarong Pambansa until 2006, when the responsibility reverted to the Department of Education. During its tenure, the PSC prepared the Master Plan for Philippine Sports (1996-2000) to:

- Assess the state of PE and sports in the country; and
- Evaluate the sports development plan under the PSC.

A framework for a PE and sports system in the Philippines was developed and incorporated into the Philippine Sports Commission Strategic Plan for 1996 to 2000, comprising five action plans, namely:

1. Promotion of mass sports to encourage greater participation in basketball, track and field, bowling and chess. This includes organization of programmes among *barangays*/local government units, labourers, farmers, civil servants and special interest groups;
2. Organization of multi-sectoral Philippine National Games all year round to serve as occasions for the celebration of sports and as arenas for Olympic-type competitions for athletic excellence;
3. Selection and training of athletes for the National Youth Sports Talent Reserve and, subsequently, the National Athletes Pool;
4. Participation in international sports competitions, such as the Southeast Asian Games, the Asian Games, the Olympics and the various world championships; and
5. Participation in sports for entertainment, such as horse racing, cockfighting, kite flying and bungee jumping.

All these attempts at reforming PE, school sports, and sports in general were made in good faith, with much enthusiasm and support. However, they were unsustainable due to frequent changes in the leadership of the government. Since 1998, there have been two presidents and at least three changes in the chairmanship of the PSC.

CASE STUDY: INSTITUTE OF YOUTH SPORTS FOR PEACE

In response to the United Nations' call to utilize sports as a vehicle for health, education development and peace, the Foundation University, a private university in Dumaguete City, Province of Negros Oriental in the Visayas, is undertaking a unique and innovative experiment in peace-building. The University has established the Institute of Youth Sports for Peace (IYSPeace) in collaboration with other educational institutions, drawing its inspiration from three major sources:

- Convention on the Rights of the Child, particularly Article 31 on the right to play (www.cirp.org/library/ethics/UN-convention).
- An exhortation from the late Pope John II during the World Day of Peace celebration at the advent of the millennium in January 2000, urging young people "[i]n your schools and universities, in the place of work, in leisure and in sports, in all that you do, let yourself be guided by this constant thought: Peace within you and peace around you, peace always, peace with everyone, peace for everyone" (United Nations, United Nations Task Force on Sport for Development and Peace. www.un.org/News/Press).
- A statement by the former UN Secretary General Kofi Annan when launching the Sport for Development and Peace programme: "Sport can play a role in improving the lives of individuals, not only individuals, I might add, but whole communities. I am convinced that the time is right to build on that understanding, to encourage governments, development agencies and communities to think how sport can be included more systematically in the plans to help children, particularly those living in the midst of poverty, disease and conflict" (United Nations, United Nations Task Force on Sport for Development and Peace. www.un.org/News/Press).

The themes of youth and peace are the foundations of IYSPeace. The Philippines has a relatively youthful population, with more than 50% of the population below the age of 35 years. However, the future of the majority of poor Filipino children does not look promising in a country where 40% of the total population is poor; where the unemployment rate is 10.2% (October 2002 figure); where 12 firms closed daily in 2002, retrenching an average of 284 employees everyday during the first six months of that year; and where a minimum daily wage of P280⁵ is not enough to meet the daily basic needs of an average family of six (Bawagan, 2004).

Under such conditions, children face severe pressures and hardships. They are often victimized and deprived of a 'normal' childhood, basic education, family care and attention. Under the Child21 Framework for the Filipino Child in the 21st Century, the national government has vowed to provide children with special protection against all forms of violence, abuse and exploitation, as well as to ensure their safety in emergency situations and difficult circumstances.

5. As of 25 April 2007, US\$1=Philippine peso 47.53

The province of Negros Oriental ranks among the ten provinces with the greatest number of out-of-school youth. The Foundation University, located in this province, has initiated several programmes, one of which is the running clinic, to reach out to the youth. Many of the young people participating in the programme receive running and athletic shoes, and in the summer, attend sports camps where they are taught basic sports skills and lifelong values.

The IYSPeace is a centre of sports education where young people and their mentors learn and imbibe knowledge, skills, values and ethics inherent in sports, thus creating communities of active, vigorous and healthy participants in an environment of peace. The IYSPeace subscribes to the principle that PE and sports are for all young people regardless of their gender, talent, religion and social status. Providing opportunities for participation by the *greatest number* is a priority, without diminishing the importance of developing and enhancing talents and excellence in sports.

The IYSPeace aims to provide theoretical and practical experiences in sports for youth, PE teachers, coaches, sports specialists, leaders and managers in Negros Oriental, in particular, and Central Visayas, in general. The centre works to fulfil the Constitutional mandate and declaration of the International Charter of Physical Education and Sport, that the “practice of physical education and sports is a fundamental right for all...and sports is a potent tool for development and peace.”

Five Core Values of the IYSPeace

The IYSPeace espouses five core values:

- Universal brotherhood: “*Kalalo Hindi Kaaway*” (Playmate Not Enemy) promotes the spirit of cooperation and togetherness in the form of competition;
- No cheating: cheating in all forms is not tolerated and any commission of cheating is punishable in accordance with rules and regulations and the Law;
- No violence: violence in words and deeds is abhorred, detested and judiciously avoided;
- No illegal substance: performance-enhancement and other banned drugs are forbidden; and
- Respect for authority: the Filipino tradition of respect for elders, recognition of the hierarchy of authority as channels to secure support for one’s work and to manifest concerns and grievances, is the accepted norm of behaviour.

Objectives of IYSPeace

The objectives of the IYSPeace are to:

- Train and professionalize PE and sports manpower requirements of public and private institutions, i.e., PE teachers, sports coaches, sports specialists, sports managers and administrators, sports officiating officials and wellness professionals;

- Organize and manage sports programmes for youth, including under-privileged children, children-at-risk and children with disabilities, to prepare them for lifelong participation in sports and entry into elite sports competition;
- Conduct research on the effects of sports participation in youth development and formation;
- Create an environment supportive of youth sports with the support of local government units, the private sector, academic institutions, parents and other sports stakeholders in the community; and
- Link up with local and international agencies in creating a culture of youth sports and to promote the ideals of peace.

The Organization

IYSPeace is a unique and innovative experiment in peace-building established by a Sports Consortium composed of Foundation University, Silliman University, Negros Oriental State University, St. Paul University and Collegio de Santa Catalina de Alejandria. Foundation University is serving as the Secretariat until 2012. The Consortium institutions are organized into the Negros Athletic Association (NAA), an athletic league through which IYSPeace will implement its various programmes for students, athletes, PE teachers and coaches of these institutions, as well as those from Panay Island, the provinces of Bohol, Cebu, Siquijor and Northern Mindanao.

The specific objectives of the NAA are to:

- Craft and implement a comprehensive and integrated programme of sports and its components, jointly and cooperatively undertaken by a consortium of academic institutions in the Island of Negros, within the school year 2006-2007 and thereafter, dedicated to youth formation, leadership development, and enhancement of community health and welfare;
- Identify priority programmes and projects that shall be undertaken annually, designate lead implementers and generate resources for successful implementation; and
- Monitor, evaluate, recommend and institute all necessary measures that will insure viability, growth and continuous operations of the NAA.

IYSPeace Programmes

To achieve the objectives of IYSPeace and NAA, the Consortium has planned a series of programmes, as shown below:

- Youth Sports Leadership Education: This programme will include short- and long-term academic studies leading to the acquisition of undergraduate and graduate degrees, certificates and diplomas. The academic degrees will initially be granted through the College of Education. The short-term programmes, such as certificates and diplomas, will be under the IYSPeace. Target participants are PE teachers; coaches; specialists for sports

- conditioning, sports first aid, sports complex managers, sports marketing; sports officiating; and wellness providers.
- Youth Sports: This programme has three components:
 - The Youth Sports Camp provides opportunities for children, regardless of their talents, to learn the basic rudiments of various sports during weekend and summer sessions.
 - Sports Talent Development selects and trains children aged 13 years and above through a sports talent identification protocol to develop their special abilities for recruitment into varsity teams.
 - Youth Sports Outreach caters to the underprivileged and children-at-risk, including the mentally- and physically-challenged, who will be taught the rudiments of various sports. The poor and needy children will be supplied with sports gear from donors, and supplemental nutrition will also be part of this programme.
 - Youth Sports Research and Information: This programme has three components:
 - Youth Sports Data Bank: Compilation and classification of information on youth sports to establish a comprehensive database on the subject.
 - Youth Sports Research: Short-term and longitudinal research to study the impact of sports on youth development and formation, to be conducted by faculties of the Sports Consortium institutions.
 - Sports Library: A depository of books, magazines, tapes, compact disks, reference materials on sports and other relevant materials to support the programme.

Certificate Programmes

In addition to the programmes above, the following academic certificates will be awarded after completion of required units:

- Certificate in Youth Sports Leadership
- Certificate in Sports Coaching
- Certificate in Sports Conditioning
- Certificate in Sports Tourism Management
- Certificate in Wellness Programme Management
- Certificate in Aquatics Management

CONCLUSIONS

The UN emphasizes the important role of PE and sports in enhancing individual abilities, health and knowledge. At the global and national levels, PE and sports can contribute positively to economic and social development, public health, peace and the environment. Therefore, it is important to ensure that everyone has the opportunity to learn essential values and life skills, including self-confidence, teamwork, communication, inclusion, discipline, respect and fair play.

In the Philippines, competitive and professional sports appear to be given special preference over participatory PE and school intramural sports programmes. The International Charter of Physical Education and Sport, which espouses the principle of Sports for All, and the Philippines' constitutional mandate to promote PE and sports programmes have not been sufficiently incorporated into policies and actions on the ground. This imbalance in emphasis raises concerns about the increasing trend of negative sports practices in the Philippines.

The initiative of the Sports Consortium in Negros Oriental in establishing IYSPeace offers an alternative to redress this problem. IYSPeace's programmes are guided by its five core values to provide theoretical and practical experiences in sports for youth, PE teachers, coaches, sports specialists, leaders and managers. Since this is a new initiative, the impact of IYSPeace cannot be assessed as yet. It would be of great interest to monitor the progress and effectiveness of IYSPeace's programmes in light of past failures in the Philippines in shifting the emphasis from competitive sports to a Sports for All focus.

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Chapter 4

School Physical Education Reform and Development in the People's Republic of China

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INTRODUCTION

Since the foundation of the People's Republic of China (PRC) more than 50 years ago, the physical education (PE) curriculum has undergone eight reforms. To understand the current status of PE in modern China, it would therefore be necessary to trace the changes that have taken place over time.

