A Project entitled

Badminton Teaching Kit for Mild Intellectual Disability

Submitted by

Mok Kwan Tung

submitted to The Education University of Hong Kong

for the degree of Bachelor of Education (Honours) (Physical Education)

in April 2024

Declaration

I, Mok Kwan Tung declare that this project report represents my own work under the supervision of Senior Lecturer II, Mr. Chan Ching Yat, Roy, and that it has not been submitted previously for examination to any tertiary institution.

Mok Kwan Tung 16th April, 2024

Table of Content

1.	Background
2.	Abstract
3.	Methodology
4.	Students' Performance in Teaching Try-out
5.	Review of the Teaching Try-out
6.	Results of the Questionnaire
7.	Feedback from Interviewees
8.	Ways to Improve
9.	Conclusion
10.	Reference
11.	Appendix

Table of Figure

Figure 1 [Line Graph of Skill Tests Performance]
Figure 2 [Pie Chart of Questionnaire]
Figure 3 [Pie Chart of Questionnaire]
Figure 4 [Pie Chart of Questionnaire]
Figure 5 [Pie Chart of Questionnaire]
Figure 6 [Pie Chart of Questionnaire]
Figure 7 [Pie Chart of Questionnaire]
Figure 8 [Pie Chart of Questionnaire]
Figure 9 [Pie Chart of Questionnaire]
Figure 10 [Pie Chart of Questionnaire]

Table of Appendices

Appendix 1 [Badminton Classification of Para-Olympic]
Appendix 2 [Badminton Events of Hong Kong Special Olympic]
Appendix 3 [Questionnaire of the Online Survey]
Appendix 4 [Marking Scheme of Skills Tests]
Appendix 5 [Consent Form of Ms

Background

With the remarkable achievements of the Hong Kong Para-Badminton team at the 2020 Paralympic Games, there has been spotted towards Para-Badminton. However, currently, the Paralympic Badminton events are only categorized into "Wheelchair" (physical disabilities) and "Short Stature" (dwarfism), excluding athletes with intellectual disabilities (ID) (appendix 1). Nevertheless, the Hong Kong Special Olympics includes badminton events in its schedule, comprising 1) Individual Skills Competition, 2) Singles, 3) Doubles, 4) Mixed Doubles, and 5) Unified Doubles (appendix 2), indicating the need for teaching and developing badminton in special schools.

Abstract

This teaching kit aims to provide adapted badminton teaching materials for students with mild intellectual disabilities (ID). In comparison to soccer and basketball, badminton requires higher levels of body coordination, fine motor skills, and equipment control. Students with intellectual disabilities may face difficulties in grasping the technical aspects of this sport. Therefore, teachers need a set of adapted teaching materials to effectively help students learn badminton skills.

Currently, there are badminton classes in the society specifically designed for individuals with special educational needs, such as the "Hong Kong, China Sports

Association for Person with Intellectual Disability," "Sports Association for the Physically Disabled of Hong Kong, China" and "Joy Motion Club." Their teaching methods and equipment can serve as references and are applicable in special schools as well.

Keywords: Badminton, Teaching Kit, Intellectual Disability, Adapted PE

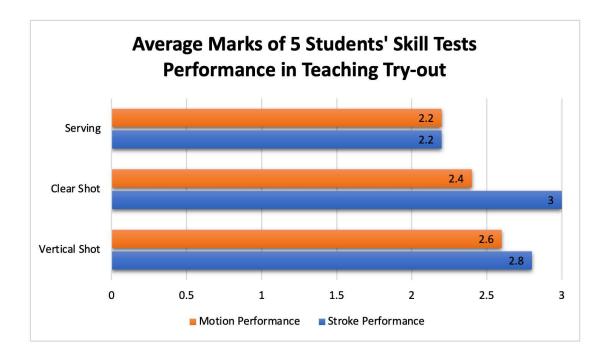
Methodology

Project Outcome (Click)

The teaching kit includes a range of adapted equipment (balls, rackets, demonstration videos, tools progression chart), teaching resources for 3 skills (6 demonstration videos and visual cue cards on ball sense, 4 demonstration videos and visual cue cards on serving, 5 demonstration videos and visual cue cards on forehand clears.) *Serving and forehand clear are the competition events in the Hong Kong Special Olympics* (appendix 2), safety guidelines and social learning tools. It also includes an interview with Coach Ching Kam Fung, the founder of "Joy Motion Club," a lesson rundown, and 5 lesson designs and assessment references.

