

Project Title: *(Please fill in the blank)*

Promoting Holistic Health Utilizing Models of Health Behaviors:
Collaboration project among health education academics, elite athletes and schools in
Health Education

Project Number

(2013/0193)

Revised

Name of Organization: The Hong Kong Institute of Education

<p>(1) Goals:</p> <p>Objectives: (i)</p> <p>(ii)</p> <p>(iii)</p>	<p>- To co-create health education practices in primary schools by cultivating healthy lifestyles in pilot schools in Hong Kong;</p> <p>- To enrich the health education experience of the participating schools through involving elite athletes; health education academics; as well as social networking and resource sharing among schools in the project; and</p> <p>-To establish a sustainable community-wide collaboration and networking model for long-term diffusion of health education practices to all Hong Kong primary schools.</p> <p>Teachers should be able to design and conduct holistic health education programmes in more than one specific area in two years;</p> <p>Students of participating schools should be able to adopt a healthy lifestyle after participating in the holistic health programmes delivered in their schools; and</p> <p>Health education practices for promoting holistic health should be diffused and shared among the public including parents, children and teaching profession for resources and actions.</p>
<p>(2) Targets: Expected number of beneficiaries:</p>	<p>The numbers of beneficiaries of this project are: 20 Primary schools, 100 Primary school teachers, 300 Primary school pupil participants. Indirect beneficiaries: 7000 Primary school pupils and Parents from five selected schools: 14000</p>
<p>(3) Implementation Plan: Duration/ Process/ Schedule</p>	<p>Cycle 1 (6/2014 – 6/2015): Preparation, Professional learning and Supervision stage will be executed during Jun, 2014; Implementation stage will be taken place in Jan to May 2015; and the project will be evaluated in May to Jun 2015. Cycle 2 (6/2015 – 9/2016): Project will be implemented at the year of 2015 with similar structure.</p>
<p>(4) Products: (i) Deliverables (ii) Dissemination of deliverables (iii) Commercialization potential of deliverables / outcomes:</p>	<ol style="list-style-type: none"> 1. The main findings will be published and disseminated locally and internationally. 2. 100 well trained holistic health professional among teachers from 20 schools. 3. 10 schools knowledge and experience on holistic health education will be enhanced. 4. Parents' conception on health education will be enhanced. 5. The project and the practices will be disseminated. By replicating in other schools, the number of students can be benefited in a snowball effect. 6. Video production on project procedure and project findings will be taken and uploaded to a social broadcasting Internet platform for dissemination.
<p>(5) Budget:</p>	<p>Staff Cost: \$558,150; Equipment: \$20,000; Services: \$176,080; General Expenses: \$208,109; Contingency: \$8,328; Total grant sought: \$970,700 (to the nearest hundred)</p>
<p>6) Evaluation: Performance indicators: Outcome measurements:</p>	<p>Tailor-made evaluation scheme will be devised for each school-based proposal which will be in line with the objectives of the proposed collaborative health education programme with supervision. In general, below are some criteria which can be used to evaluate a health education programme: 1. Why to evaluate; 2. Whom to be evaluated; 3. What to be evaluated; 4. Where to evaluate; 5. When to evaluate and 6. How to evaluate.</p> <p>- Interviews will be conducted with teachers, students, parents, school administrators and community leaders on factors leading to the success or failure of the project.</p> <p>- Questionnaire survey will be conducted to assess if there is any attitude/behavioural change in healthy lifestyle among the participants using the World Health Organization Quality of Life Instruments (WHOQOL-BREF).</p> <p>- Performance on social networking platform will be evaluated by indicators such as usability testing; relevancy testing and user satisfaction survey.</p>

Part C Project Details

Promoting Holistic Health Utilizing Models of Health Behaviors: Collaboration project among health education academics, elite athletes and schools in Health Education

應用健康行為理論促進全人健康: 健康教育學者、精英運動員和學校的合作項目

Applicant Organization: The Hong Kong Institute of Education

I. Background

(a) Needs and value of Health Education

The increasing occurrence of chronic and complex disease is placing increasing demands on hospitals, and causing healthcare costs to escalate. To address this problem, primary healthcare is believed to decrease the overall healthcare cost to society by building a healthier population and empowering individuals to manage and improve their health. The keystone to such system is education. This project aims to co-create effective health education practices with teachers for the promotion of healthy lifestyle in schools by diffusion through social broadcasting Internet platform.