This paper presents key elements of the philosophy that shaped traditional PE and sports, the characteristics of the various reforms implemented by the Chinese government since 1949, and the features of the latest reform. The *nanquan* (or southern-style boxing) school-based course at Licheng Experimental Primary School in Quanzhou, Fujian Province, was selected as a case study to demonstrate the new PE curriculum's results.

HISTORY OF PHYSICAL EDUCATION REFORMS IN CHINA

Education in China is influenced by a long history of tradition and culture that emphasizes the importance of reading and writing, and also learning martial arts to help nurture courtesy, morality, discipline and enterprising spirit. Nevertheless, more conservative thinking has prioritized reading and writing over physical activities, and this bias has shaped the development of PE programmes in schools over the centuries. Subsequently, from the Qin Dynasty up to 1904, there was almost no PE in schools until the Constitution of the Imperial University of Peking ended this 2000-year trend by introducing a new PE curriculum. Unfortunately, the traditional education philosophy was still entrenched within the system. Under pressure to devote more time to examination subjects for entry into higher education, PE remained a low priority topic. There was little interest or resources to make physical activities and sports a mainstream subject.

The 4th of May Movement in 1919 led to a major transformation of the Chinese educational system, when it became influenced by John Dewey's pragmatic approach to education in America. Seen from a new perspective, the field of PE and sports in schools was revitalized between 1920s and 1940s. The Curriculum Standard Outline of the New Educational System issued in 1923 was in fact a replica of the American PE curriculum.

The collapse of feudal China and the establishment of the People's Republic of China in 1949 brought another round of changes to the country. This time, China adopted the former Soviet Union's system, thus replacing the American influence. In contrast, the focus shifted to the role of the teacher, classroom and teaching materials; over-emphasized the teaching of sport techniques; and neglected the impact of PE on students' physical and mental health.

These developments increased the difficulties of those working in the PE and sports sector. The Cultural Revolution during the 1960s fueled their frustrations with slogans such as "working replaces physical education" and "military training replaces physical education" being the rule of the day. It was only from the 1970s onward that the sector received a new direction, when the Ministry of Education issued the "Ten Year System School Physical Education Syllabus" and

other guidelines for PE and health courses. A conference held in Yangzhou, Jiangsu Province, marked the first milestone of modern PE curriculum reforms. In 1987, the 12-Year Syllabus of Primary School Physical Education and Syllabus of High School Physical Education were revised as “transition” syllabi prior to the implementation of the 9-year compulsory education policy. These two syllabi incorporated PE pedagogies from other countries and promoted a broader scope for PE: promoting students’ mental and physical health, developing their intellect and values, and enabling them to be constructors and defenders of socialism.

The Physical Education Syllabus of 9-Year Compulsory Education, issued in 1992, continued to promote these objectives and became an important guide for effectively pushing forward the PE curriculum reforms. The 9-year syllabus also helped to increase students’ knowledge about hygiene and health care, the environment, social responsibility, and civic behaviour, while at the same time it emphasized collective and organizational accountability in accordance with China’s political and social systems. Tremendous changes to the PE curricula and pedagogies continued during the 1990s. The decade saw a massive introduction and advancement of educational theories and teaching methodologies in China.

However, these theories and methodologies had their limitations, and could not meet all demands and expectations at the same time. This, in turn, spurred the need for even more reforms. For example, a curriculum that stressed the mastering of sports techniques to defeat others overlooks the objectives of PE and sports in developing healthy, socially moral and responsible citizens. Similarly, a focus on competitive sports and using the same yardstick to train athletes and non-athletes alike resulted in many dissatisfied students and negative outcomes. A theory that students’ self-esteem and confidence in dealing with difficulties would be increased if they were happy and enjoyed their lessons did not yield the expected results when it was tested out in China. The students were allowed too much freedom to play and have fun without any proper structure to the lessons.

Despite their failures, these examples were instrumental in developing China’s PE curriculum and stimulating the thinking of the country’s policy makers and educators. The mix of old and new theories, in addition to the experiences gained, benefited the educational reforms. Under the current guiding principle that emphasizes the person as the focal point, the new PE curriculum has placed health first, but it was also designed to encourage creativity based on lessons learned from traditional practices and modern theories.

CHARACTERISTICS OF THE CURRENT PHYSICAL EDUCATION CURRICULUM REFORM IN CHINA

In 2001, China implemented its eighth PE curriculum reform in schools in accordance with the general basic educational reform of the country to meet social demands and international trends. This round of reform has identified four objectives:

- Develop the concept of “health first” and increase students’ awareness about the importance of health;

- Enhance students' interest in sports and establish a foundation for lifelong physical fitness;
- Evaluate students' development and performances; and
- Develop/utilize resources effectively and promote PE in rural areas.

Developing the Concept of "Health First"

Scientific and technological developments have led to sedentary lifestyles for many people. Even as medical advances have found remedies for diseases and extended lifespan, the quality of life is on the decline as people engage in unhealthy habits and face greater pressures from the family, society and workplace. Emerging trends show that people know they should pay more attention to the state of their physical, mental and social wellness. Consequently, the perception of a healthy person now includes someone with a well-built body who is intelligent and has strong mental character, morals, sensitivity and social skills. It is important, therefore, that the PE curriculum in schools is designed appropriately to help develop citizens with these characteristics as early as possible.

In 1999, the Central Committee of the Communist Party of China (CCCPC) and the State Council pointed out that since a "healthy physique is the basic premise that the youngsters serve the motherland and people, and is the embodiment of the nation's prosperous vitality,"⁶ schools should promote the importance of health by strengthening PE programmes. Under this "health first" priority, the Fulltime Compulsory Education and General Senior High School Physical Education (Grades 1-6), Physical Education and Wellness (Grades 7-12) Curriculum Standard (draft) was developed and implemented in various regions in 2001. PE is now a compulsory subject, and improving students' health is the main objective. In the past, PE lessons aimed mainly at helping students acquire knowledge, skills and fitness. The new curriculum has incorporated the need to improve students' mental health and social adaptation skills, paying particular attention to the development of their health consciousness and inculcation of wholesome lifestyles.

Establishing a Foundation for Lifelong Physical Fitness

It was reported that 66.7% of Chinese people older than 16 years do not participate in any physical exercise.⁷ One of the reasons for this high level of inactivity is the lack of interest in physical exercises. PE or participation in sports has no influence on entry into higher education or for employment. Understandably, there is no motivation for teachers to urge students to be more active in PE or sports, or for students themselves to take the initiative. The 2001 curriculum has addressed this shortcoming by redesigning the PE curriculum, energizing teaching and learning methodologies, and trying to raise students' interest in sports.

6. The Central Committee of the Communist Party of China (CCCPC) and State Council, p. 1.

7. Project Group of Investigation of Sports for All in China, p. 72.

Redesigning the PE Curriculum

One major change in the new design is a shift from the traditional framework of structuring the curricular content and teaching hours according to sport events. The curriculum content has expanded from a single unit to multiple units of five learning aspects, including participation in sports, sport skills, physical health, mental health and social adaptation, to match different age groups and abilities. PE teachers are expected to select activities that will develop their students' mental and physical health, and at the same time be appealing enough to keep their interest. Rather than training elite athletes alone, the new curriculum aims to restructure traditional competitive sports to facilitate the participation of all students and to introduce non-competitive traditional and new sports (e.g. kicking shuttlecocks and roller skating, respectively).

Energizing the Teaching and Learning Methodologies

The art of teaching is not just to enable students to gain knowledge and skills, but also to arouse their interest and curiosity in the subject and instil in them the desire to discover more and to keep learning. The traditional style of teaching PE placed the teacher at the centre stage lecturing to the students with no consideration of their individual learning needs. In contrast, modern teaching pedagogy shifts the attention to the students and their learning styles. With this change, students become active learners who are exposed to multiple ways of learning. The role of the teachers in enabling the transformation of passive students into curious, interested and independent scholars in fact increases the teachers' importance and responsibility. PE teachers have to find innovative ways to perform their traditional duty of delivering facts and information to their students on the one hand, while shaping students' emotions, attitudes and values, as well as enhancing their abilities and creativity, on the other.

Raising Students' Interest in PE and Sports

From the perspective of lifelong education, it is more important to pay attention to the development of students' interests in sports than their performances in the sport activities. Logically, students are more likely to keep up with their interests if they have a specific activity that they excel in or particularly enjoy. The 2001 curriculum tries to address this issue through a more flexible approach to the structure of the curricular contents:

- At the primary school level, students are encouraged to learn by playing a variety of sports;
- At the junior high school level, events from each category (e.g. ballgames, track and field) are selected to match the schools' resources and students' interests as the main units of instruction; and
- At the senior high school level, students choose sport events of interest to them, within the prescribed curriculum, to master the skills.

Evaluating the Students' Development

Evaluation of the teaching and learning outcomes is an important part of the new PE curriculum. It is also critical to know what to evaluate and how to evaluate the students' progress and development. Traditionally, teachers scored the performances of the students at the end of a semester. The 2001 curriculum has introduced a multiple evaluation system, in which not only students' physical performance and sport skills are evaluated, but also their attitude, cooperation and behaviour. To achieve the desired results, a multi-dimensional and multi-level evaluation system has been formulated by integrating quantitative/qualitative, summative/progressive, and absolute/relative assessments. A national evaluation standard has been set as a benchmark to balance the differences among regions, schools and students. In addition, standards to measure students' progress against their initial performances and conditions have been developed by their PE teachers. Other components of the evaluation are the students' self- and peer evaluations and evaluations done by the parents. These serve to provide much more detailed feedback to the teachers and students, alike.

Developing and Utilizing Resources Effectively

Although economic development in China has increased sharply in recent years, investment in the educational sector is still insufficient. Many regions in the country, especially the rural areas, do not have enough funds to upgrade their schools and lack proper facilities, particularly for PE and sports. To develop new talents and in response to the needs of millions of villagers, the government has identified three areas to distribute resources more equitably and effectively:

- Devolve the implementation of the PE curriculum
- Enable flexibility of curriculum content
- Develop local and school-based PE curriculum

Devolve the Implementation of the PE Curriculum

In the past, the implementation of the PE curriculum was centralized. However, the size and diversity of the country made it difficult for the central authorities to ensure effective and efficient management of the process or enable appropriate adaptations at the regional and local levels. A main objective of the 2001 PE curriculum reform is to change the system and devolve management to the national, local and school levels. The education administration section of each province is responsible for planning and implementing the provincial curriculum following national standards guidelines, and each school in the provinces develops their PE lesson plans in accordance with the provincial curriculum. This three-level differentiation permits the design of curricular contents and teaching methods to be compatible with local conditions, resources and needs. This system also endorses the authority and independence of local institutions and schools, and therefore is more likely to stimulate enthusiasm and initiative, and in turn gain universal support.