To ensure the effectiveness of the teaching kit, 4-weeks badminton classes to mild ID students were held. Additionally, 30 badminton coaches and special school teachers were interviewed via <u>questionnaire</u> regarding their opinions on the teaching kit.

Students' Performance in Teaching Try-out



(Figure 1)

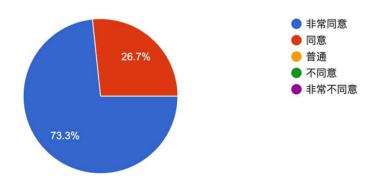
5 high school students with mild intellectual disabilities were invited to join the 4-weeks teaching try-out from February to March in 2024. With one student having previous experience in playing badminton while the others have no prior experience. In the last lesson of trial lesson, all students were invited to do three skills tests: serving, clear shot, vertical shot. All skills are accessed by "motion performance" and "stroke performance", and the full mark is 3, the marking scheme is shown in (appendix 4). Figure 1 illustrates that all students were able to achieve above-average scores in all three skills tests. These data reflect that the curriculum design of the teaching kit effectively enhances students' ball sense, serving, and clear shot abilities.

Review of the Teaching Try-out

According to the teaching tryout, sponge balls, flipball, and plastic racket play a significant role in helping students develop ball sense. Introducing concepts through games can also enhance students' understanding of the movements. To achieve proficiency in skills, it is important to incorporate multiple repetitions and practice in lesson designs. However, although students could provide correct answers to the teaching skills immediately, they tended to forget what they have learned in the next lesson. Therefore, extended learning tasks can be designed in online mode or with IT, e.g. students can drag the racket to the correct hitting position on the screen, let them reinforce the knowledge interactively. In addition, the extended learning tasks can incorporate with parent-child games. During trial lessons, it was observed that less than 50% of students had engaged in ball sense practice after class, indicating a lack of motivation to carry out the extended learning tasks. Through observation and Li et al. (2018), it was found that parental encouragement and involvement effectively enhance the learning motivation of students with autism. Therefore, the teaching kit can include cue cards for parents and parent-child games, promoting practice at home.

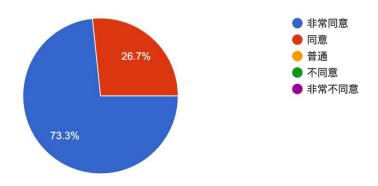
Results of the Questionnaire

你認為整個《羽毛球教材套(輕度智力障礙學童)》具參考價值嗎? 30 則回應



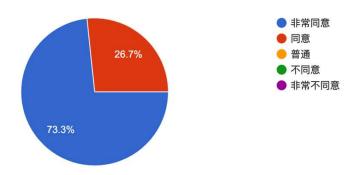
(Figure 2)

你認為整個《羽毛球教材套(輕度智力障礙學童)》能有效協助教師/教練設計羽毛球課嗎? 30 則回應



(Figure 3)

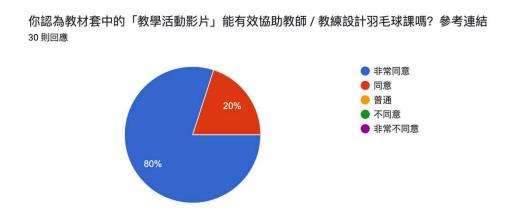
你認為整個《羽毛球教材套(輕度智力障礙學童)》能有效協助輕度智力障礙學生掌握羽毛球技術嗎? 30 則回應



(Figure 4)

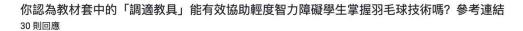
Figure 2 to 4 show that over 90% of the respondents agreed that the teaching kit effectively improves the learning of badminton skills for ID students, and it is highly informative as references.

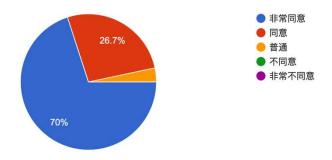
Feedback from Interviewees



(Figure 5)

Figure 5 shows that 100% of interviewees agreed that the demonstration videos and activities are deemed helpful in assisting teachers in designing their lessons.