(b) Though health education is not a tangible part of school curriculum, many primary schools in Hong Kong do consider health education a strategic school development. Holistic well-being is achieved through health education which emphasizes students to be active in pursuing a healthy lifestyle with pleasure and perseverance.

(c) Dimensions of Health Education

Health is a state of complete physical, mental and social well-being (World Health Organization, 1946). Health education is a multi-complex practice in the domains of physical health, mental health, social health, intellectual health, spiritual health and the uprising political health. Health education programs should adopt a holistic approach to address all dimensions of health and so multidisciplinary efforts are required.

II. Project Goals and Objectives

Project Goals

(a) Short-Term Goals

- To co-create health education practices in primary schools by cultivating healthy lifestyles in pilot schools in Hong Kong; and
- To enrich the health education experience of the participating schools through involving elite athletes; health education academics; as well as social networking and resource sharing among schools in the project.

(b) Long-term Goal

To establish a sustainable community-wide collaboration and networking model for long-term diffusion of health education practices to all Hong Kong primary schools.

Objectives

- Teachers should be able to design and conduct holistic health education programmes in more than one specific area in two years;
- Students of participating schools should be able to adopt a healthy lifestyle after participating in the holistic health programmes delivered in their schools; and
- Health education practices for promoting holistic health should be diffused and shared among the public including parents, children and teaching profession for resources and actions.

III. Project Content

Stage 1: Professional Learning Stage

The project aims to assist teachers from 20 primary schools in Hong Kong to design health education programmes in their schools. This training will provide teachers new knowledge and skills to carry out health education practice in a holistic way. The duration of the course is twelve hours (three hours x four sessions); followed by small group tutorials. Teachers from 20 schools will be divided into 2 cohorts and there will be two classes (fifty teachers per cohort).

Topics of the training programme will include:

1. Dimensions of health, health education and health promotion
2. Determinants of health behaviours
3. Models of health behaviours at intrapersonal, interpersonal and community levels
4. Health intervention planning model
5. Health intervention program planning guide
6. Putting theory into practice - Health education program in action

After receiving training in devising holistic health education programmes in schools, trained teachers are required to submit a health education programme proposal of their selected topic. The proposal will comprise the following items: title; background and statement of purpose; objectives; content; instruction methods; materials used and outcome evaluation. Five to ten proposals (out of 20 proposals from 20 schools) will be selected to stage II of each cycle of the project. The selection criteria may include the following:

- Are the health behaviour theories/models/conceptual frameworks appropriately chosen which fit for the level of influence and target group, scopes and objectives of the programme?
- Is the content of programme relevant to the objectives of the programme?
- Is the programme content useful and meaningful which can utilize fully the key concepts/features /constructs of the proposed health behaviour theories/models/ conceptual frameworks?
- Are the evaluations methods suitably selected which are in line with the objectives of the programme?
- Is the information used accurate, up-to-dated and relevant to local situation?

Stage 2: Supervisions and Preparation Stage

This phase of project aims to achieve the following:

- To collect feedback from elite athletes, health education academics and practitioners (two meetings) so as to evaluate the feasibility of and refine the selected projects; and
- To prepare for the school-based health education programmes with five supervision sessions with health academics and elite athletes.

At the supervisions and preparation stage, best proposals from five schools will be selected per cycle and there will be five consultation sessions for each school prior to implementation stage. (5 sessions x 5 schools x 2 cycles)

Some potential tried-out collaborative health education programmes may include the following.

