

Inclusive Sand-shoeing Training Program for Students with and without Intellectual Disabilities in Hong Kong

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Abstract

One of the sports for the Special Olympics is snow-shoeing. In Hong Kong training for this sport occurs in the sand and is called sand-shoeing. The purpose of this study was to evaluate a sand-shoeing training program (STP) of the Special Olympics Hong Kong (SOHK). Two hundreds and thirty-two Grade 1 to 12 special school students with intellectual disabilities (ID), and 66 university students without ID participated in the STP. Three different types of survey were designed for students with ID, university students, and special school teachers. Descriptive data from the feedback of these three parties on the STP were analyzed. Results from 134 students with ID showed that 97.8% of them enjoyed taking part in the STP with the university students. Results also indicated that the special school teachers strongly agreed that the STP helped their students to learn the basic skills required for sand-shoeing (68.42%), enhanced students' social ability (73.68%), and building a healthy lifestyle (73.68%). A total of 78.4% of the university students expressed that they learned the skills on better communication with individuals with ID in this program. In conclusion, the STP demonstrated a successful example of inclusive sport program for the HKSO to further promote unified sports.

Keywords: Special Olympics, intellectual disabilities, inclusion, sand-shoeing

Using sport as a means to promote social inclusion and integration of young people with disabilities into their community was advocated in 1980s in the western countries. Sherrill (2004) stated that physical education and sport could be the viable means to change people's attitudes towards disability, and yet contributing to the successful inclusion of people with a disability into schools and the community. At the same time, sport and leisure activities could provide a forum for young people with disabilities to connect with the community, and shared interest in sports with the mainstream youth population (Evangelina, 2006). Recently, researchers also concluded that through participating in sport activities, participants could develop their interpersonal relationships, enhanced social networks, countered discrimination, and improved communication (Chan, Evans, Ng, Chiu, & Huxley, 2014).

Individuals with intellectual disabilities (ID) have limitations on intellectual functioning and adaptive behaviors which make them at risk of poor health (Anderson et al., 2013). Even though legislation

has been established to protect the rights for people with ID in some countries (such as USA and China), this special population is often discounted and denied sport-related opportunities in their communities (Special Olympics, 2005). It has been found that students with ID had fewer opportunities for sport participation (Liu, 2009).

Special Olympics (SO) is a world-wide movement to promote sport training and competitions for individuals with ID. SO provides more than 32 Olympic type sports, and has more than 170 countries participated in it (Special Olympics, 2019). In the past two decades, besides the traditional sports programs, SO also strives to promote social inclusion through its Unified Sports Program. The program enables SO athletes to develop friendships, sports skills, and socialize with peers through taking part in sports together (Dowling, McConkey, Hassan, & Menke, 2010; Eidelman, 2011). The evaluation report on the Special Olympics Europe Unified Sport Programs revealed that the self-esteem and confidence of athletes with ID were improved and their mainstream partners also gained better understanding of people with ID after taking part in the unified sport programs (McConkey, Dowling, Hassan, & Menke, 2013).

The Special Olympics Hong Kong (SOHK) provided 17 official sports which included four winter sports, namely ice speed skating, figure skating, snowshoeing and floor hockey to its members (Special Olympics Hong Kong, 2018). Snowshoeing is the only outdoor winter sport of SOHK. It is an activity that combined with running and walking over snow, and is suitable for people of all ages. Since Hong Kong has subtropical climate, it does not have snow in the winter. In order to provide training for the sport snow-shoeing, beaches are utilized as the training grounds. Hence, "sand-shoeing" becomes a substitute activity used for snowshoeing training. It is also one of the HKSO's "local" sport with formalized competitions (Hong Kong Special Olympics Annual Reports, 2012). Athletes who represented Hong Kong in the past Special Olympics World Winter Games were selected partially from their running potentials demonstrated on the track and partly from their performance times in HKSO's Annual Sand-shoeing Competition. Therefore, a systematic sport development program is desirable for further development of this sport in Hong Kong.