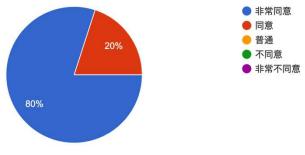




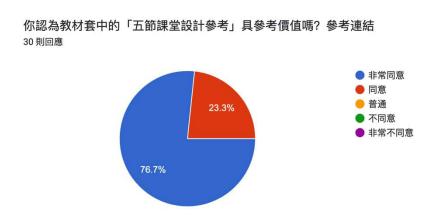
(Figure 6)

In figure 6, 96.7% of interviewees stated that it is good to list out the usage and combinations of various adapted tools specifically in the teaching kit, which is convenient to understand their features and performance, and being a well-assist to ID students in learning badminton skills.





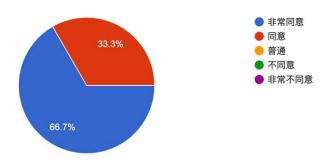
(Figure 7)



(Figure 8)

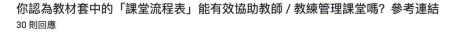
In figure 7 and 8, 100% of interviewees agreed that the teaching videos and lesson plans provide clear demonstrations of the activities and are highly informative as references.

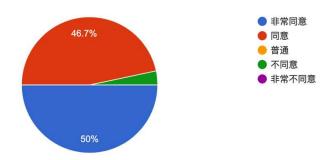
你認為教材套中的「視覺提示卡」能有效協助輕度智...握動作要點、安全守則、社交技巧嗎?參考連結 30 則回應



(Figure 9)

Figure 9 illustrates that 100% of respondents agree that the visual cue cards are effective in assisting students with intellectual disabilities in developing badminton skills and social skills, as well as in establishing safety guidelines.

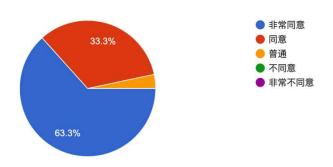




(Figure 10)

In figure 10, 96.7% of respondent agreed that the lesson rundown can help teacher developing lesson routine and establishing classroom management.

你認為教材套中的「學習範疇評估示例」能準確評核學生的學習成果嗎? 參考連結 30 則回應



(Figure 11)

In figure 11, 96.6% of respondents agreed that the marking scheme can assess students' learning outcomes accurately and fairly.

Based on all of the mentioned data, it can be concluded that over 90% of the respondents strongly agree that each component of the teaching kit is helpful for teachers in designing and teaching badminton lessons.

Ways to Improve

According to the feedback from interviewees, users, and reflection, additional elements can be incorporated into the teaching kit to achieve perfection. First, incorporating safety measurements in adapted tools can be considered. Through the feedback from interviewed special school teachers, they suggested integrating safety measures such as wristbands on rackets or sponge-covered racket frames. In order to prevent students from throwing equipment and reduce the aggressive nature of racket.

Second, incorporating competitive elements into the curriculum design can be beneficial. Although the teaching kit focuses on enhancing ball sense, serving, and clear shot skills, which are relevant to events in the Hong Kong Special Olympics, there is a lack of opportunities for potential students to experience actual badminton games. Therefore, integrating competitions into the curriculum design can provide students with an understanding of badminton tournaments and techniques, encouraging their participation in the Special Olympics.

Third, due to limited arena and resources, the teaching try-outs were only able to accommodate a small number of students, making it difficult to collect extensive data from performance tests. Although quantitative data were gathered from 30 coaches and special school PE teachers, and they were invited to try the teaching resources, actual teaching in special school PE lessons could provide a more comprehensive firsthand review of the adapted tools and activities. It would be better to conduct teaching try-outs in special school PE lessons, more accurate test results could be obtained, thereby assisting in the improvement of the teaching kit.

Conclusion

In conclusion, the teaching kit has a high value of reference and is applicable in special school settings. PE teachers from special schools and badminton coaches can be assisted in curriculum design, enhancing the quality and interesting of badminton lesson.