1. Programmes to promote physical health of participants either through creative physical activities or e-healthy eating are as follows:
 - a. "Karatedo BoBo Kick off Fun", a health education program to foster primary school students to be physically active with karatedo basic skills and stretching exercises;
 - b. "Walk Your Life to Health" a health education program popular pop singers, as the opinion leaders to promote school learners to have active participation in physical activities by creative styles of brisk walking with music;

- c. "Active Exercises with Active Video Gaming" a health education program to enhance the physical activity level of the students with selected Active Video Gaming.
 - d. "E-healthy eating in Action" a health education program to provide students a real weight management programme, supplemented with electronic platform to monitor their diet. Students can track their energy in and energy out anytime and anywhere which will facilitate them to incorporate healthy eating in their daily living. Individual feedback by the platform will be given for gradual modification in food choices. It emphasizes on nutrition knowledge transfer, with focus on healthy eating and weight management.
2. Programmes to promote psychosocial wellbeing, spiritual health, and mental health are as follows:
 - a. To promote the physical and psychosocial wellbeing by Qigong exercise;
 - b. To cultivate spiritual health by mindfulness; to foster mental health by art and music therapy and appreciation; and
 - c. To promote social health by sharing multi-media information on anti-cyber bullying creatively via Google Wiki.
 3. The schools can work collaboratively with the health education academics and practitioners and elite athletes to co-create possible school-based health education proposals for implementation.

Stage 3: Implementation Stage

This phase of project is to implement a series of holistic health education programmes by the participating school teachers and students with support from elite athletes, health education academics and tertiary student helpers. The elite athletes, health education academics and practitioners who will act as role models in the health education programme will be selected from different fields; such as elite athletes from badminton, rowing, fencing, karate, table tennis, cycling or triathlon; as well as health education academics and practitioners with expertise in ergonomics, biomechanics, sports science, school health education, nutrition, physical fitness, nursing, social work, school-based curriculum development.

Stage 4: Evaluation Stage

Along with the project implementation, project evaluation and research activities will be carried out at the same time. Tailor-made evaluation scheme will be devised in line with the objectives of the proposed collaborative health education programme. The following criteria will be used to evaluate a health education programme:

1. Why to evaluate- types of information required such as effectiveness, appropriateness, acceptability, efficiency or equity
2. Whom to be evaluated - target group of the programme
Since these will be school-based health education programmes, feedbacks of students, parents, teachers, administrators and community leaders may all be evaluated.
3. What to be evaluated - targets of evaluation
 - a. knowledge, attitudes, or behaviours of the students
 - b. usefulness of education materials by teachers, willingness of teachers to implement the programme
 - c. cost effectiveness of the programme
 - d. contribution of the programme to students by their parents and school administrators and community as well as areas that are in need of improvement
4. Where to evaluate - the place where the evaluation is taken place
It may be more convenient for students to complete evaluation questionnaires in school
5. When to evaluate -
Impact evaluation assesses the effects of an intervention on its immediate achievements which will bring about health outcomes (corresponding with the measurement of the programme's objectives). Achievements in the

behavioural dimension are usually changes in awareness, attitudes, knowledge, skills and behaviour among project participants

6. How to evaluate - evaluation tools to collect data for analysis

Knowledge measures by quasi-experimental method like pre- and post-intervention knowledge tests.

Skill measures through observations and demonstrations of skills in settings approximating those encountered in real life.

Attitude measures through self-report inventories.

Behavioural measures by observations or self-report inventories.

IV. Applicant Organization other favorable factors/futilities for implementing the project

1. Applicants' Expertise and Capabilities

3. Human Resources

The project members will mobilize student-health educators including elite athletes, registered social workers, registered nurses, and in-service teachers to assist in health education programme proposal formulation and implementation.

4. Network with Schools

The applicant organization gets strong support from hundreds of primary schools. With the strong network with schools, it is no doubt that the project can attract passionate educators to participate.

5. Pilot Scheme

The project team has rich experience in supervising the student health educators to run health education programmes for more than twenty schools in the past three years with duration for around one school term each.

