

# 照顧學生在體育學習多樣性系列: 融合體育之教學策略初探

Catering for Learner Diversity in Physical Education Services: An Exploration of Teaching Strategies for Inclusive Physical Education I (Refreshed)

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- 壹、課程規劃:照顧有特殊教育需要的學生Curriculum
   Planning: Catering for Students with Special Educational Needs (SEN)
- 貮、特殊教育需要學生之運動/體能表現Motor development and performance of SEN
- 叁、個案分享: 照顧有特殊教育需要學生的教學和評估策略(以自閉症為主) Case sharing: Teaching and assessment strategies for catering students with SEN (focusing on autism spectrum disorders)



## 貮、特殊教育需要學生之運動/體能表現 Motor development and performance of SEN



### Disability Categories殘障分類

- Physical肢體 (e.g., Cerebral Palsy腦痙攣, Spinal Cord Injury 脊髓損傷, Parkinson's Diseases, Arthritis關節炎)
- Cognitive/Behavior認知/行為 (e.g., Intellectual Disability, Autism, Learning Disability)
- Mental精神 (e.g., Anxiety, Attention Deficit/Hyperactivity Disorder, Depression)
- Sensory感官 (e.g., Visual Impairments, Deafness/Hearing Loss)
- Health Impairments病痛 (e.g., Asthma哮喘, Diabetes糖尿病, Cardiovascular Disorders)



#### Prevalence of Disability殘障患病率

Hong Kong

圖1 有選定殘疾類別的人士<sup>(1)</sup>數目

Chart 1 Persons with selected types of disability<sup>(1)</sup>



選定殘疾類別 Selected types of disability

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	Not for pu <b>B023</b> tion or fu	rther rep <mark>red</mark> i	uction <b>2.44</b>	2.16	0.69	2.05	0.14	0.25	0.18

(HKSAR, 2015)

*Note: People with ID are not included.* 

#### Prevalence of Disability殘障患病率

• 在2013-2014學年就讀於公營主流中小學的特殊教育需要 學生,約有33,830人,並且有持續上升的趨勢。

SEN類型	小學	中學
聽障	260人	400人
視障	30人	100人
肢體殘障	120人	240人
智力障礙	750人	930人
專注力不足/過度活躍	2,850人	3,010人
自閉症	3,310人	1,660人
言語障礙	1,880人	210人
特殊學習困難	8,190人	9,890人
總數	17,390人	16,440人



(立法會融合教育小組委員會, 2014)

- Psychosocial aspects社會心理層面
- Information processing & perceptual development信息處理 及知覺發展
- Motor development & control 動作發展與控制
- Physical fitness





#### Information Process



Windows of achievement for six gross motor milestones

World Health Organization









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#### Embracing Differences/Diversity擁抱個別差異

SEN學生在PE課堂被欺凌和排斥怎麼辦?

• Find out three similar/different things among your groups?



# Attention Deficit and Hyperactivity Disorders (ADHD)專注力不足/過度活躍





#### Sharing us your experience!!

# Attention Deficit and Hyperactivity Disorders (ADHD)專注力不足/過度活躍

- ADHD類型
- Inattention專注力不足
- Hyperactivity過度活躍/Impulsivity衝動
- Combined (Denny, 1995)



• Symptoms症狀

專注力不足	過度活躍	衝動			
<ul> <li>Can't pay attention</li> <li>Don't care about details</li> <li>Easy to be distracted</li> <li>Forget things</li> </ul>	<ul> <li>Can't stay seated</li> <li>Can't play quietly</li> <li>Talk too much</li> <li>Run, jump and even climb</li> </ul>	<ul> <li>Can't wait for things</li> <li>Interrupts others</li> <li>Act and speak without thinking</li> </ul>			

# Attention Deficit and Hyperactivity Disorders (ADHD)專注力不足/過度活躍

- Treatment治療
- 1. Behavior modifications行為矯正
- 2. Medication treatments (e.g., ritalin利他林)
- 3. Educational interventions (e.g., IEP; Pelham et al., 1997)









#### Sharing us your experience!!

- ASD類型
- Autistic disorder自閉症
- High-functioning autism高功能自閉症
- Asperger's disorder 亞斯保加