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NEWS ABOUT CLASSIFICATION ONES TO WAT

PARA BADMINTON

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CLASSES:

WH1 (Wheelchair/ severe impairment)

WH2 (Wheelchair/minor impairment)

SL3 (Standing/lower limb impairment/severe)

SL4 (Standing/ lower limb impairment/minor)

SU5 (Standing/upper limb impairment)

SH6 (Standing/short stature)

ELIGIBLE IMPAIRMENT TYPES

Impaired muscle power

Athetosis

Impaired passive range of movement

Hypertonia

Limb deficiency

Ataxia

Leg length difference

Short stature







1. 規則規範

特殊奧林匹克規則規範所有的特奧羽毛球賽事。作為一項國際性的運動項目·本章所列之規則是以世界羽毛球聯會 (Badminton World Federation · 簡稱 BWF - 網頁:www.bwfbadminton.org) 的規則為依據。若BWF規則與特奧通則及羽毛球規則發生衝突時,應以特奧運動規則作依據。

請參閱特殊奧林匹克Article 1.以瞭解更多有關行為守則、培訓標準、醫護和安全要求、分組測試、獎勵、提高到更高競爭水平的條件,以及融合運動。

2. 比賽項目

有關項目為不同能力的運動員提供比賽機會。成員組織可自行訂定賽事規章及所提供的比賽項目。教練可因應運動員的能力及興趣,選擇合適的項目加以培訓。 下列項目為特殊奧林匹克的正式項目:

- 2.1 個人技術賽
- 2.2 單打
- 2.3 雙打
- 2.4 融合雙打
- 2.5 混合雙打
- 2.6 融合混合雙打

3. 比賽規則

- 3.1 賽例調適
 - 3.1.1 使用輪椅的運動員可以選擇於左邊或右邊發球區以上手發球。
 - 3.1.2 使用輪椅的運動員,發球區的長度將縮短一半。
- 3.2 融合雙打
 - 3.2.1 每隊融合雙打隊伍必須由一名運動員和一名融合伙伴組成。
 - 3.2.2 每隊融合雙打隊伍應自行決定發球次序和選擇場區。
- 3.3 個人技術賽
 - 3.3.1 下手擊球-以手餵球 (Hand Feeding)
 - 3.3.1.1 測試員手持五個羽毛球・以擲飛標形式逐一將羽毛球送向運動員;
 - 3.3.1.2 運動員手持球拍,並嘗試擊打羽毛球,每擊中一球可得1分。
 - 3.3.2 上手擊球-以球拍餵球 (Racket Feeding Overhead Stroke)
 - 3.2.2.1 測試員手持五個羽毛球·並逐一以下手發高球至運動員的上方;
 - 3.2.2.2 運動員以球拍撃球、每擊中一球、可得1分;

Dec 2023





- 3.2.2.3 每當運動員嘗試擊球後,無論擊中與否,測試員應隨即發出下一球。
- 3.3.3 連續向上擊球 (The "Ups" Contest)
 - 3.3.3.1 運動員手持羽毛球,當測試員示意後,運動員即以球拍連續向上彈擊羽 毛球;
 - 3.3.3.2 每擊中一球可得1分,限時30秒,並計算總分;
 - 3.3.3.3 如球落地,測試員應立即把另一個羽毛球給予運動員繼續進行彈擊,直至限時完結為止。
- 3.3.4 正手擊球 (Forehand Stroke)
 - 3.3.4.1 運動員站於場區中央的位置·而測試員則於球網的另一邊場區;
 - 3.3.4.2 測試員以下手發球至運動員之正手位置;
 - 3.3.4.3 運動員有五次機會嘗試以正手擊球·每次成功擊球過網而球落在場區內 (以單打場區計算)·可得1分。
- 3.3.5 反手擊球 (Backhand Stroke)
 - 3.3.5.1 形式和計分方法與「正手擊球」相同·但測試員會將球發送至運動員反 手位置。
- 3.3.6 發球 (Serve)
 - 3.3.6.1 運動員可選擇在場區的其中一邊發球·共有五次發球機會;
 - 3.3.6.2 若運動員未能以下手發球,可以上手擊球方式發球;
 - 3.3.6.3 每次成功把球發送到對面場區的有效發球區內(以單打場區計算),每球可得1分;
 - 3.3.6.4 發球失敗得 0 分。
- 3.3.7 最終得分
 - 3.3.7.1 以上述六項個人技術賽測試項目的總分計算。