Enable Flexibility of Curriculum Content

The choice of PE curriculum content has been a core problem of the curriculum design. Instead of prescribing the content and methodologies in detail, the 2001 curriculum only provides suggestions, allowing the schools and PE teachers more flexibility in making the final decision. Thus, schools in rural areas can tap the latent power of local ethnic wisdom, traditions and resources, and combine them with modern ones to meet their objectives.

Develop Local and School-based PE Curriculum

The decentralized management system calls for the development of regional and school-based PE content and materials to facilitate the new curriculum's adaptation. The regional curriculum is established and implemented in each school by the provincial education administration sections, while the school-based curriculum is planned in detail and implemented by the schools, themselves.

Through this arrangement, PE in rural schools can receive greater attention by having more freedom and choices. In recent years, some examples of such school-based curricula have appeared in China, for example the *nanquan* in Fujian Province, "kicking shuttlecocks" in Guangxi Province, and *yangge* in rural areas of Shangdong Province. Having ownership of the curriculum, schools will mobilize all PE teachers to participate in the reform. Teachers are encouraged to be creative, and their role has changed from being an "executor" and "implementer" to being a "designer" and "constructor" of the curriculum.

CASE STUDY: NANQUAN SCHOOL-BASED COURSE AT LICHENG EXPERIMENTAL PRIMARY SCHOOL IN QUANZHOU, FUJIAN PROVINCE

Current research of school-based curriculum development in China has received much interest. A closer examination of an initiative taken by the Licheng Experimental Primary School in Quanzhou, Fujian Province, in developing its school-based PE curriculum will provide more information on the impact of the latest PE curricular reform in China. The school's choice of incorporating the traditional southern Shaolin *wushu* of Quanzhou into PE lessons and using the *nanquan* southern-style boxing as the main curricular content proved to be a success.

Outline of the Nanquan School-based Course

Quanzhou, famous for its historical and cultural features, has being cited as a "multi-cultural treasure-house" and "world religious museum." Fujian Province was the cradle of the southern school of Shaolin *kongfu*, and at the height of its affluence, the practice of *wushu* martial arts was so popular that its fame spread far and wide. Shaolin *wushu* infuses Buddhist belief and Confucian philosophy that extol virtue, righteousness, caution, patriotism, justice and selflessness.

The foundation of a new China had ended a turbulent history of unrest and wars. In combination with the development of modern forms of entertainment that have replaced many traditional and cultural activities, these events led to a decline in the practice of all kinds of martial arts. Out of concern for the increasing number of young people in pursuit of aimless distractions, educational authorities have been trying to identify alternative outlets to keep the younger generation occupied. The chance to develop a school-based PE curriculum provided an entry point for educators to introduce new ideas.

The declining interest in Shaolin wushu has persuaded the Quanzhou Wushu Association in Fujian to raise the profile of the martial arts. More than ten years ago, Mr. Zhou Kunmin, the former Deputy Mayor of Quanzhou and former Chairman of the Quanzhou Wushu Association, presented his writings on Chinese boxing to a primary school in Quanzhou in an attempt to introduce wushu into the schools. Since the national curriculum had to be followed at that time, his effort was unsuccessful.

The delegation of management to local authorities mandated under the eighth curriculum reform enabled the Licheng Experimental Primary School in Quanzhou to propose a project to introduce nanquan into the classrooms. Nanquan is a major style of Chinese boxing grouped under wushu. As a unique form of self-defence relying on a range of movements of the hands and legs, it is an ideal physical activity for developing strength and fitness. Implemented in November 2006, the overall objectives of the project were to:

- follow the “health first” guideline;
- explore nanquan’s cultural content and social value;
- develop the curricular content for teaching nanquan;
- investigate new teaching methodologies; and
- develop contemporary wushu teaching in relation to modern theories.

More specifically, the three main sets of activities included:

- i. Identify ways to spread the practice of nanquan; generate a conducive environment for learning nanquan in schools; encourage society to value the importance for students to learn nanquan in schools;
- ii. Establish curricular contents to match each age group’s mental and physical stages of development; develop methodologies and materials for teaching nanquan movements to primary school students; and
- iii. Provide the necessary facilities and space for the lessons; plan and implement practical activities; cultivate students’ interests; use the lessons to teach appropriate values and ethics.

Teaching nanquan to students in schools will help to revive this tradition and cultural heritage. The ancient way of transferring knowledge relied on the boxing masters to relay their skills to selected apprentices, a custom that has in fact contributed to the slow demise of the martial arts. To expand the practice to a wider audience, it is necessary for the boxing organizations and clubs to have closer ties to the schools and general public. In support of

this point, PE teachers from the project went to the Shaolin Temple in Quanzhou during their summer vacation to seek information and assistance from the masters in an attempt to be better equipped to transfer the essence of nanquan to the students. The teachers were able to improve their skills during the short but intensive training sessions.

Since September 2006, the Licheng Experimental Primary School has formally implemented the nanquan school-based course, which involved 127 teachers and 1,826 students. The course is divided into three levels to correspond with the teaching target and content. There are 30 lessons for each academic year, of which 24 lessons are for acquiring skills and knowledge of Shaolin wushu culture and wushu moral education. The remaining six lessons are set aside for experiential activities including visits to field sites, attending lectures and social services. The school has also included the practice of nanquan during the one-hour-per-day in the sunlight physical activity plan and requested that all teachers and students practice a section of a nanquan routine for 15 minutes on Monday, Wednesday and Friday mornings. Furthermore, teachers and students are also expected to exercise for 25 minutes after class each afternoon, and nanquan is one of the main activities.

Preparing nanquan textbooks for schools is a difficult but necessary task. With the help of many experts from various fields, the school was able to produce both hard and soft copies of the textbook detailing the movements, with music to accompany the exercises. The materials also included many folk customs, proverbs, songs, fables and other Fujian culture and tradition.

Effective Teaching Methodologies

The one-child policy in China has led to a society where many parents dote on their only child, who is likely to have been brought up in comfort. This often results in a child who lacks a sense of social responsibility and strong willpower. Therefore, it is expected that students from such backgrounds will not be used to rigorous workouts and will complain of the pain and repetitiveness of the exercises at first. If the teachers are unable to retain the students' interests, then it is likely that the students will not practice the movements on their own during their spare time, nor will they master the skills. The teachers are aware that the traditional way of teaching through lectures and demonstrations prove ineffective in changing the students' attitudes and performances. More creative methodologies have to be used to increase the interactions and communication between teachers and students, as can be seen in the examples below.

- Teachers have designed various games to stimulate the interest of the students, including “scissors-paper-rock” and “seek the truth of wushu skills.” In addition, easy-to-read, brief-and-easy-to-remember children's rhymes were created to correspond to boxing movements.
- Teachers have weaved wushu moral education into short stories and allowed students to debate about the moral of the stories, often using examples of national heroes to illustrate the fine points of patriotism and sportsmanship.
- To teach simple but tedious movements, some teachers have created new games to get the students to perform the same movements, but now within the context of games. This way, students play while learning and learn while playing, and no longer see the movements as boring or repetitive.

Preliminary Results of the Nanquan Course

The implementation of the nanquan school-based course in Licheng Experimental Primary School has helped students to develop a stronger character and increase their vitality and energy. Many parents have commented on the positive changes they have noticed in their children: improvements to their health and fitness, increase in self-confidence and more socially acceptable values. In addition, both teachers and students practice boxing and exchange experiences everywhere on campus, thus building closer bonds within the school community. The school has organized a variety of activities and competitions through which class champions are selected according to public polls to be granted the title of the "Ambassador of Southern Shaolin Wushu Culture."

The students' receptions to nanquan differed depending on their ages and gender. Girls from Grades 5 and 6 were reluctant to participate in the exercises because they thought nanquan's vigorous movements were too rough and would damage their image. In addition, out-of-shape and overweight students were ashamed of their ineptness and clumsiness. In response, a team of about 80 teachers, of which 80% were females, and a class of advanced students from different grades (and with various sizes and weights) were set up to train and perform the art of nanquan as models for the rest of the school. As a result, the girls admired the skills and grace of their female teachers, and overweight students were encouraged to see the successful efforts of fellow students with similar problems in learning the movements.

The Licheng Experimental Primary School has also organized other activities to increase the enthusiasm of their students, including encouraging and compiling writings, paintings and speeches on the theme "Nanquan and I." The exchange of ideas and opinions is encouraged even beyond the boundary of the school. To extend the students' field and space of learning nanquan, the students are also instructed on how to pass on their skills and knowledge to others, including their families and friends, thus paving the way to extend the practice of nanquan outside of the school environment. This approach has given rise to three extra benefits: providing families with a common interest to cement their bonding and enhance familial harmony; linking families closer to the school and, thus, improving communication between them; and boosting the health of all who practice nanquan.

Problems and Challenges

The development of school-based PE curriculum in China is still in its infancy stage. The experience of Licheng Experimental Primary School has demonstrated many positive results, but it has faced many problems and difficulties in the process, as described below:

- The PE teachers were too entrenched in the centralized system and traditional teaching methodologies. It was not easy for them to adapt to a new format of curriculum development that required their independent input and ideas. Without in-depth knowledge and experience, they were pioneers who were expected to develop teaching and learning objects themselves.

- The teachers did not understand the relationship between the national PE curriculum and the nanquan school-based curriculum. Consequently, they were at a loss when they had to organize the content for the five learning aspects, including sports participation, motor skill, physical health, mental health and social adaptation as specified by the national curriculum.
- Accustomed to years of following instructions detailed in the national curriculum, the teachers were unable to adapt their teaching styles to match local conditions and develop the students' mental and physical well-being. They needed to be retrained to acquire new skills.
- Pioneering a new course may imply the absence of references and teaching materials, and in this case, all that the teachers had was an incomplete textbook with no rigorously tested teaching and evaluation methodology and system. Therefore, more effort had to be expended in this area.

These problems were not insurmountable; it was a matter of willingness on the part of the school administrators and teachers to change the status quo, and a matter of time for them to acquire the necessary skills and develop the materials. Consequently, they have identified several actions in this direction:

- Compile a systematic set of nanquan textbooks that are appropriate for the students' mental and physical development.
- Write a paper on nanquan school-based curriculum development to document their successful experiences and introduce them to other schools to support the development of provincial and school-based PE courses.
- Enrich the sources for teaching nanquan to include wushu associations and Shaolin temples to enhance the course scope and perspective.
- Compile a series of teaching and evaluation methodologies to advance the development of nanquan school-based courses.