Many people assumed that positive inclusion can occur naturally when two or more groups of persons with divergent characteristics are placed in the same setting. Dattilo (2002) suggested that for inclusion to be positive and meaningful, activities need to be carefully planned and delivered. When planning an inclusive program, provision of a common activity that was new to all participants is conducive to foster an inclusive environment than relying on an activity in which one group has superior performance over another group. Furthermore, cooperative learning has also been found to be an effective strategy that cultivates teamwork, mutual respect and acceptance of individual differences (Lieberman, James, & Ludwa, 2004; Smith, Austin, & Kennedy,

2001).

In sport management, program evaluation is an essential step to understand the strength and weakness of sport programs. It also assists to make decisions on the value of impacts of a sport or recreation program (Henderson, Bialeschiki, & Browne, 2017). Evaluation model provided a conceptual framework for the overall program development, and the evaluation of the sport or recreation activities. With reference from the Logic Model of program evaluation (Kellogg Foundation, 2004), a comprehensive Sand-shoeing Training Program (STP) was established. The logic model focused on the purposes of a program, with linkage on its input and output (see Figure 1). It is useful to guide a program from its planning stage to the implication and evaluation stages (Henderson et al., 2017).

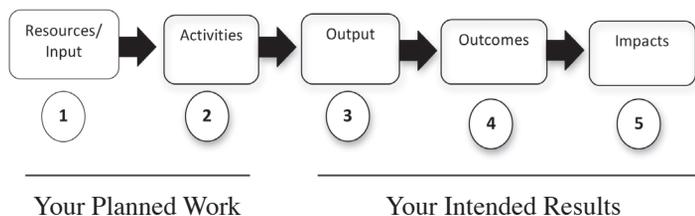


Figure 1 The Basic Logic Model

Note: Adopted from: "The Basic Logic Model" by Kellogg, W. K. Foundation. (2004). *Logical model development guide*. Battle Creek, MI: Author, p.1.

Special Olympics Hong Kong had developed unified sport programs for some popular sports, such as football, badminton, and bowling (Special Olympics Hong Kong, 2018). The use of sand-shoeing as a platform to promote inclusion was an innovation as sand-shoeing or snow-showing were not known by most people in Hong Kong. Hence, this project aimed to utilize sand-shoeing, a relatively unpopular sport, for both students with and without ID as the common activity. In addition, cooperative tasks involving the use of sand-shoes, would be developed to provide an appropriate level of challenges to all participants. Thus, the need to develop, implement, and evaluate a sand-shoeing development program in an inclusive setting is essential. The objectives of the STP were to develop a set of "best practice" that can be applied to other sports for the SOHK, to provide agencies and schools taking care of persons with ID, and to foster a harmonious society through providing opportunities for inclusive learning.

Methods

The inclusive sand-shoeing project was approved by the Hong Kong Baptist University Human Research Ethics Committee. Parental consent forms were collected from the parents of the students with ID through the participating schools before any data collection began.

Participants

Invitation letters were sent to all schools that provide education to students with ID in Hong Kong to join the program. Participants were limited to those students who were ambulatory and could walk when put on the snowshoes. Two hundred and thirty- two students

with ID aged from 6 to 21years old took part in the STP. They were from 12 special schools which admitted mild and moderate ID students in Hong Kong. Table 1 showed the demographic information of the participants. In addition, sixty-six students from a local university with prior training on leading exercise to people with ID were invited to join the program as sport partners as well as learning facilitators.

Table 1. Demographic Information of Participants (N=232)

Characteristics	Frequency	Percentages
Male	171	73.7
Female	61	26.3
Age Groups		
6 - 10	47	20.3
11 - 15	92	39.6
16 - 21	93	40.1
With mild intellectual disabilities	161	69.4
With moderate intellectual disabilities	71	30.6

Training Protocol

In conceptualizing the sand-shoeing development protocol, a bottom-up approach was adopted. Essentially, this approach involves a process of first introducing the sport to a group of novices, then, from among the novices, select potentials to receive further training so that they could be coached to become high level performers. Classes were offered to students with ID and the university students, with the view of introducing them to the sport and to encourage them to take part in a local competition.