2

Dec 2023

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《羽毛球教材套(輕度智力障礙學童)》 成效調査

《羽毛球教材套(輕度智力障礙學童)》 成效調查

誠邀 閣下參與由香港教育大學健康與體育學系學生 莫鈞棟同學負責的畢業研究項目。

本研究旨在為輕度智力障礙學童提供一系列調適羽毛球教具、教學資源、課堂及評估範例 的教材套,以協助特殊學校教師能根據學生的能力差異而作出調適。

*詳情可參考以下連結:《羽毛球教材套(輕度智力障礙學童)》

閣下將會被邀請花大約15分鐘時間完成問卷。問卷以不記名形式進行,閣下不會面對任何 潛在風險,您的參與純屬自願性質,所收集的數據會於畢業匯報展示。

如有任何疑問,歡迎聯絡香港教育大學健康與體育學系體育系 莫鈞棟同學 或香港教育大學健康與體育學系高級講師 陳靖逸先生 的。

* 表示<u>必填問題</u>
1。 閣下的職業為? *

特殊學校體育老師 羽毛球教練

您只能標示一個橢圓形。

2。 你認為教材套中的「調適教具」能有效協助輕度智力障礙學生掌握羽毛球技術 * 嗎?<u>參考連結</u>

您只能標示一個橢圓形。

非常同意

普通不同意

非常不同意

 $https://docs.google.com/forms/d/1mBJzaQPBSRBmdHVbEu-j-kvsoBTfSTL1-H1r5xb2O_I/edit$

1/4

2024/4/25 下午3:58	《羽毛球教材套(輕度智力障礙學童)》 成效調查	
3 •	你認為教材套中的「教學活動影片」能有效協助教師/教練設計羽毛球課嗎?參 * 考連結	
	您只能標示一個橢圓形。	
	非常同意	
	同意	
	普通	
	不同意	
	非常不同意	
4 •	你認為教材套中的「視覺提示卡」能有效協助輕度智力障礙學生掌握動作要 *點、安全守則、社交技巧嗎? <u>參考連結</u>	
	您只能標示一個橢圓形。	
	非常同意	
	同意	
	普通	
	○ 不同意 ○ 非常不同意	
	7F (B) 1 1-1/16	
5。	你認為教材套中的「課堂流程表」能有效協助教師 / 教練管理課堂嗎?參考連結 *	
	您只能標示一個橢圓形。	
	非常同意	
	同意	
	一 普通 一 不同意	
	非常不同意	
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2024/4/25 下午3:58	《羽毛球教材套(輕度智力障礙學童)》 成效調查	
6 °	你認為教材套中的「五節課堂設計參考」具參考價值嗎? <u>參考連結</u> *	
	您只能標示一個橢圓形。	
	非常同意	
	同意	
	普通	
	不同意	
	非常不同意	
_		
7 °	你認為教材套中的「學習範疇評估示例」能準確評核學生的學習成果嗎? <u>參考</u> * 連結	
	您只能標示一個橢圓形。	
	_	
	非常同意	
	一 同意	
	不同意	
	非常不同意	
8 °	你認為整個《羽毛球教材套(輕度智力障礙學童)》能有效協助教師/教練設計 * 羽毛球課嗎?	
	您只能標示一個橢圓形。	
	非常同意	
	同意	
	普通	
	不同意	
	非常不同意	
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2024/4/25 下午3:58	《将毛球教材套(軽度智力障礙學童)》 成效調查	
9 °	你認為整個《羽毛球教材套(輕度智力障礙學童)》能有效協助輕度智力障礙學 * 生掌握羽毛球技術嗎?	
	您只能標示一個橢圓形。	
	非常同意	
	同意	
	○ 普通	
	不同意	
	非常不同意	
10 °	你認為整個《羽毛球教材套(輕度智力障礙學童)》具參考價值嗎?*	
	您只能標示一個橢圓形。	
	○ 非常同意	
	○ 同意	
	普通	
	○ 不同意	
	○ 非常不同意	
	Google 並未認可或建立通項內容。	
	Google 表格	
https://docs.google.co	m/forms/d/lmBJzaOPBSRBmtHVbEu-+kvsoBT/STL1-H1r5xb2O Pedit	4/4

	正手控球:				
技 能 / 知 識 / 態 度 1. 技能(以右手使用者例) 1.1 擊球動作	能自行完成	需要口頭提示	需要執手協作	未能做到	備註_
a) 能作出正確的正手握拍。 b) 擊球時,能作出正確的手臂擺動姿勢(即 望向球、身體向前、球拍水平放在腰間) c) 能作出正確的擊球動作(即將球垂直打向 將球打得高過頭)。	*	2	1	0	
1.2 擊球表現 a) 能在五次機會中·成功地把球連續擊中「次」。(能力稍遜學生 — 連續擊中2次) b) 能在五次機會中·有3次成功以「甜區」球。(能力稍遜學生 — 以「甜區」擊球1号	撃 3	2	1	0	