- Pervasive developmental disorder not otherwise specified廣 泛型發育障礙(非典型自閉症)(DSM-5, 2013)
- Diagnosis診斷
- No medical test available



- Diagnosis (cont')
- Comorbidity共病
- ① Sensory problems<u>感知問題</u>
- ② Intellectual disabilities
- ③ Seizures癲癇
- ④ Anxiety焦慮
- 5 ADHD
- 6 Etc.



com/HeartsAndMindsUK



#### Sensory Overload Experiment

- Symptoms症狀
- 1. Social and communications



- ① Avoid eye-contact and/or physical contact
- ② Prefer to play alone and do not share interests with others
- ③ Do not understand personal space boundaries
- ④ Have trouble understanding other people's feelings or talking about own feelings
- ⑤ Delayed speech and language skills (echolalia模仿言語)
- **©** Give unrelated answers to questions
- ⑦ Do not understand jokes, sarcasm, or teasing



- Symptoms (cont')
- 2. Interests and behaviors刻板行為
- ① Likes parts of objects (e.g., wheels)
- ② Have obsessive 強迫性的 interests (e.g., lines up toys or other objects, plays with toys the same way every time)
- ③ Has to follow certain routines → Gets upset by minor changes
- ④ Flaps hands, rocks body, or spins self in circles
- ⑤ Etc.





- Symptoms (cont')
- 以下個案是否屬於ASD?
- Dylan is an 11-year-old boy. He enjoys hiking. His verbal outbursts are mild講話小聲, and he usually complies with structured tasks遵守結構化任務. Dylan does not use language in the conventional manner. He can utter sounds that reflect his feelings but mostly uses pictures to communicate his wants and needs. He likes things to stay the same and only eats certain foods. His room and his toys are ordered in a certain manner and after he plays with them, they are placed back in the same order as before.



- Symptoms (cont')
- 以下個案是否屬於ASD?
- Marcia is talkative健談. Although she is only 12, her vocabulary resembles that of a sophisticated adult詞彙量豐富. She began talking at an early age, and by age 3 she had taught herself to read. Instead of playing with typical childhood toys, Marcia was more interested in artists. She can look at any art history book and tell you the artist of any picture and the history of the artist. Although she is an attractive girl, she has no real friends, but she does not seem to be bothered by that.



- Treatment治療
- Medical treatment: No medications藥物that can cure ASD
- Other treatments:
- ① Behavior and communication approaches (e.g., applied behavior analysis應用行為分析, sensory integration therapy 感統訓練)
- ② Dietary approaches 膳食療法MAY help
- ③ Medication藥物: to treat related conditions, e.g., depression, anxiety
- ④ Education (e.g., social story社交故事)







# 叁、個案分享: 照顧有特殊教育需要學 生的教學和評估策略(以自閉症為主)

# Case sharing: Teaching and assessment strategies for catering students with SEN (focusing on ASD)



• What to be assessed?



- Depending on needs/objectives



• How?

Be confident that the assessment is valid 效度 & reliable 信度



### Garbage in, garbage out!





- Constructing tools設計評估工具
- Rubric
- Checklist
- Rating scale





Level of performance	Characteristic behaviors			
Mastery	Can perform the isometric push-up with proper mechanics and is able to hold without assistance for 25 seconds Can perform the isometric push-up without physical assistance for 15 seconds			
Intermediate				
Intermediate/beginner	Can perform the isometric push-up with some physical assistance for 5 seconds			
Beginner	Can perform the correct position with physical assistance for 3 seconds			

#### Sample Rubric (push up)



Goal: Nick (in manual wheelchair) will demonstrate functional competence in one or more bowling games in a community facility with family.

Assessments: Observe the student and determine if he is able to:

- (a) travel to bowling facility
- (b) locate retractable bowling ball, lanes, and scoring system
- (c) bowl independently

	 Yes	No
1. Selects correct retractable ball size		
2. Selects a bowling lane		
3. Aligns wheelchair up in lanes		
4. Rolls retractable ball safely		
5. Scores the number of pins knocked down		
6. Takes turn in correct order	2 20 - E BOO	
7. Completes a 10-frame game independently		

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Sample Checklist (wheelchair bowling)

Carefully observe your assigned player and assess the listed components of game play. The purpose of this assessment is to provide honest feedback about the player's strengths and weaknesses. This is not for a grade. Use the 1–3 scale for your assessment:

- 1 = weakness
- 2 = neither weakness nor strength

3 = strength



Circle your rating for each question. Does the player do the following?