Focus of health education	Selected health education programme titles
Drug Education	Say No to Drug
	Never Try, No Regret
Physical Health (Exercises)	Walk Your Life to Health 步出健康路
	Let's Move Your Body '羽'你動起來
Physical Health (Healthy Eating)	Healthy Food- You Are What You Eat 至叻有'營'人
	To Be a Smart Healthy Guide 做個識揀健康人
	Green Snacks
Physical Health (Healthy Eating & Exercise)	智 Snack 寶寶 Kick 出 Fun
Physical Health (Eye Education)	Eye Edu
Emotional Health	Facial Expression So Easy '表情'好 Easy
Social Health	Smartphone Addicts '低頭族'
	Cyber Bullying
	Be Alert to Sexual Abuse
Mental Health	Forget Me Not (Dementia)
	Say 'No' to Hypertension
Infection Control Education	Watch Out! Wash Hands! HFMD Always Out

Pilot health education schemes proved successful where the implementation process and learning outcomes have been widely reported by major media

V. Targets and Expected Number of Beneficiaries Direct beneficiaries

The numbers of beneficiaries of this project are:

Primary school: 20 (10 schools per cycle)

Primary school teachers from 20 schools: 100

Primary school student participants from 10 selected schools: 300 (30 students /school)

Indirect Beneficiaries:

Primary school students and their parents will also indirectly benefit from the project:

Primary school students from 10 selected schools: 7000

Parents from five selected schools: 14000

The school children participating in this project will have an impact in achieving better health. The experience generated will be very useful to both educators and health care policy makers. The intervention programme designed to promote students' holistic health in school will be evaluated in short-term and long-term. It is expected that the findings will help the teachers understand more about how to promote effective health education among young aged children and how the healthy lifestyle be transformed to daily activity. This project also helps develop skills and competence in teachers' development by their active engagement in this project. To diffuse the effective health education practices, the applicant organization will conduct two experience sharing sessions, with one at the mid-term and one at the end term of the project; and publish user manuals for organizing and implementing the activities for all primary schools in Hong Kong.

VI. Extent of Teachers and Principals' Involvement, Ideas and Responsibilities in the Project.

(a) Principals or vice principals involvement include:

- To oversee the project planning and be involved in objectives setting at strategic level;
- To lead the health education working group and oversee the whole project implementation; and
- To work with academics, athletes and other partner schools in project planning, implementation and evaluation.

(b) Teachers involvements in the project include:

- To master the new knowledge and skills delivered in the training courses;
- To develop, implement and evaluate the health education plan; and
- To collaborate with academics, athletes and teachers within and across schools for education and research purposes.

VII. Implementation Plan with Time-Line

Time-Line

Cycle 1 (8/2014 – 8/2015)

Stage	Key Tasks	Duration
Preparation		8/2014
Professional learning	Teacher training; Health education proposal drafting	9/2014-11/2014
Supervisions	Feasibility assessment; fine-tuning of proposals	11/2014-2/2015
Implementation	Evidence-based research	3/2015-7/2015
Evaluation	Evidence-based research; effectiveness assessment	7/2015-8/2015

Cycle 2 (8/2015 – 11/2016)

Stage	Key Tasks	Duration
Preparation		8/2015
Professional learning	Teacher training; Health education proposal drafting	9/2015-11/2015
Supervisions	Feasibility assessment; fine-tuning of proposals	11/2015-2/2016
Implementation	Evidence-based research;	3/2016-7/2016
Evaluation	Evidence-based research; effectiveness assessment	8/2016-11/2016

The first cycle will focus on the tryout of health education practice with theoretical foundations which is of a trial and error nature. Building on the lessons learnt (including views and feedbacks solicited from the interviews with schools, teachers' reflective reports and debriefings) from the first cycle of implementation, the second cycle will work on the modified/improved health education practice design to facilitate the second trial. Good practice of the first cycle will be built up which will be served as an exemplar for the second cycle of implementation and modeling.