CONCLUSIONS

The Licheng Experimental Primary School's initiative has resulted in many positive outcomes. The school managed to meet the challenges and address most of their problems. The assistance provided by the Quanzhou Wushu Association was instrumental in achieving these results. This case study illustrates that knowledge and expertise are not confined to the walls of educational institutions, but can be sourced from civil society. Likewise, civil organizations can seek the assistance of schools to achieve mutual and beneficial objectives. Through such cooperation, PE is no longer seen as a second-class subject, and a dying form of art has been revived.

The achievement of the immediate objective of "health first" to the revival of wushu was possible primarily because of the national curriculum's decentralization, which gave provincial and school authorities the freedom to be innovative. A second factor for this success was the readiness of the school administrators and teachers to learn and to find creative solutions to transfer their knowledge to their students. Thirdly, input from the community and civil society also allowed for the integration of local wisdom and knowledge into the school curriculum.

The school's initiative received extensive coverage from the media, including the sports channel of China Central Television Station and online newsgroups, websites and blogs. Such publicity increased the profile of, and interest in, nanquan. Consequently, the sports spread further to awaken interest in the traditions and culture of southern China among the general public on the one hand, and the development of local and school-based PE curriculum in China among educators on the other.

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Chapter 5



Innovative Practices in Physical Education and Sports in Lao PDR

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INTRODUCTION

Lao People's Democratic Republic (PDR) is one of the least developed countries in Southeast Asia with a population of about 5.6 million people from 49 ethnic groups. After it became a democratic republic in 1975, many changes took place in the country, imposing significant impact on its political, social and economic sectors.

The education system, for one, experienced an increase in student enrolment by more than 100%, thus placing a heavy burden on the government since education is completely subsidized by the state. The Laotian government awards scholarships to outstanding rural students who need financial support to continue their education. It also pays special attention to the needs of ethnic children by providing them room, board, clothing and other essentials to stimulate and encourage them to stay in school as long as possible. These efforts reinforce the country's educational strategy to produce a generation of citizen who are patriotic, self-reliant, knowledgeable, highly productive and healthy.

Physical education (PE) and sports are important for nurturing physically and mentally healthy citizens, apart from fostering friendship and camaraderie among those who participate in sports. At the personal level, sports enhance the individual's abilities, general health and self-knowledge. At the national level, PE and sports can contribute to socio-economic development, improve public health and encourage national identity and community spirit. This perspective is compatible with the International Charter of Physical Education and Sport, adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) at its 20th Session in Paris in 1978. The Charter highlights the role of PE and sports in contributing to social, human and intellectual development by:

- Promoting human values, fair play, ethics, well-being and healthy lifestyle;
- Bringing together persons from different social, cultural and geographic background regardless of religion and ideology;
- Contributing to peace and human development; and
- Preventing violence, delinquency and use of drugs.

In 1993, the Laotian Ministry of Education (MOE) set up the Department of Physical and Sport Education to assist schools in developing their curriculum and textbooks for PE and sports. Furthermore, the MOE aims to ensure a high standard of teaching in schools. In 2000, the MOE and the Lao National Commission for UNESCO organized the "Youth Campaign for 21st Century: Free of Drugs" with support from UNESCO, which included PE and sports events for students. The campaign succeeded in increasing both student and teacher awareness of the dangers of substance abuse and the need to provide drug prevention education in schools. A national workshop on comprehensive school health and nutrition for 60 participants from 18 national education and health centres, the Lao Women's Union, FAO, JICA, UNESCO, WHO and WFP was also held to emphasize the importance of proper nutrition and healthy lifestyles.

To build upon the success of these activities, the MOE and the Lao National Commission for UNESCO will continue to promote the value of PE and sports to create a better future for young people, in school and out of school, recognizing that is important to:

- Ensure that PE and sports are integral components of education for the physical, intellectual and moral development of the students, and to enrich their quality of life and enhance their productivity;
- Develop a PE and sports curriculum ranging from primary school to higher education levels; and
- Strengthen the capacity of PE personnel through appropriate training.

The MOE has developed a 2006-2010 action plan to promote PE and sports, highlighting the contribution PE and sports make in teaching essential values and life skills, including discipline, respect, self-confidence, teamwork, fair play, and communication. PE and sports also help to improve students' ability to learn by increasing their concentration; young people learn better when they are having fun and being active in schools. PE and sports are now taught in secondary schools, vocational schools, teacher training colleges and universities as part of their curriculum.

SITUATIONAL ANALYSIS OF PHYSICAL EDUCATION AND SPORTS IN LAO PDR

The MOE has conducted a project to:

- Analyze the development of PE and sports in education institutions;
- Analyze the PE curricula in teacher training colleges and schools; and
- Monitor the progress of PE and sports in schools.

The Pyramid Model: Development of PE and Sports in Schools

The Pyramid Model was formulated to analyze the development of PE and sports in schools in Lao PDR, starting from Level 1 for primary schools to Level 7 for international competitions, as shown below:

- Level 1 focuses on teaching and learning of PE in primary schools, with details of curricular content and sports activities organized by sports clubs in schools. Outstanding athletes aged 6 to 10 years old are selected by PE teachers to prepare them for in-house and interschool competitions.
- Level 2 deals with similar issues as Level 1, but is directed at the lower secondary school students aged 11 to 13 years old.
- Level 3 targets upper secondary school (students aged 14 to 16 years old).
- Level 4 is for students aged 17 years and older who have finished their upper secondary education and will continue to study PE and also participate in national sports competitions when they enter higher technical or vocational education institutions.

- Level 5 is for the sports federations which form the Lao National Olympic Committee under the responsibility of the Lao National Sports Committee. Athletes are selected by the sports federations for each event at the central and provincial levels and are trained by national coaches to compete in the events.
- Level 6 concentrates on the preparation and training of athletes selected by the sports federations to represent the national team competitions, such as the Southeast Asian Games, Asian Games, Olympics and World championships.
- Level 7 identifies top Laotian athletes to participate in international competitions. Winners of the top three places in each event will receive gold, silver and bronze medals and certificates.

One of the strategies to progress from Level 1 to Level 7 is the establishment of sports clubs in schools, which will organize intramural activities and competitions among schools and regions. This will help to build the students' character and sportsmanship on the one hand, and train successful athletes for the future on the other.

Analysis of PE and Sport Curriculum

Curriculum content is an important part of education, and it is necessary to review the curriculum regularly to ensure that it is appropriate and up-to-date. Therefore, an analysis of the PE and sports curriculum in schools and teacher training colleges is essential. The MOE has conducted such an analysis through a survey of selected public schools. The initial results are presented below.

PE and Sports Curriculum for Teacher Training Colleges

The PE curriculum in teacher training colleges consists of three levels:

- PE curriculum for Primary Teacher Training schools (11+2 system) with 48 hours, 3 credits;
- PE curriculum for Primary Teacher Training Schools (8+3 and 11+2 system) with 48 hours, 3 credits; and
- PE curriculum for Lower Secondary Teacher Training Colleges consisting of 100 units.

PE Curriculum in Schools

Lao education policy emphasizes the provision of quality education for all students to achieve Education for All. PE and sports are critical components for the physical, intellectual and moral education that helps young people become good citizens. The PE curriculum for schools was developed by the National Research Institute for Educational Science (NRIES) in 1994, according to three levels:

- PE curriculum for primary schools (a total of 330 hours);
- PE curriculum for lower secondary schools (a total of 198 hours); and
- PE curriculum for upper secondary schools (a total of 198 hours).

The PE curriculum objectives are to enhance the students' physical, mental, emotional and societal development, and to promote their healthy living through physical activities and sports. More specifically, the students will be taught to:

➔ **acquire knowledge**

- on how to practise physical exercises/gymnastics and sports; and
- of basic techniques for practising some sports, such as athletics, football, and basketball.

➔ **acquire skills**

- on practising gymnastics and some sports, such as athletics, football, basketball, volleyball and traditional boxing; and on practising physical exercise and using them safely and effectively in their daily life and work.

➔ **acquire appropriate attitudes and values**

- to be conscientious, disciplined, faithful, loyal, brave, decisive, responsible to one self and to others; and
- to respect individual rights, rules of the games, show team spirit and practise sportsmanship.

The PE curriculum for lower secondary schools includes teaching the basic knowledge of PE and some sports that are appropriate for the students' level of knowledge and physiological development, and which match facilities available in the schools. The curriculum content consists of four parts:

- theory;
- basic gymnastics;
- athletics; and
- optional sports.

Teaching guides have been developed for primary to lower secondary school levels. Upper secondary school teaching guides build on those from the lower levels. The principles of the PE curriculum aim to provide students with some knowledge of PE theory and practice, basic techniques of sports and games, and environmental conservation. An example of curriculum contents for lower secondary school is shown below:

Grade 6

1. Theory: The Important Role of Gymnastics
2. Gymnastics
 - Line shape rules
 - Physical exercises: practising eight postures using flags and hoops
3. Basic Gymnastics: Tumble and Rope Skipping Athletics
 - Running short distances (60 m; 80 m; 100 m)
 - Running medium distances (800 m; 1,500 m)
 - High jump
 - Throwing balls

4. Optional Sports
 - Volleyball
 - Basketball
 - Katoor
 - Table tennis
 - Football
 - Swimming
 - Traditional boxing

Monitoring Progress

A survey of educational authorities and teachers about the PE curriculum shows that they thought that the curriculum supported national priorities; met the needs of students from various ethnic, linguistic and cultural backgrounds; and complemented teachers' skills (providing teaching aids and other instructional materials, as needed) and availability of school facilities. On the other hand, the structure of the content was not logical and the pedagogy was not realistic or appropriate. For example, in the last five years, new knowledge and new teaching-learning strategies have been introduced, but many teachers still continue to use traditional methods to teach out-dated concepts. Likewise, school physical facilities and teaching materials are insufficient. More than ten years after the NRIES developed the PE curriculum, the textbooks and teaching guides have yet to be updated. The PE curriculum in teacher training colleges does not match the one prepared by the NRIES, and trainee teachers have no proper equipment or materials to assist them in gaining the necessary experience and knowledge. Furthermore, students remain passive participants in the learning process, focusing mainly on rote learning and memorization without paying attention to understanding and higher-order thinking.