技能/知識/態度	能自行完成	需要口頭提示	需要執手協作	未能做到	備註
2. 知識 a) 能指出正確的擊球位置。 b) 能説出「擊球」的動作要點。	3	2	1	0	

正手高遠球:

技 能 / 知 識 / 態 度	能自行完成	需要口頭提示	需要執手協作	未能做到	備註
技能/知識/態度 1. 技能(以右手使用者例) 1.1 擊球動作 a) 能作出正確的正手握拍。 b) 預備接球時,能作出正確的舉拍姿勢(即側身站立、L腳、球拍舉起、左手向前舉起)。 c) 引拍時,能作出正確的手臂擺動姿勢(即身體轉前、後腳尖轉前、手肘抬起)。	能自行完成	需要口頭提示	需要執手協作	未能做到	備註
d) 能眼睛望向球·伸臂揮拍擊球。 e) 擊球後·能作出正確的跟進動作(即後腳踏 前、球拍揮向左邊)。					

- 3 -



1.2 擊球表現					
a) 能在五次機會中·成功地把球擊出「6米」或					
以外。(能力稍遜學生 — 擊出「4米」或以外)	3	2	1	0	
b) 能在五次機會中,有 3 次成功地完成擊球動	_	_	_		
作。(能力稍遜學生 — 有1次成功)					
				[

技 能 / 知 識 / 態 度	能自行完成	需要口頭提示	需要執手協作	未能做到	備註
2. 知識 a) 能按指示指出「羽毛球」場的邊界。 b) 能說出 / 指出「舉拍」的動作要點。 c) 能說出 / 指出「引拍」的動作要點。 d) 能說出 / 指出「擊球」的動作要點。 e) 能説出 / 指出「跟進動作」的動作要點。 f) 能說出 / 遊戲的規則一旦被破壞時會帶來 後果(例如:被勒令離場…等)。 g) 能指出如何判斷「界內」和「界外」球。 h) 能按指示解釋該遊戲的計分法。	3	2	1	0	

學生姓名: 止,接受訓練後,可以	A-1
	、達致以下技能。
	7 + +X

- 4 -

正手發球:

技能/知識/態度	能自行完成	需要口頭提示	需要執手協作	未能做到	備註
1. 技能(以右手使用者例) 1.1 擊球動作 a) 能作出正確的正手握拍。 b) 持球預備時,能作出正確的舉拍姿勢(即側身站立、L 腳、球拍舉起、持球手向前舉起)。 c) 擊球時,能作出正確的手臂擺動姿勢(即眼睛望向球、身體轉前、後腳尖轉前、揮拍擊球)。 d) 擊球後,能作出正確的跟進動作(即後眼睛望向球、球拍收向左肩)。	3	2	1	0	
1.2 擊球表現 a) 能在五次機會中·成功地把球擊出「4米」以 外。(能力稍遜學生 — 成功把球擊過網) b) 能在五次機會中·有3次成功地完成擊球動 作。(能力稍遜學生 — 有1次成功)	3	2	1	0	

技 能 / 知 識 / 態 度	能自行完成	需要口頭提示	需要執手協作	未能做到	備註
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- 5 -

2. 知識 a) 能正確指出「羽毛球」場的單打發球線。 b) 能説出「舉拍」的動作要點。					
c) 能說出「擊球」的動作要點。 d) 能說出「跟進動作」的動作要點。 e) 能指出如何判斷「界內」和「界外」球。 f) 能按指示解釋轉換發球權。 q) 能按指示解釋該遊戲的計分法。	3	2	1	0	

THE EDUCATION UNIVERSITY OF HONG KONG Department of Health and Physical Education CONSENT TO PARTICIPATE IN RESEARCH Badminton Teaching Kits for Students with Intellectual Disabilities (ID) Mereby consent to participate in the captioned research conducted by students of the Department of Health and Physical Education in The Education University of Hong Kong. I understand that information obtained from this research may be used in future research and may be published. However, my right to privacy will be retained, i.e., my personal details will not be revealed. The procedure as set out in the <u>attached</u> information sheet has been fully explained. I understand the benefits and risks involved. My participation in the project is voluntary. I acknowledge that I have the right to question any part of the procedure and can withdraw at any time without negative consequences. Name of participant Signature of participant Date