VIII. Expected Deliverable and Outcomes

1. The main findings will be published and disseminated both locally and internationally.
2. 100 well trained holistic health education professional among teachers from 20 schools.
3. 10 primary schools knowledge and experience on holistic health education will be enhanced.
4. Parents' conception on health education will be enhanced.
5. The project model and the good practices of the 10 pilot schools will be disseminated through publications, experience sharing and programme resources sharing. By replicating the tested intervention programmes in other schools, the number of students from other schools can be benefited in a snowball effect.
6. Video production on project procedure and project findings will be taken and uploaded to a social broadcasting Internet platform for dissemination which is now popular as a teaching platform for International educators.

Promoting Holistic Health Utilizing Models of Health Behaviors (August 2014 to October 2016)

	Budget Breakdown Item	HKS	sub-total
1	Staff cost <u>*Project Officer</u> Main duties for admin and coordination \$900 x 80 working hrs <u>Research Assistant</u> Salary (\$16,000 x 28 months)x 1.05 <u>Student Helpers</u> (\$50 x 300 hours)x 1.05	72,000 470,400 15,750	558,150
2	Equipment Notebook Computers (\$6,500 x 2 pcs) Digital Camera (\$1,500 x 1 pc) Digital Video Camera (\$4,500 x 1 pc) Printer (\$1,000 x 1 pc)	13,000 1,500 4,500 1,000	20,000
3	Services <u>b</u> Teacher training by health education academics \$960 x 12 hrs x 2 classes x 2 cycles Supervision by health education academics <u>c</u> \$1200 x 5 sessions x 5 schools x 2 cycles Writing, editing and compilation of project report Web Design Fee	46,080 60,000 60,000 10,000	176,080
4	General Expenses Printing of training materials and project report (\$50 x 650 pcs) Venue fee (General Teaching Room/Lecture Theatre ,including sharing seminar/forum) Prizes and certificates External storage devices Audit fee and Audit outlay Miscellaneous (e.g. postage, stationeries, photocopy, travelling, etc)	32,500 18,000 5,000 1,000 5,000 20,000	81,500
5	<u>d</u> Overhead Charge		126,609
6	Contingency (around 3% of total expenses except staff cost)		8,328
Total			970,667
Total Grant Sought			970,700 (To the nearest hundred)

The relevant QEF guidelines on staff recruitment/employment as well as procurement of goods and professional services will be strictly observed.

Remark:

^a The project officer will provide administrative, development and communication support to the funded project. He/She will be responsible for providing support to its daily operation and activities; liaising with external and internal parties to facilitate project activities; providing support to promotion campaigns and seminars organization; assisting in design and implementation of project evaluations; and performing any other duties as assigned. Applicants should have a recognized degree, an excellent command of spoken and written English and Chinese; good interpersonal, presentation and co-ordination skills; be mature, pleasant, well-organized, confident, analytical and able to work independently. Good academic background in health education and promotion, and experience in information technologies will be an advantage.

^b The appointee(s) will provide professional services including teacher training, tutorials, health education practice consultations and supervisions. Applicants should have a doctoral degree in health related disciplines with relevant teaching or research experience in health education and promotion.

^c 1.25 hours/session for supervision by health education academics

^d Overhead Charge covers the use of campus facilities such as library resources and expenses of central academic/administrative support i.e. recruitment for project staff, payment transaction, and usage of equipment (e.g. office desk and phone). Overhead charges will not overlap with the approved budget items as listed above.