There is general consensus for a review and revision of the curriculum. PE and sports teachers have to be retained and trained to prepare appropriate lesson plans and organize school sports activities. All trainee teachers should be required to take PE as an elective subject to assist them in organizing PE and sports events and competitions in their future schools. The MOE needs to upgrade the PE programme in teacher training colleges and provide support in developing the curriculum and materials. Training of trainers should take place in:

- Revising the PE curriculum and developing teaching guides and materials to include crucial concepts and experiences from other countries;
- Printing the teaching guides and materials;
- Re-orientating the courses and training of PE trainers in the teacher training colleges and PE teachers from selected primary and secondary schools;
- Upgrading teacher qualifications and enhancing their status through in-service training of PE and sports teachers;
- Facilitating external technical assistance; and
- Providing colleges and schools with appropriate facilities and equipment.

CASE STUDY: NATIONAL SPORTS COMPETITION

In support of the UN's initiative to promote education, health, development and peace through physical activities and sports, the MOE and the Lao National Commission for UNESCO organized a Marathon Day on 27 November 2005 at the National University of Laos to celebrate the United Nations 2005 International Year of Sport and Physical Education. The objectives of the event were to:

- Raise awareness and encourage the use of sports to promote education, health, development and peace; and
- Encourage the acquisition of values, knowledge, attitudes of respect, tolerance and life skills.

Over 1,000 participants took part in the Friendship Run, among whom were the Director General of the Cabinet; Directors and Deputy Director-Generals of MOE line departments; Director of Education Vientiane Capital Service; other representatives from the MOE; and vice rectors, deans, lecturers and students from the National University of Laos. Cash prizes and t-shirts were awarded to the winners.

The event was a success. In recognition of the impact of such national events, the MOE aims to promote similar activities. For example, it organized a national sports competition for 17 provincial Education Bureaus in partnership with the Luang Prabang Province on 10-18 March 2007 to enhance the bond of friendship amongst students throughout the country. The sport events included running, rattan ball, football, basketball, handball, table tennis, tennis, petanke and others.

CONCLUSION

PE and sports are essential dimensions of education and culture. They help to develop the abilities, well-being and self-discipline of every human being. In addition, PE and sports are very important for children's health. Even though the PE curriculum is widely taught in schools in Lao PDR, the outcomes are not satisfactory and need to be improved. The MOE has authorized the Department of Physical and Sports Education to ensure all children have access to PE and sports programmes in schools. A review and revision of the curriculum is needed to ensure that it is on par with international standards. Upgrading of teaching skills and provision of proper material and facilities are equally important.

The MOE also realizes the value of national-level sports events and competitions in raising public awareness about the importance of physical activities and sports, and in enhancing national and community spirit. Therefore, it will continue to support the organization of such events, with a view to encouraging Sports for All on the one hand, and developing outstanding athletes to represent the country at international competitive sports events on the other.

Chapter 6

Every Step Counts: School Physical Activity during Physical Education and Recess in Singapore

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INTRODUCTION

In Singapore, it is the Ministry of Education's policy for students in primary and secondary schools, and in junior colleges, to have at least 70 minutes of physical education (PE) per week. Many schools adhere to these guidelines, and a few schools have embarked on daily PE or extended physical activities and sports on some days of the week.

PE has many laudable objectives to fulfil. It aims to develop the personal physical, psychomotor and affective domains of young people, and many PE teachers struggle to find time within the loaded school schedule to adequately focus on the accomplishments of these objectives. One of the expectations of PE in Singapore is that young people will be well-prepared to take ownership and responsibility for their own health and well-being. In Singapore, as in many cities in the region, progress, globalization, westernization and affluence have resulted in physical inactivity, and concomitantly, the earlier onset of hypokinetic lifestyle diseases.

The current guidelines for an appropriate amount of physical activity (PA) are that young people should accumulate at least 30 minutes up to several hours of PA everyday that is of a moderate to vigorous intensity (Council on Physical Education for Children, 1998). The physical activities can be in the context of free play, as part of PE, locomotion, structured and organized sports, or co-curricular activities. Recent research findings from Europe suggest that an accumulation of 90 minutes of moderate to vigorous movements every day may be more appropriate for accruing health benefits (Andersen et al., 2006). Other guidelines based on anecdotal evidence suggest that young people should accumulate between 11,000 and 14,000 steps daily in school and also outside of school.

Pockets of research conducted by PE and school sports researchers show that children and adolescents accumulate less than 15 minutes of moderate to vigorous intensity exercise on a week day and only about 6 minutes on a weekend day. In terms of the number of steps accumulated in school and outside of school on a week day, primary school pupils manage an average of 9,600 accumulated steps (Wang et al., 2006). It is therefore important for schools to encourage young people to take personal responsibility for free and structured play, which is over and above that prescribed for PE. This paper will present a study to measure the PA of students in a primary school in Singapore to support the implementation of a pilot project, PRIDE for PLAY, that is aimed at encouraging more PA during and after school.

LITERATURE REVIEW

Physical activity is characterized by bodily movement resulting in an increase in energy expenditure above resting levels (Caspersen, 1989). This provides numerous health benefits to adults, including reduced risk of non-insulin-dependent diabetes, cardiovascular diseases, osteoarthritis, and breast and colon cancer (U.S. Department of Health and Human Service and U.S. Department of Agriculture, 2005).

Increasingly, research findings indicate that regular PA also benefits children and adolescents (Bar-Or, 1995; Centers for Disease Control and Prevention, 1997; National Association for Sport and Physical Education, 2004). Adequate participation in PA during childhood and adolescence is considered essential for good health and normal growth and development (U.S. Department of Health and Human Services, 1996). Available evidence indicates that, among youth, regular PA is inversely related to an array of negative health outcomes, including obesity, elevated blood lipids, hypertension and cigarette smoking, whereas it is positively related to favourable health outcomes such as increased cardio-respiratory fitness, elevated high-density lipoprotein (HDL) cholesterol, increased bone mass and improved psychological well-being (Boreham and Riddoch, 2001; U.S. Department of Health and Human Services, 1996).

In addition, PA and, more so, physical inactivity track from childhood to adulthood (Malina, 1996; Pate et al., 1996). Many skills adults use to become physically active are learned while engaging in PA during childhood (National Association for Sports and Physical Education, 2003). Children's participation in PA is essential for an improved quality of life throughout the lifespan, including during the years of formal schooling.

Children are not adults-in-miniature; hence PA for them must reflect their unique characteristics and needs. There is persuasive information that attests to the unique nature of children with respect to their propensity for PA. Rowland (1998) suggests a biological basis for the differences in activity patterns between children and adults. He notes that children are inherently active because it is physical movement that provides them with the necessary information required by the central nervous system for stimulation. Adults, on the other hand, achieve arousal of the central nervous system in a variety of non-locomotive activities such as reading, writing, artistic expression, problem-solving and vocational pursuits.

Consistent with Rowland's perspectives, the National Association for Sport and Physical Education guidelines on PA for children focus on the volume of activity, and emphasize that intermittent activity is more likely to characterize their behaviour than continuous activity (Council for Physical Education for Children, 1998). Each of the characteristics described in Table 1 has implications for different outcome measures and strategies used to improve the levels of PA in young people.

Table 1: Characteristics that Differentiate Children from Adults in Physical Activity

Type	Characteristics	Implication
Biological	Need for a high level of central nervous system arousal	<ul style="list-style-type: none"> • High volume of physical activity • Spontaneous activity
Cognitive	More concrete and less abstract thinking process	<ul style="list-style-type: none"> • Relatively short attention span on any given task • Less interest in continuous activity
Biomechanical	Poor locomotive economy and efficiency of movement	<ul style="list-style-type: none"> • Quick onset of fatigue and a need for frequent rest
Psychological	More available free time and natural curiosity and desire for pursuing new tasks	<ul style="list-style-type: none"> • More time and interest to try out new activities

Note: Adapted from the Council for Physical Education for Children, 1998

Given the potential role of childhood PA on health-related fitness phenotypes (Casperson, 1989) and children's normal growth and maturation (Cooper, 1994), there is considerable interest in assessing PA in children (Kohl et al., 2000; Welk et al., 2000). Still, methodological issues regarding the measurement of PA require further examination (Montoye, 2000), particularly in children (Welk et al., 2000).

A variety of methods have been used, including self-report, behavioural observation, electronic sensors and indirect measures such as heart rate and physical fitness. There are advantages and disadvantages for each method. Many large-scale, population-based research studies have used self-report measures of PA; but young children are unable to accurately self-report their PA (Sirard and Pate, 2001), and many surrogate reports by parents have limited validity (Sallis and Saelens, 2000). Observation has the potential for the most accuracy, but is the least feasible due to cost and acceptability.

Indirect measures, such as physical fitness, correlate to levels of PA, but do not provide detailed information related to the frequency, intensity, type and duration of physical activities. Heart rate monitoring is also used to measure daily physical activities of children. Its usefulness is limited, however, because factors other than PA can cause the heart rate to be elevated (Freedson, 1992; Rowlands et al., 1997).

Electronic motion sensors, namely accelerometers and pedometers, have gained growing international support as a valid and reliable measure for the assessment of PA levels of children (Rowlands et al., 1997; Trost, 2001). Compared to accelerometers, pedometers are more popular with children due to their low cost and feasibility, and have shown to be reliable and valid in children (Eston et al., 1998; Vincent and Pangrazi, 2003). Many pedometers record PA as a simple and raw measure of ambulatory movement: the number of steps taken.

In Singapore, where formal schooling is compulsory at least for 10 years from age 6 onward, schools are important sites for promoting regular physical activities. Young people are in schools for between six to eight hours daily. Approximately 50% of the PA for girls and 45% for boys are accumulated in school (Verschuur and Kemper, 1985). Primary schools in Singapore are also guided by the PE syllabus set by the Ministry of Education, where pupils have a minimum of at least 70 minutes of PE every week. Although the school environment dictates that academic classes are necessarily spent sitting while engaged in reading, writing or discussing, PE lessons and daily recess provide two main opportunities for children to be physically active (Sarkin et al., 1997).

According to Simons-Morton et al. (1994), the primary goals of PE should be (1) for students to take part in appropriate amounts of PA during lessons, and (2) for students to become educated with knowledge and skills to be physically active outside of school and throughout life. These noble goals are resonated in the PE syllabus in Singapore, over and above the holistic development of young pupils in the physical, psychomotor, cognitive and affective domains.

Besides required PE classes, daily recess provides a regular time slot in the course of a school day when pupils have the 'license' to be physically active. Engagement in PA through recess typically occurs outdoors, and pupils are free to interact with peers with minimal teacher supervision. Recess in school provides an excellent unstructured setting for studying children's spontaneous behaviour (Pellegrini, 1995).