The objectives of the STP were to: (a) provide participants with basic knowledge and skills about the sport; (b) foster mutual understanding and respect between participants with and without ID; and (c) enable participants with and without ID to take part in the selected events, such as the Annual Unified Sand-shoeing Competition organized by the SOHK.

The training protocol was based on the basic snowshoeing skills of Special Olympics Snowshoeing Coaching Guide (2007). The content of the training consisted of putting on and removing sand-shoes, avoiding sandshoe overlap, walking forward, stopping and recovery, sprint starts and sprinting. A unified game also was designed to provide opportunity for the special school students and university students to compete in a mini-competition in every training session.

The class size was from 8 to 15 according to the enrollment of each school. Students were divided into small groups based on their abilities in each training session as for better facilitation of their learning. The university students acted as facilitators and unified sport partners in the program. The basic STP comprised of 12 classes which were held at two separate beaches on two weekdays. Each class comprised of two 1.5 hour sessions. The course schedule of each training session were: (a) warm up; (b) learning and practicing wearing sand-shoes; (c) basic sand-shoeing drills; and (d) unified sand-shoeing games.

Evaluation Instruments

In order to monitor the program, impact evaluation was incorporated. There were three different types of self-reported surveys designed for students with ID, university students without ID, and special school teachers.

Feedback from students with ID. Due to the varied comprehension ability of the students with ID, use of a self-reported questionnaire was not an appropriate method for data collection. Hence, with the help of accompanying teachers from the schools and the university students, willing and able students were asked to respond orally to the following four questions:

1. Have you ever tried sand-shoeing before?
2. Do you enjoy the activity?
3. Do you enjoy playing with the HKBU students?
4. Do you want to play again next time?

Feedback from special school teachers. A questionnaire was designed to gather feedback from teachers on the impact of the STP classes on their students according to three aspects: (a) knowledge (e.g. Do you agree that the classes had allow your students to learn the basic skills required for sand-shoeing), (b) communication (e.g. Do you agree that the classes had enhanced your students' social ability through group activities), and (c) teamwork (e.g. Do you agree that the activities allowed your students to experience inclusive sports effectively). Teachers responded on a six-point Likert scale from 1 to 6 (1 = Strongly disagree, 6 = Strongly agree).

Feedback from university students without ID. The questionnaire consists of a total of 9 questions which focused on the University graduate attributes: (a) knowledge (e.g. Do you agree that you have learnt the basic skills of sand-shoeing), (b) citizenship (e.g. Do you agree that the classes enhanced your knowledge of the needs and ability of the people with ID), (c) communication (e.g. Do you agree that you have learnt the basic skills to communicate with people with ID), (d) teamwork (e.g. Do you agree that you had an interesting experience in participating in this inclusive sport), and (e) life-long learning (e.g. Do you agree that you would take the initiative to learn more about inclusive sports in the future). University students responded on a six-point Likert scale from 1 to 6 (1 = Strongly disagree, 6 = Strongly agree).

Face validity was used to assess the validity of the questionnaires for special school teachers and university students without ID. The questionnaires were also assessed and approved by two professors who possess extensive experiences in adapted physical education and sports. As to achieve the reliability of the questionnaires, a pilot survey was conducted to investigate the appropriateness of the questions and procedures on administering the questionnaires.

Data Collection and Data Analysis

The basic program participation data were collected through the special school teachers. Participants were invited to provide feedback on the STP after the completion of the training sessions with the helps from their school teachers or the university students. Questionnaires were also collected right after the completion of the program from the special school teachers and the university students without ID.

Descriptive statistics such as means and percentages were

performed to describe the feedback of the participants, as well as to evaluate if the program has achieved its goals. Based on the purposes of the project, no inferential data analysis was conducted.