Asset Usage Plan

Category (in alphabetical order)	Item / Description	No. of Units	Total Cost	Proposed Plan for Deployment <i>(Note)</i>
audio and video equipment	Digital camera	\$1,500 x 1pc	\$1,500	For use by Department of Health and Physical Education, HKIEd. The asset will be used to support students' life wide learning activities such as providing health education activities to schools and community centres.
	Digital video camera	\$4,500 x 1pc	\$4,500	
book & VCD				
computer hardware	Notebook computer	\$6,500 x 2pcs	\$13,000	For use by Department of Health and Physical Education, HKIEd. The asset will be used to support students' life wide learning activities such as providing health education activities to schools and community centres.
	Printer	\$1,000 x 1pc	\$ 1,000	
computer software				
musical instrument				
office equipment				
office furniture				
sports equipment				
Others				

1. Process evaluation

Quality of the project is evaluated with an aim to examine whether the implementation is delivered as planned/designed. Interviews will be conducted with teachers, students, parents, school administrators and community leaders on factors leading to the success or failure of the project. Questions may include the following:

- Are all the planned activities being implemented (number of activities and events that had been done)?
- Did the intervention reach the intended target group (number of participants in each activity)?
- What was the satisfaction level of the participants (participants' satisfaction level, willingness of teachers to implement the programme)?
- What are the suggested improved courses of actions (participants' comments on the activities)?

2. Impact evaluation

Effectiveness of the project is evaluated with an aim to examine the immediate effects of each school-based health education programme which will bring about health outcomes. Design of the impact evaluation for each school-based project will be come up with the supervisions of the health academics. It may include the knowledge, skill, attitude and behavioural measures as follows:

- *Knowledge measures* by quasi-experimental method like pre- and post-intervention knowledge tests;
- *Skill measures* through observations and demonstrations of skills in settings approximating those encountered in real life;
- *Attitude measures* through self-report inventories; and
- *Behavioural measures* by observations or self-report inventories.

Overall, questionnaire survey will be conducted to assess if there is any attitude/behavioural change in healthy lifestyle among the participants using the World Health Organization Quality of Life Instruments (WHOQOL-BREF).

3. Outcome evaluation

Effectiveness of the project is evaluated with an aim to assess the long term effects of the project, that is, whether a sustainable community-wide collaboration and networking model for long-term diffusion of health education practices to all Hong Kong primary schools can be established. Performance on social networking platform will be evaluated by the following indicators:

- Usability testing
- User satisfaction survey

Report Submission Schedule

My tertiary institution commit(s) to submit proper reports in strict accordance with the following schedule:

Project Management		Financial Management	
Type of Report and covering period	Report due day	Type of Report and covering period	Report due day
Progress Report 1/8/2014 - 31/1/2015	28/2/2015	Interim Financial Report 1/8/2014 - 31/1/2015	28/2/2015
Progress Report 1/2/2015 - 31/7/2015	31/8/2015	Interim Financial Report 1/2/2015 - 31/7/2015	31/8/2015
Progress Report	29/2/2016	Interim Financial Report	29/2/2016

1/8/2015 - 31/1/2016		1/8/2015 - 31/1/2016	
Progress Report 1/2/2016 - 31/7/2016	31/8/2016	Interim Financial Report 1/2/2016 - 31/7/2016	31/8/2016
Final Report 1/8/2014 - 30/11/2016	28/2/2017	Final Financial Report 1/8/2014 - 30/11/2016	28/2/2017

XI. Sustainability of the outcomes of the project- Sustainability at school, teacher, parent and student levels

The outcomes of the project can be sustained through the following ways:

- A network of 20 participating schools fosters the culture of promoting health education in schools;
- Teachers are trained up and have a strong willingness to continue to promote health education in their workplaces;
- The best practices of the participating schools are shared to the school sector through disseminating web-based learning resources via social networking platform
- The learning process and outcomes are shared to the general public through publicity and mass media; and
- Findings will be published in academic journals for sharing of the good practices.

XII Promotion Strategies

The promotion strategies of the project include publishing of project reports, training for teachers, web-publishing of teacher development programmes and teaching materials. Diffusion of learning outcomes will be facilitated by social networking platform. Lastly, the newly established alumni network named Health and Physical Education Alumni, could also help to disseminate the teaching and learning processes and outcomes.

XIII Reviewers of the project

To evaluate the effectiveness of this project, we would invite some internal and external reviewers

References:

Constitution of the World Health Organization as adopted by the International Health Conference, New York, 1946.