Advances in technology have spurred an increased interest in objective monitoring of PA using body-worn pedometers. School-based pedometer research has come to the fore. Although the content of PE classes will vary, the accumulated data indicate that a range of 1,400-2,000 steps is achieved in elementary PE classes that are 30 minutes in length (Flohr and Todd, 2003; Scruggs et al., 2005; Tudor-Locke et al., 2006). Furthermore, investigating the PA of a sample of sixth grade students during the segmented school day, Tudor-Locke et al. (2006) find that boys and girls take a similar number of steps during the structured 30-minute PE classes (average 1,417 steps), but boys take more steps during the 15-minute recess time (boys: 1,490 vs. girls: 1,011 steps). Beighle et al. (2006) demonstrate similar results for students from Grade 3 to Grade 5 (1,262 steps for boys compared to 918 steps for girls during the 15-minute recess).

Even when different class lengths are compared (e.g., 30 vs. 45 minutes), the steps per minute (SPM) measurement appears to be the appropriate metric for evaluation purposes. This process is as simple as dividing total steps taken by the lesson time. Scruggs et al. (2003a) suggest that the pedometer SPM criterion be established for all PE grade levels, and a number of studies have used pedometer SPM as a PA measure in elementary PE. Louie and Chan (2003) reveal a SPM value of 58.80 for preschool children during a 25-minute free play PE class and Morgan et al. (2003) report SPM values of 43.33 (girls)-53.33 (boys) for a 30-minute elementary PE class. In general, SPM can be quantified by 61-63 SPM for first and second grades, and 58-61 SPM for third and fourth grades in order to achieve 10 minutes of PA and 33.33% of the lesson time engaged in moderate and vigorous physical activity (MVPA) within a 30-minute class (Scruggs et al., 2005).

Flohr et al. (2006) evaluate the PA levels of 44 Grade 7 adolescents using pedometer monitoring data for two weeks. The relative contribution of PE and after-school activity (ASA) to week day steps per day was evaluated as a proportion. The total sample mean was 11,392 steps per day, averaging 2,046 steps during a 50-minute PE class and 5,366 during ASA. Although the absolute contribution of PE class to daily PA was less than ASA (i.e., 18 vs. 47%, respectively), the condensed contribution of PE class was evident when these two activities were expressed as SPM (45.5 vs. 13.1 SPM).

Comparing the PA density between PE and recess of students from Grade 3 to Grade 5, Barfield et al. (2004) also conclude that the stepping rate during recess was much higher (78 SPM) than structured PE (47 SPM). Interestingly, Dale et al.'s (2000) study on the impact of restricting PA during the school day (specifically suppressing PE and recess PA) for third and fourth grade children finds no evidence of compensatory PA after school on PA-restricted days. This indicates that the children did not compensate for a sedentary school day by increasing their activity levels after school, emphasizing the importance of providing opportunities to be active while in school.

Many researches have explored temporal changes in children's PA behaviour and gender differences that may exist in these patterns. Significant gender differences in PA were observed by Barfield et al. (2004), Cox et al. (2006), Duncan et al. (2006), Eisenmann et al. (2007), Flohr et al. (2006), Le Masurier and Corbin (2006), Rowlands and Easton (2005), Trost et al. (2002), Tudor-Locke et al. (2006) and Vincent et al. (2003). Moreover, boys tend to engage in greater vigorous

activity than girls (Baquet et al., 2006; Lopes et al., 2006; Ridgers et al., 2005; Rowlands and Easton, 2005; Trost et al., 2002; Verstraete et al., 2006). Apparently, only one study showed that girls performed a similar amount of PA as the boys during school recess (Mota et al., 2005).

Age differences in daily PA are mixed and inconsistent. Rowland (1990) shows a decline of PA with age. Trost (2002) also finds that the daily MVPA and vigorous physical activity (VPA) exhibits a significant inverse relationship with grade level, with the largest differences occurring between Grades 1 to 3 and Grades 4 to 6. This is supported by recent findings suggesting that a significant decline in week day steps occurs during the transition from elementary to high school (Le Masurier et al., 2005) and as children move into adolescence (Duncan et al., 2006; Lopes et al., 2006; Ridgers et al., 2005). Conversely, Vincent et al. (2003) finds little effect of age on week day step counts in a cohort of American, Swedish and Australian children 6-12 years old despite a concurrent increase in stride length with age and subsequent decrease in step counts. Ridger et al. (2005) also reports no difference in PA by pedometer data between early primary and late primary school pupils. Of interest is a study on a group of New Zealand children (P1-P6), where pedometer data over three school days showed that both girls and boys increased step counts as they advanced through the school year levels (Cox et al., 2006).

It is, therefore, unclear as to what point, if any, that a decline in PA commences during childhood and adolescence. The mixed results of different studies may be attributed to the different schooling contexts and the different cultures of the pupils across the studies. Hence, the results should not be extrapolated beyond the context and research foci of the different studies.

To date, few studies that address children's PA patterns in Singapore are available. Wang et al. (2006), using a 7-day recall method among 780 Singaporean children aged 10 to 14 years, report that in terms of PA participation, the majority of the children in Singapore spend more than 300 minutes per week in moderate intensity PA, or more than 120 minutes per week of vigorous intensity PA. However, the PA levels reported were lower than those of children in the United States and United Kingdom (Marshall et al., 2002).

Wang et al.'s observation is not supported by data using heart rate monitoring. Gilbey and Gilbey (1995) and Lim (1995) report that very few primary school pupils (18% of boys and 6.3% of girls) and secondary school students (less than 10% of boys and girls) achieve at least 10-20 minutes of sustained aerobic-type activity to result in a heart rate of more than 140 beats per minute (bpm). Chia et al. (2002) note that their subjects (students aged 9 years and 15 years) are physically inactive (more than 90% had heart rate below 120 bpm) for most of the day, especially on the weekends. This finding indicates that the PA levels of Singaporean students do not fully meet the recommendations for appropriate quality and quantity of PA set by two international panels of experts in young people's health. These standards call for a daily accumulation of at least 60 to 90 minutes of at least moderate intensity PA (Cavill et al., 2001; Anderson et al., 2006).

CASE STUDY: MEASUREMENTS OF PA DURING PHYSICAL EDUCATION AND RECESS

An examination of pedometer data in relation to age and sex in the contexts of PE and recess would be useful in facilitating appropriate improvements and innovative schooling practices to foster a culture of PA in schools. To our knowledge, however, no pedometer-determined PE-related and recess data are available in the Singaporean school context.

Since many research findings point out that the decline in PA begins in elementary school, with the largest differences occurring between Grades 1 to 3 and Grades 4 to 6, a study was designed to measure the PA levels of students in these age groups in one Singaporean primary school. The project involved 58 children from Primary 2 classes and 67 from Primary 6 classes, with a gender mix of 60 boys and 65 girls. The ethnic divisions were 88 Chinese, 27 Malays, 6 Indians and 4 others. The children participated in the study voluntarily with the consent of their parents, but those with a history of fracture, sprain, musculoskeletal and neurological diseases in the past were excluded from the study.

Methodology

Pedometers were used to measure vertical oscillations of body movement from the hip, which then registered a step for each motion that surpassed a threshold force. The output of interest was a total count of accumulated ambulatory movements. Measurements were taken during the PE lessons scheduled for the first period of the school day in the morning before recess and during recess. Primary 2 students had their recess from 9:00-9:30 am and Primary 6 students from 9:30-10:00 am.

The students had one session of introduction during their PE classes, and a 30-minute familiarization session each during PE and recess prior to the actual data collection. As PA during the recess could be different between PE and non-PE days, measurements of PA during recess were obtained on separate days when there was no PE lesson. All the PE and recess sessions (introduction, familiarization and actual data collection) were carried out on non-raining days and all activities were kept outdoors. Anthropometric measurements of standing height (SH) and body mass (BM) were measured during a PE session about one month prior to the data collection.

At the introduction session, all participating students were given a pedometer, which was clipped on the right top side of their PE shorts, in alignment with the mid-line of the right knee. As part of the session, the students self-paced a brisk walk and counted 100 steps and checked this against the pedometer reading. Brisk walking is recognized as a moderate intensity activity in young people (Council on Physical Education for Children, 2004).

Familiarization to the motion monitors was necessary to overcome any participant reactivity to the motion sensors. Reactivity is explained as a change in normal PA patterns when participants are aware that their PA is being monitored (Kilanowski et al., 1999). Analysis of previous research showed no evidence of reactivity of day-to-day data in adults using

motion sensors (Gretebeck and Montoye, 1992; Janz et al., 1995; Welk and Corbin, 1995). Some observational studies have also found very little evidence of reactivity in children (Bailey et al., 1995; Puhl et al., 1990). For example, Vincent and Pangrazi (2002) conclude from their test that children who are oriented to the pedometer (10 minutes handling and explanation) prior to data collection appear to have no significant reactivity.

In the case study, instructions given during the familiarization and actual data collection sessions were exactly the same: students were instructed to go about their normal activities and to ignore the motion sensors during the period of data collection. Since PA level during PE was dependent on the PE teacher's intentions and objectives for the class, only pedometer readings during the familiarization at recess were taken as a comparison to the actual PA evaluated during recess. The two familiarization sessions evaluated the possible reactivity that the measurement process might influence participants' physical behaviours. If reactivity occurred, a higher or lower activity count would be expected, followed by a pattern of decreased or increased activity for the actual data collection sessions. No significant difference between the results at the familiarization sessions and the results at actual data collection was seen, thus indicating the absence of reactivity. The pupils were not given any feedback on the results of either session.

Trained PE teachers taught the classes, and a typical PE lesson was conducted following the PE curriculum. The activity during the PE lessons did not require a high level of physical skill and no water sports were included. Table 2 outlines the different contexts of the four PE lessons, when PA data were collected.

Table 2: Content of the PE Sessions

Class	Content of PE
2A	Ball games and rope skipping
2C	Throwing activities
6B	1.8 km jog or walk
6D	Shuttle run practice

During the 30-minute recess, no instruction was given to the children, and they were free to play outdoors within the school premises. Rackets, balls and skipping ropes were provided for pupils, if they chose to use them. At the end of PE class and recess, the pedometers were collected and step data were recorded. All analyses were performed using SPSS 13.0 for Windows Descriptive data (mean and standard deviation) for pedometer readings (steps/PE lesson, steps/recess time, step/min) and body mass and stature were calculated for each age group (age 8 and age 12 years) and classified by gender.