Results

Feedback from Participants

Among 232 students with ID, only 134 willing and able students responded to the face-to-face survey (response rate = 57.7%). Eighty-four percent of the students with ID indicated, through their teachers, that they had never tried sand-shoeing. A majority of the students with ID responded positively on whether they enjoyed the activity (94.03%). Nearly all of them (97.76%) said they enjoyed playing with the University students. Most of the participants (89.55%) also indicated that they would like to play for a second time. (see Figure 2)

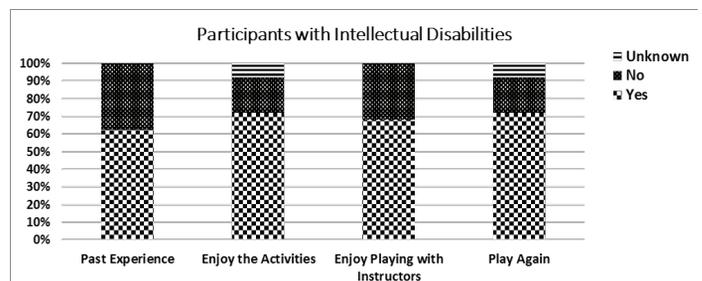


Figure 2 Feedback on the STP from students with intellectual disability

The second set of questionnaires was distributed to all 19 special schools teachers who attended the 12 classes. Based on analyses of the responses collected, nearly 70% indicated that they strongly agreed with those statements on knowledge aspect. More than 70% of the teachers strongly agreed that the classes had enhanced students' social ability through group activities (73.68%). In addition, 68.42% and 31.58% of the respondents strongly agreed and agreed that the classes had improved their students' communication skills through interacting with peers and University students respectively. More than two thirds of respondents (73.68%) strongly agreed that the activities had helped to contribute towards building a healthy lifestyle. Furthermore, most respondents (80%) strongly agreed that the activities were effective means for their students to experience inclusive sports (see Figure 3).

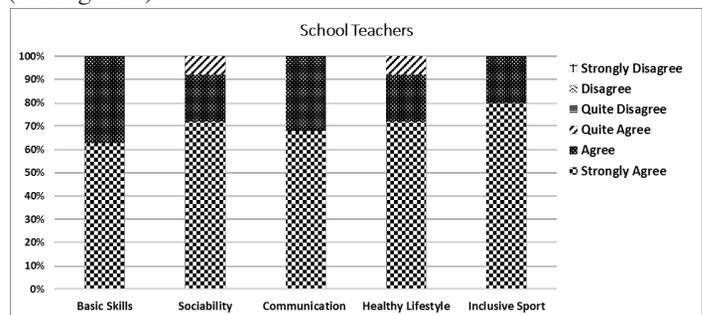


Figure 3 Feedbacks on the STP from special school teachers

Moreover, positive comments were received from the open-ended responses of the teachers, such as good ratio of university

students to their students. They also expressed their wish to have an increase in the number of classes so that their students could gain more in-depth knowledge about the sport.

A total of 66 university students joined the classes and 51 completed questionnaires were received from them (response rate = 77.27%). Most university students agreed that the STP could enhance learning on the following aspects: knowledge, citizenship, communication, teamwork, and life-long learning. For knowledge, about 70% of the respondents indicated that they strongly agreed or agreed that they had learnt the basic skills of sand-shoeing, and the regulations of sand-shoeing as a competitive sport in the Special Olympics.

Furthermore, most university students showed a positive response for learning the skills to communicate with people with ID, and 78.4% of them indicated that they strongly agreed or agreed with it. Majority of the university students strongly agreed or agreed that they had an interesting experience through participating in this inclusive sport (78.43%). From the data collected, 66.67% indicated that they would take the initiative to learn more about inclusive sports, while 56.86% responded the same in taking the initiative to share the knowledge with others. Fewer respondents (27.45%) agreed that they acquired the basic concepts and the spirit of Special Olympics through these classes, while 23.5% indicated that they quite disagreed with it (see Figure 4).

competition.