Let's Move Your Body

Utilizing the Diffusion of Innovations Theory to promote active physical activity level in schools

Background:

Significance of physical activity

The important influence of physical activity in reducing the burden of chronic diseases and enhancing quality of life is well established (Brownson et al., 2007). Various surveys illustrated the increasing trend of obesity in Hong Kong. A study indicated that children general obesity rates climbed to 22.2% in 2009-2010, when compared with 16.7% in 1996-1997 (Shay, 2011). With reference to the Population Health Survey 2003/2004, the prevalence of overweight and obesity generally increased with age. The main problem of obesity in Hong Kong was not only the lack of health promotion and public health education, but also having limited facilities for exercise and poor exercise promotion at all levels in Hong Kong (Chin et al., 2002). According to the recommendation of US Centers for Disease Control and Prevention or US Department of Health & Human Services (2011), children aged 7-12 should have at least five days of 60 minutes accumulated moderate physical activity. However, only 21.0% of the surveyed Hong Kong students met this recommendation, if physical education (PE) lessons were to be excluded (Department of Sports Science & Physical Education, The Chinese University of Hong Kong, 2009). To address the issues of physical inactivity, effective interventions should be implemented in school settings to promote active lifestyles.

Long-term Physical Activity Habit

Physical activity is a habit and assessing physical activity is a complex task, especially assessing this for the children who cannot concentrate on lengthy but intermittent and spontaneous bouts of activity (Bailey et al., 1995). Numerous studies of interventions to increase physical activity of children were conducted. Many of them focused on PE classes (McKenzie et al., 1996; Sallis et al., 1997; van Beurden, 2003; Friedman et al., 2003) but they were criticized that school time allocated to PE classes varied with different countries and the revamp of PE classes was not at school-based level (Verstraete et al., 2006). Other interventions such as SPARK (Sports, Play and Active Recreation for Kids), CATCH (Coordinated Approach to Child Health) and M-SPAN (Middle-School Physical Activity and Nutrition) have concluded with successful results in raising short-term and long-term physical activity levels of elementary children (McKenzie et al., 1997; Kelder et al., 2003; McKenzie et al., 2004). However, the large-scale settings cannot be easily replicated as an effective strategy in implanting exercise to the children. It is also criticized that the success of long-term increase in physical activity is lesson-driven, not the long-term habit of the children. There are many studies on promoting physical activity among children, still limited of them exploring the sustainability of physical activity habit in a long term and outside the school settings. Thus, this intervention program will fill up the knowledge gap around the development of long term physical activity habit among school children.

Application Model

Diffusion of Innovations (DoI) was first espoused for describing a process of diffusion that was made through an innovation to be communicated by certain channels over time among the members of a social system (Rogers, 1962). The four elements in diffusion research are innovation, communication channels, time and social system. DoI theorizes how innovations are taken up in a target population and is a radical approach in behaviour change. Instead of persuading individuals on the way to change, the theory revolutes the innovation as a need which is tailor-made to fit the individual's interest. This innovation-diffusion process is based on knowledge, persuasion, decision and confirmation. This theory makes a principle that new ideas are mostly originated from the mass media and then transmitted and modified by some opinion leaders. Other people being influenced by peer networks with these opinion leaders promote the idea among them (Katz, Lazarsfeld, 1955). Empirical studies on

the use of opinion leaders to promote health was conducted (Puska, 1986), only with feasibility and self-reported effects published. With limited controlled trials found, this intervention programme is to explore the application of DoI in promoting active physical activity level in a group of primary school students.