Results

The physical characteristics of the participants were found to be within the normal ranges for Singaporean children using a height-weight chart developed by Singapore's Ministry of Health and the School Health Service, Ministry of Education. Approximately 20% of participants were overweight or obese, but there was no significant age or gender difference for stature, body mass and body weight status. The 20% obesity rate is higher than that reported nationally in Singapore – which is less than 10% – but may represent a zonal prevalence. Table 3 presents the physical characteristics for each age and sex group of the participants.

Table 3: Physical Characteristics of the Participants (N=125)

	Primary 2		Primary 6		Combined	
	Boys (N=30)	Girls (N=28)	Boys (N=30)	Girls (N=37)	Primary 2	Primary 6
Stature (cm) (Mean±SD)	122.63±4.90	122.25±7.08	146.60±8.25	148.43±7.53	122.45±6.00	147.61±7.85
Body mass (kg) (Mean±SD)	26.65±6.72	24.25±5.30	42.33±12.57	41.49±12.41	25.49±6.14	41.86±12.39
Overweight prevalence	26.7%	14.3%	33.3%	8.1%	20.7%	19.4%

Reactivity to the pedometer was evaluated by dependent t-tests over two 30-minute recesses. The Day 1 result was 1,264.44 steps, compared to 1,118.81 steps recorded for Day 2. The difference was not statistically significant. Table 4 presents key pedometer data on the PE lessons evaluated for 108 students who had complete data sets. The highest number of steps accumulated during one 30-minute PE was from class 6B (2,322.21 steps), while 2C contributed the least (1,178.81 steps). The large standard deviations and ranges indicated considerable inter-individual variations in the PA levels and were largely dependent on the teaching arrangement for the particular PE lesson. Walking or running contributed more steps than motor learning activities or ball games. Table 5 lists gender differences in total steps across the four PE lessons, and no statistical difference was observed, although boys tended to accumulate more steps than their female classmates. Figure 1 shows the step count characteristics in different PE lessons for both boys and girls.

Table 4: Pedometer-determined Steps during a 30-minute Physical Education Lesson

Group	N	Content of PE	Total steps (Mean±SD)	Total steps (Median)	Step per min (Mean±SD)	Step per min (Median)
2A	Boys (N=14)	Ball games & rope skipping	1,716.32±310.33	1,735.50	57.21±10.34	57.85
	Girls (N=15)		1,236.00±338.56	1,248.00	41.2±11.29	41.60
	Total (N=29)		1,467.88±402.10	1,416.00	48.93±13.40	47.20
2C	Boys (N=15)	Throwing activities	1,224.20±294.45	1,098.00	40.81±9.82	36.60
	Girls (N=12)		1,122.08±242.98	1,067.50	37.40±8.10	35.58
	Total (N=27)		1,178.81±272.65	1,087.50	39.29±9.09	36.25
6B	Boys (N=13)	1.8 km jog or walk	2,342.23±363.58	2,386.00	78.07±12.12	79.53
	Girls (N=16)		2,305.94±188.87	2,324.75	76.86±6.30	77.49
	Total (N=29)		2,322.21±275.87	2,346.50	77.41±9.20	78.22
6D	Boys (N=9)	Shuttle run practice	1,908.56±218.34	1,804.50	63.62±7.28	60.15
	Girls (N=14)		1,457.64±190.54	1,537.50	48.59±6.35	51.25
	Total (N=23)		1,634.09±299.03	1,603.00	54.47±9.97	53.43
Primary 2	Boy (N=51)		1,461.78±388.20	1,416.00	48.73±12.94	47.20
	Girl (N=57)		1,185.37±300.04	1,194.00	39.51±10.00	39.80
Primary 6	Boy (N=51)		2,164.82±375.94	2,102.25	72.16±12.53	70.08
	Girl (N=57)		1,910.07±469.05	1,970.75	63.67±15.63	65.69
Sub-total (by gender)	Boy (N=51)		1,765.05±517.12	1,785.00	58.84±17.24	59.50
	Girl (N=57)		1,566.79±537.59	1,519.00	52.23±17.92	50.63
Sub-total (by level)	Primary 2		1,328.51±372.42	1,276.50	44.28±12.41	42.55
	Primary 6		2,017.85±446.59	2,050.75	67.26±14.89	68.36
Total	N=108		1,660.41±534.88	1,610.00	55.35±17.83	53.67

Table 5: Gender Differences in Accumulated Steps during Physical Education Lessons

Class	PE content	Boy		Girl		Δ =(boy-girl)/ boy (%)	P value
		N	Steps (Mean±SD)	N	Steps (Mean±SD)		
2A	Ball games & rope skipping	14	1,716.32±310.33	15	1,236.00±338.56	28.07	0.808
2C	Throwing activities	15	1,224.20±294.45	12	1,122.08±242.98	2.82	0.473
6B	1.8 Km jog or walk	13	2,342.23±363.58	16	2,305.94±188.87	2.60	0.057
6D	Shuttle run practice	9	1,908.56±218.34	14	1,457.64±190.54	14.8	0.600
Average		51	1,765.05±517.12	57	1,566.79±537.59	14.90	0.586

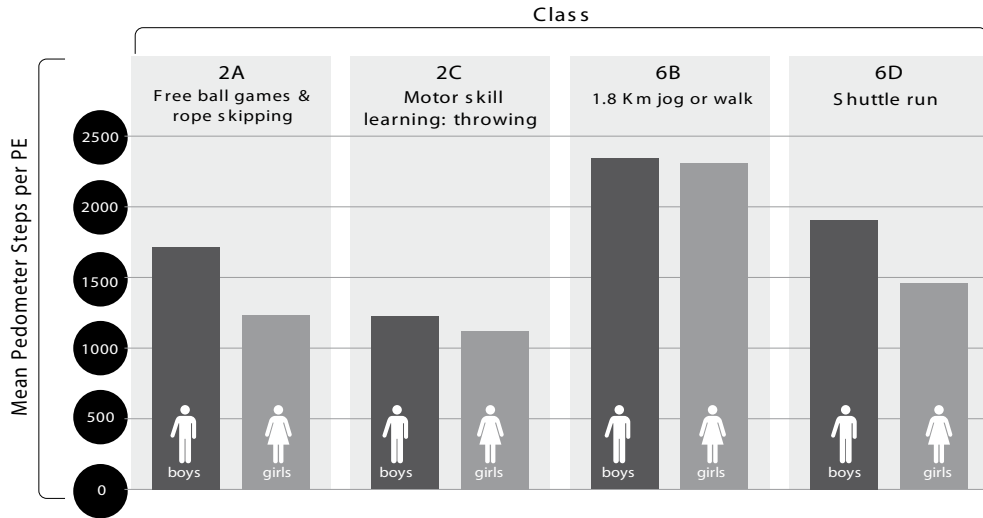


Figure 1: Mean Pedometer-determined Steps in the Four PE Lessons

The recess data were based on 113 participants with complete data sets. Table 6 shows the number of steps accumulated during the 30-minute sessions. On the average, the students achieved 1,208.14 steps, with SPM of 40.27. The mean values and standard deviations are presented in Table 7, and Table 8 lists the mean step differences for Primary 2 and Primary 6 pupils. There was no significant gender difference in accumulated steps over recess for Primary 2 students, but a significant difference in total and mean steps was detected between boys and girls in Primary 6. Primary 2 pupils accumulated more steps than Primary 6 pupils, but the difference between the two age groups for each sex was not significant. Figure 2 presents the gender and age differences in step count exhibited during the 30-minute recess.

Table 6: Pedometer-determined Steps during a 30-minute Recess

Group	N	Total steps (Mean±SD)	Total steps (Median)	Steps per min (Mean±SD)	Steps per min (Median)
Primary 2	Boys (N=28)	1,342.96±619.83	1,356.00	44.77±20.66	45.20
	Girls (N=26)	1,157.63±508.11	1,078.50	35.59±16.94	35.95
Primary 6	Boys (N=27)	1,315.57±578.10	1,248.00	43.85±19.27	41.60
	Girls (N=32)	1,040.55±346.13	921.25	34.68±11.54	30.71
Subtotal (by gender)	Boys (N=55)	1,329.52±594.31	1,355.00	44.32±19.81	45.17
	Girls (N=58)	1,093.03±426.43	994.75	36.43±14.21	33.16
Subtotal (by Grade)	Grade 2 (N=54)	1,253.75±571.17	1,170.50	41.79±19.04	39.02
	Grade 6 (N=59)	1,166.41±482.64	1,014.50	38.88±16.09	33.82
Total (N=113)		1,208.14±526.24	1,088.00	40.27±17.54	36.27

Table 7: Gender Differences in Accumulated Steps during 30-minute Recess

Group	Boy		Girl		$\Delta=(\text{boy-girl})/\text{boy}\%$	P value
	N	Steps (Mean \pm SD)	N	Steps (Mean \pm SD)		
Primary 2	28	1,342.96 \pm 619.83	26	1,157.63 \pm 508.11	20.50%	0.284
Primary 6	27	1,315.57 \pm 578.10	32	1,040.55 \pm 346.13	20.91%	0.016*
Average	55	1,329.52 \pm 594.31	58	1,093.03 \pm 426.43	17.76%	0.016*

*P<0.05

Table 8: Age Differences in Accumulated Steps during 30-minute Recess

Group	Primary 2		Primary 6		$\Delta=(P2-P6)/G2\%$	P value
	N	Steps (Mean \pm SD)	N	Steps (Mean \pm SD)		
Boy	28	1,342.96 \pm 619.83	27	1,315.57 \pm 578.10	2.01%	0.713
Girl	26	1,157.63 \pm 508.11	32	1,040.55 \pm 346.13	10.11%	0.100
Average	54	1,253.75 \pm 571.17	59	1,166.41 \pm 482.64	6.94%	0.234