Discussion

Based on results from the three surveys, the unified sand-shoeing training program did provide a very positive inclusive learning opportunity for all participants. In particular, all students with ID indicated that they enjoyed playing with the university students, which showed that this program had been successful in achieving its objective of enhancing inclusion through sport. In addition, the special school teachers perceived the STP positively as all of them agreed that the activities succeed in delivery the intended outcomes. The teachers also expressed their wish to have an increase in the number of classes so that their students could have a greater in-depth knowledge about the sport

Moreover, all university students showed positive responses on the STP, and agreed that they had interesting experience in participating in this inclusive sport. About 1/3 of them continued to take part in this meaningful program by participating in the national sand-shoeing competition as unified partners.

On the other hand, some students indicated that they could not acquire the spirit and development of SO through this STP. The reason for such response was probably because the training provided in the STP focused mainly on the skills and techniques of the sport. An introductory session on the SO movement should be included to the program for students without ID in the future.

The program targeted to provide a sand-shoeing training program which could benefit more students with ID. Due to the limited resources of the program, it was impossible to deliver a full training program (at least 8 sessions) to 232 students with ID and 66 university students without ID. From that reason, participants joined the STP could only be introduced to this new sport. As observed from the results, there was an obvious interest and demand among all students to further participate in similar classes and to engage in the sport of sand-shoeing. The SOHK should consider providing systematic training program of sand-shoeing to individuals with ID, as well as implementing it in an inclusive setting.

Further follow-up work should be implemented to evaluate the "long term impact" of the project, such as tracking the development of the 89 students with ID who joined the national sand-shoeing competition, to understand whether they continue to join the sport training. Furthermore, qualitative data should be collected from the university students as to collect more in-depth opinions on the promotion and development of inclusive sports program in Hong Kong.

Lastly, the collaboration approach from the SOHK to the external partners, such as the special schools, the universities, would gain maximum benefits to further develop unified sport programs and to promote social inclusion through sports in Hong Kong. The Special Olympics' motto is "Changing Lives", and the results of the STP suggest that the Project, flagged under the Special Olympics Movement, would make favorable changes in many people's lives.

Conclusions

Feedback from the STP participants supports development of a successful inclusive sport program. Students with ID are able to

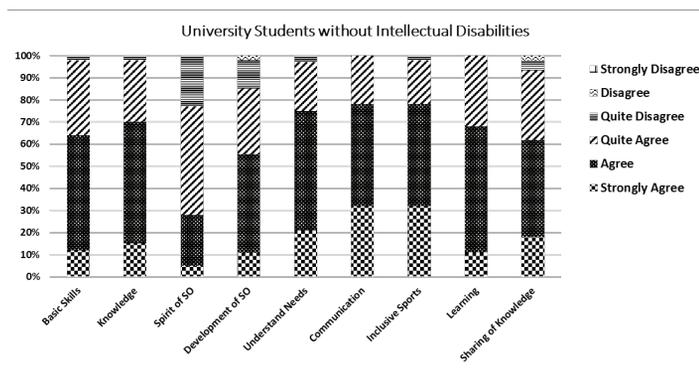


Figure 4 Feedback on the STP from university students without ID

There were some useful suggestions provided by the university students, such as increasing the number of sessions to enable the students with ID to better grasp the skill and the need to measure the shoe size of the students before the classes so that more fitting shoes could be provided.

Development of the STP Participants

Working within resource confines, 12 classes were organized, and 232 students with ID were attracted to join the classes and be introduced to the sport. As a debriefing message to student with ID at each class, participants were encouraged to join the National Sand-shoeing Competition organized by HKSO.

According to the participation data, 97 out of 232 students with ID of the STP joined the national sand-shoeing competition. From this group, 8 students were selected to receive further training as potential members of the Hong Kong Team. In addition, there were 16 university students (31.4%) also joined the competition as unified sand-shoeing partners in the national sand-shoeing

learn the basic skills of sand-shoeing effectively and they enjoy the program with the university students. In addition, teachers and university students regard the STP as an effective means in enhancing teamwork and communication skill. Moreover, all parties show a strong interest in the STP and more similar unified sport programs would be highly recommended. In essence, the success of this inclusive sport program would be utilized as a guide for the development of the HKSO and the community unified sports programs to promote inclusion and enhance mutual understanding in the society.