Objectives:

- To promote active physical activity level of primary school students with elements in DoI
- To investigate the sustainability of physical activity level achieved through DoI among primary school students
- To co-create a healthy environment with active physical activity level for health

Activities:

This health intervention programme will engage student-health educators in life-wide learning as health ambassadors who will devise and implement effective, creative and evidence-based intervention programs to promote active physical activity level in primary school settings. Diffusion of innovation (DoI) theory will be applied to intervention development and dissemination. Student-health educators, comprising of elite athletes, in-service teachers, and social workers, will design and produce videos demonstrating active participation in physical activities by practicing creative styles of melodic steps daily (innovative practice). Elite athletes will provide symbolic modeling (opinion leader) to promote the innovative practice to students of a primary school (social system) and diffuse such practice via communication channels so that their fans will adopt the innovation with the status symbol and peer influence to sustain active lifestyle. This practice will be conducted in two primary schools, one as control group and another as experimental group and shoe sensors will be used to measure primary school students' physical activity level and its sustainability. Details of the programme are briefed as follows and are depicted in Table 1.

- Student-health educators including elite athletes will design and produce four 30-minutes videos demonstrating active participation in physical activities by practicing creative styles of melodic steps. They will then run three 90-minutes seminars to the school students highlighting the benefits of active lifestyles and creative ways to transform the sedentary lifestyles to active ones.
- Students of a primary school will be involved in this project as the experimental group for six months.
 - a. They will practice 30 minutes exercises at schools in the morning, following the given four videos for the first three months. The school is highly encouraged to upload the videos to the school Intranet so that the participants and their friends and family members can join in the exercises beyond school environment. They will also attend three seminars.
 - b. Students with the highest activity level for the first three months will be awarded to enhance their self-efficacy.
 - c. Physical activity level of students will be monitored and measured with shoe sensors for three months. Students are encouraged to wear shoe sensors whenever they are having exercises.
 - d. After the completion of the intervention program, students will be requested to wear the shoe sensors daily for the remaining three months to collect data on their physical activity level to explore the sustainability of the intervention program.
- Students of another primary school will be involved in this project as the control group for six months. No intervention program will be implemented in the control group but physical activity level of students will be monitored and measured with shoe sensors for six months.

Table 1: Health intervention programme details incorporating the elements of DoI.

Elements of DoI	Activities
Innovation	It will be a health practice. Elite athletes act as the opinion leaders will introduce and demonstrate easy steps of dance and fun exercises to the primary school children via videos being played at schools. Elite athletes will also conduct three seminars to the students on the benefits in doing exercise, the common barriers to it, and effective ways to transform from sedentary lifestyles to active ones. Teachers will act as the role-model to practice the physical activities with the students in the intervention group during morning assembly, recess time or after school (30 min).
Communication channels	Videos of creative group exercise will be uploaded to the School Internet, or as promotion of good practice.
Time	Innovation-decision period is measured to investigate the time required to pass through the innovation-decision process within the members of a social system. In this programme, physical activity of both control and experimental groups will be measured to investigate how innovation-decision process works within the students of the schools.
Social system	Fans of the elite athletes, peers of the school students and users of the School Internet, or will form the members of the social system.

Outcome measurement:*Physical activity level*

Shoe sensors will be used to measure primary school students' physical activity level and its sustainability. A project assistant will collect the shoe sensors every Friday. Students' physical activity levels at school time and beyond school time will be measured before (baseline) and then every week to investigate the change of physical activity level between groups and the rate of spread of DoI among members of the social system. The physical activity level will be measured at weekly accumulated basis, which is comparable to the time recommendation of US Department of Health and Human Services/ U.S. Department of Health & Human Services.

Expected deliverables:

- Physical activity programme experimented will be documented as manuals for Hong Kong educators. By replicating the tested intervention programmes in other schools, the number of students from other schools can be benefited in a snowball effect.
- Videos production on intervention programme procedure and project findings will be taken and uploaded to social broadcasting Internet platform which is now popular as a teaching platform for international educators for sharing.
- Professional seminars will be held at the end of the project, aiming to share the project findings to community of practice, local and international educators and students of teaching.

It is hoped that through experiencing FUN & sense of accomplishment in exercising with peers, a healthy school environment with active physical activities will be co-created with school children being the active participants to adopt a non-sedentary lifestyle and a habit of regular physical activity into their lives.

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