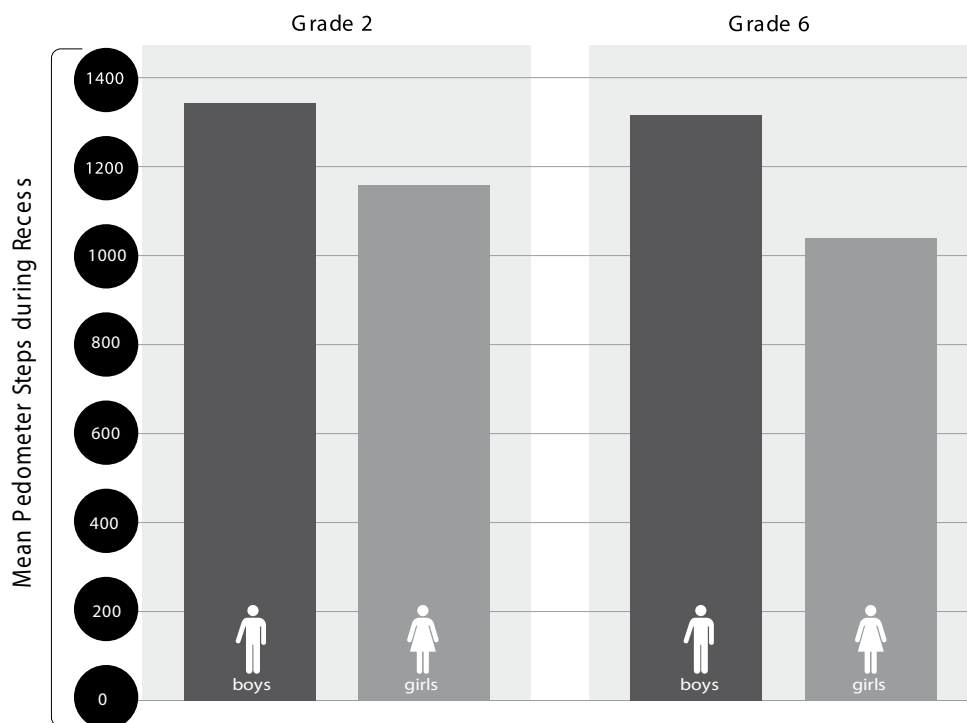


Figure 2: Age and Gender Difference in Step Count over 30-minute Recesses

Discussion

This study is apparently the first in Singapore to address the issue of PA during formal structured PE sessions and 30 minutes of recess. The prevalence of overweight students was nearly 20% at this typical neighbourhood school, which is higher than the national average of between 10 and 15% reported among all schools in Singapore (Annual Report, 2000). This may reflect a zonal prevalence in the country.

The average number of steps recorded during the 30-minute PE lesson is within the range reported by other studies as discussed in the literature review. Following the recommendation that 33% of a 30-minute PE lesson should involve MVPA, Scruggs et al. (2005) have suggested a 61-63 SPM for Grade 1-2 pupils and a 58-61 SPM for Grade 3-4 pupils. In this case, the Primary 2 students fell short of this recommendation, but the Primary 6 students exceeded the recommendation.

It is important to emphasize that PE classes are guided by multiple educational objectives in addition to providing an opportunity for accumulating PA, which are likely to vary from day to day and from school to school. In fact, the PE syllabus in Singapore does not articulate PA intensity guidelines for PE lessons. To make meaningful comparisons between classes, across different age groups or across different school regions, then environmental factors (e.g., whether PE is taught indoors or outdoors, available space and facilities, climatic factors) or pedagogical variables (e.g., whether the class is taught by a trained PE teacher or an untrained PE teacher, class size, organizational strategies, teaching approaches, lesson content) should be described in detail.

The frequency of structured classes and the amount of time children are active during lessons are sometimes inadequate to meet national health standards for PA (McKenzie et al., 1995). The time set aside for PE in primary schools in Singapore rarely amounts to more than 100 minutes per week. Therefore, recess periods are potential opportunities for pupils to increase their daily PA. The school recess also provides an environment more similar to adult recreational settings than structured PE lessons, and will be more appropriate in preparing children for lifelong engagement in PA.

While the findings of the pedometer-determined PA during recess were comparable to those of Barfield et al.'s study (2004), the number of steps was only about two thirds that of most other studies of similar age groups (Beighle et al., 2006; Tudor-Locke et al., 2006). On the other hand, the stepping rate during recess was much lower than structured PE in the Singaporean case in comparison to other studies. The high variability in total steps during recess is reasonable, given that the students could freely choose to be sedentary or participate in physical activities of various intensities during recess (Sarkin et al., 1997). Other factors, such as season, social status and relationships, cultural values, playground and equipment, teacher promptings and school curricula, may influence the level of PA during recess.

The warm and humid weather in Singapore is a major consideration in this case. Additionally, the recess usually includes time for snacking, which then reduces the time for PA. Thirdly, the families of the students in this school are mainly from the middle and lower middle class, and

studies on adults have shown that lower income groups are less active and have higher levels of body fat (U.S. Department of Health and Human Services, 1996). It is likely that this difference may occur with children, too. Some indirect support for this assertion is the anthropometric measurements prior to the study, which showed that the overweight rate was higher in this group than the national average.

Differences in PA levels of boys and girls have been well documented, although the reasons underlying gender differences during free-play time are not widely known (Scruggs et al., 2003b). They may be attributable to cultural, environmental and biological differences. Blatchford et al. (2003) investigated the nature of the games played in primary schools and the frequency of involvement by boys and girls during activities. The results indicated that boys were more likely to be involved in ball games, while girls were more likely to engage in sedentary play and conversation. Data from the present study indicate that both boys and girls from the four classes responded to the PE lessons such as chasing, fleeing, throwing, ball games and fitness training similarly. The similarities are likely due to the structure of developmentally appropriate lessons. Results from the recess sessions indicated no significant difference among the younger children, but older boys were found to be more active than the girls.

Results from the present study show no evident age-related decline in PA between early and late primary school stages, at least not during PE or recess. During PE, pupils would be responding to the content of the PE curriculum and comparisons of PA engagement with age would not be valid or appropriate and will therefore not be used. The difference in PA engagement with age during recess between Primary 2 and Primary 6 is minor in the present study, with Primary 2 pupils slightly more active than Primary 6 pupils. The age gap in PA is more evident among the girls than the boys; Primary 2 girls are 10.11% more active than Primary 6 girls, but among the boys, Primary 2 boys are only 2.01% more active than Primary 6 boys.

These results are consistent with the conclusion from some studies that there is no clear decline in PA with age, but contradict others that postulate a correlation, as pointed out in the literature review. In using pedometers to assess PA, an age-related decline in PA could be attributed to an increase in stride length with age, and unless this distinction is taken into consideration, results may lead to spurious conclusions. Longitudinal and prospective studies are more powerful in deciding whether there are specific periods of development during which distinct changes in PA may occur in a given study population. Saris et al. (1986) tracked PA variables in 217 boys and 189 girls aged from 6 to 12 years old. The tendency for a reduction in physical fitness (expressed as per kilogram of body weight) was only observed among girls by 12 years old. Thus, additional longitudinal studies are required to examine the issue of an age-related decline in PA, especially among Singaporean youth.

The present study contributes to the emerging research on and practice of using pedometers to assess children's PA during key periods in school that allow students to be active. The results add credence to the use of pedometers in providing valuable data for the development of strategies to promote school-based physical activities. Nevertheless, electronic pedometers have limitations as research tools. They are fairly accurate at counting steps, but they do not

distinguish vertical accelerations above a certain 'threshold'. Thus, pedometer step counts do not distinguish between walking and running, and if extrapolated to energy expenditure, assumptions made about the energy cost of each step may exacerbate errors. Additionally, people with shorter stride lengths will accumulate more steps while travelling the same distance or for the same time period than people with longer stride length, an issue for consideration in age-related analysis. The total steps accumulated do not reflect these differences in stride lengths among users.

The period of monitoring in the present study is limited to PE and recess, and will not reflect the overall patterns of daily PA in primary school children. Caution is, thus, warranted in making inferences from the results of the present study to the overall PA of Singaporean boys and girls. Last but not least, the study included students from a single primary school, which makes it difficult to generalize the findings to other schools in Singapore. Due to variations in social economical status, it is possible that similarly aged children behave differently in a different school ethos and environment.

CONCLUSIONS AND FUTURE RESEARCH

Schools are recognized as a key setting for the promotion of PA as children spend a large proportion of their time in schools. There are two main occasions within the school day for children to have the opportunity to be physically active – during PE lessons and recess. Elementary PE is firmly embedded in Singapore's schools. Health promotion is the contemporary rationale for PE, and the health of children is best served by PE programmes that provide substantial amounts of PA and those that promote lifetime PA. Although recess is typically used as a break from academic lessons, it can be organized to provide a means for children to receive the health benefits that accrue from engaging in PA, as well as to learn sport and movement skills that would serve them well in the future. It is worth noting that the combined allocated time for PE (i.e. 30 minutes) and recess (i.e. 30 minutes) does not meet current daily PA recommendations for children to be active every day of the week for at least 60-90 minutes of moderate intensity activity. Schools should seriously consider meeting some stipulated proportion of these recommendations.

The results of this study highlight the utility of the pedometer in field-based research in studying children's PA. To promote lifelong PA, a pedometer-based health promotion campaign can be launched among school children to reinforce the fact that everyone can be active and healthy. The National Institute of Singapore has initiated a pilot scheme in two primary schools called PRIDE for PLAY (PRIDE standing for "Personal Responsibility in Daily Effort" and PLAY standing for "Participation in Lifelong Activity for Youths"). PRIDE for PLAY is customized and contextualized to the school situation by providing daily opportunities of between 20-45 minutes during school hours where play is promoted, engaging both teachers and peers. This play time is over and above normal PE and daily recess periods by taking 5 minutes from each of the time-tabled periods for academic subjects and collectively pooling them into a period of extended play, either as part of an extended recess or just prior to recess. Alternatively, schools may consider setting aside 30-minute slots for free or organized play for all, before school, during school and after school, every day of the school week.

PRIDE for PLAY advocates a “teach less, play more” concept that can collectively increase daily PA in school; boost school morale, ethos and environment; enhance interactions among staff and pupils; foster integration among the various ethnic groups; and improve school attendance and academic results. More importantly, PRIDE for PLAY will enable young people to accumulate a sizeable portion of recommended 60-90 minutes of MVPA. Qualifying and quantifying the success of PRIDE for PLAY are important to demonstrate that the opportunity and academic costs of the programme are negligible and, thus, very sustainable. Future research should focus on the efficacy of intervention programmes such as PRIDE for PLAY to curtail sedentary behaviours and heighten the attractiveness of active behaviours in the context of school, over and beyond PE and recess.

Education in Singapore is taken very seriously and can be considered a ‘high stake’ sector. Teaching advancement is more easily justified by measurable academic results than the elusive quantification of a child’s holistic and balanced development. Most school administrators react instinctively to any drop in academic standards by trying to rectify the problem immediately, often at all costs. This translates into more time devoted to academic subjects, which results in higher stress for both pupils and teachers. In such environments, the value of PE has been overlooked, for the development of the whole person – physically, mentally and emotionally – should not be forgotten in our efforts to create an efficient and prosperous society.

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