Acknowledgments

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References

- Anderson, L. L., Humphries, K., McDermott, S., Marks, B., Sisirak, J., & Larson, S. (2013). The state of the science of health and wellness for adults with intellectual developmental disabilities. *Intellectual and Development Disabilities, 51*(5), 385-389. doi:10.1352/1934-9556-51.5.385
- Chan, K., Evans, S., Ng, Y., Chiu, M. Y., & Huxley, P. J. (2014). A concept mapping study on social inclusion in Hong Kong. *Social Indicators Research, 119* (1): 121-137.
- Dattilo, J. (2002). *Inclusive leisure services: Responding to the rights of people with disabilities*. State College, PA: Venture Publishing.
- Dowling, S. D., McConkey, R., Hassan, D., & Menke, S. (2010). Unified gives us a chance: An evaluation of Special Olympics youth unified sports programme in Europe/Eurasia (U59 DD0003). Retrieved from <http://www.specialolympics.org/uploadedFiles/LandingPage/WhatWeDo/Final%20Report%20Unified%20Sports10%20Sept%202010.pdf>
- Eidelman, S. M. (2011). The times they are a changing: Special Olympics and the movement towards valued lives and inclusion. *Intellectual and Development Disabilities, 49*(5), 403-406. doi:10.1352/1934-9556-49.5.403
- Evangelina, K. (2006). Survey of teacher attitude regarding inclusive education within an urban school district (Unpublished doctoral thesis). Retrieved from PCOM Psychology Dissertations (Paper 70).
- Henderson, K. A., Bialeschiki, M. D., & Browne, L. P. (2017). *Evaluating recreation services: Making enlightened decisions* (4th ed). Urbana, IL: Sagamore Venture.
- Hong Kong Special Olympics Annual Report (2012.). Year round activities. Retrieved from <https://docs.google.com/file/d/0B8SGL9dAOiGWTjNUT2h6c0V6aE0/edit>
- Lieberman, L. J., James, A. R., & Ludwa, N. (2004). The impact of inclusion in general physical education for all students. *Journal of Physical Education, Recreation, and Dance, 75*, 37-55.
- Liu, Y. D. (2009). Sport and social inclusion: Evidence from the performance of public leisure facilities. *Social Indicators Research, 90* (2), 325-337. doi:10.1007/s11205-008-9261-4
- McConkey, R., Dowling, S., Hassan, D., & Menke, S. (2013). Promoting social inclusion through unified sports for youth with intellectual disabilities: a five-nation study. *Journal of Intellectual Disability Research, 57*(10), 923-935. doi:10.1111/j.1365-2788.2012.01587.x
- Sherill, C. (2004). *Adapted physical activity, recreation and sport: Cross disciplinary and lifespan* (6th ed). Boston, MA: McGraw-Hill.
- Smith, R. W., Austin, D. R., & Kennedy, D. W. (2001). *Inclusive and special recreation: Opportunities for persons with disabilities*. Boston, MA: McGraw Hill Publications.
- Special Olympics (2005). Changing attitudes changing the world: Changing lives through sport-A report card on the impact of Special Olympics. Retrieved from <https://dotorg.brightspotcdn.com/7e/a8/54aa163a4a62a14235047458e553/policy-paper-sports.pdf>
- Special Olympics (2007). *Special Olympics coaching guide: Snowshoeing*. Retrieved from http://digitalguides.specialolympics.org/snowshoeing/index.php?_ga=2.54948715.1336826789.1549257798-745961955.1538449223
- Special Olympics (2019). Sports and Games. Retrieved from: <https://www.specialolympics.org/our-work/sports-and-games>
- Special Olympics Hong Kong (2018). Winter sports. Retrieved from <http://www.hkso.org.hk/bilingual/specialOlympicWinter.php>
- W. K. Kellogg Foundation. (2004). *Logical model development guide*. Battle Creek, MI: Author. ■