Hit to the open space (where there is no opponent)	1	2	3
Vary strokes by hitting long and short to move the opponent	1	2	3
Hit left and right to move the opponent	1	2	3
Move back to home position after each stroke	1	2	3
Vary serves so that the opponent does not know what to expect	1	2	3
Keep short serves very low	1	2	3

#### Sample rating scales (badminton)



- Selecting existing tools選取現成的工具
- Test of Gross Motor Development-2 (TGMD-2)
- Brockport Physical Fitness Test (BPFT)



- Procedures
- Determining objectives評估目標
- Planning計劃 (e.g., tool selection, equipment, manpower, administration, interpretation)
- Administration 實施 (e.g., timing, instruction)
- Interpretation 解釋
- Report評估報告





• Special considerations針對SEN學生的特別考慮



Standard tests administered to all other students;
 Through the use of approved accommodations; or
 Through an alternative assessment (for whom can't participate)

- Special considerations針對SEN學生的特別考慮(cont')
- ① Provide a positive testing atmosphere 積極的測試氣氛
- ② Avoid fatigue 避免疲勞
- ③ Avoid comparisons 避免互相比較
- ④ Aerobic tests come last
- ⑤ Visual impairment視障/ hearing impairment聽障 / physical disability肢殘 / limited cognitive abilities 有限智力?



### Planning Lessons & Instructions準備教案及教學

- Considerations考慮
- Objectives
- Class format
- Types of lesson delivery
- Level of assistant
- Other issues





#### Planning Lessons & Instructions準備教案及教學

- Considerations (cont')
- Class formats (student-teacher ratio)
- ① One on one
- ② Small group (3-8)
- ③ Large group (entire class)
- ④ Mixed group (combination)





Planning Lessons & Instructions準備教案及教學

- Considerations (cont')
- Types of lesson delivery
- ① Same (same activity)
- ② Multilevel多層 (same activity with activity accommodations)
- ③ Different (different activity)




### Planning Lessons & Instructions準備教案及教學

- Considerations (cont')
- Level of assistant支援或輔助水平
- ① Physical
- ② Visual
- ③ Verbal
- ④ <u>A combination</u>





### Planning Lessons & Instructions準備教案及教學

- Considerations (cont')
- Other issues
- ① Facilities
- ② Equipment
- ③ Class size
- ④ Barriers (e.g., attitude)
- 5 Etc.



- There are barriers affecting inclusive PE instructions. For example,
- What if no special equipment for SEN students to use ?
- What if no specific activities for them to play ?
- What if...

MODIF







Things can be modified in PE?



- Equipment
- ① Size
- ② Weight
- ③ Length
- ④ Grip strength needed
- ⑤ Mobility needed
- <sup>©</sup> Vision/hearing



- Activities
- ① Purpose/goal
- ② Number of players
- ③ Movement requirements
- ④ Field of play
- ⑤ Rules/Limits
- 6 Objects used





Including Sue's goals within a regular lesson plan	
Including Sues goals within a logarat locout practice of the	

#### KICKING LESSON PLAN

Objective: Students will have an opportunity to practice and receive feedback on the essential components of the kicking pattern.

- Introduction I.
  - A. Students come in and sit in assigned squads.
  - B. Tell class we are working on the skill of kicking.
  - C. Review plan for day (warm-up, skill focus in stations, and reinforcing game).
- Warm-up 11.
  - A. Stand in personal space and move various body parts to music (interject levels [high/low], time [fast/ slow], and force [hard/soft]).

head shoulders	legs	hips
	feet	whole body
back	hands	
		and the second sec

- B. Find a partner and perform 10 sit-ups each.
- C. Perform various locomotor patterns to music around the gym in a scattered pattern (interject directions (for ward/backward/sideways] and levels (high/lowi),
- Substitute moving arms or twisting wheelchair when action calls for legs.
- Sue-Have Sue's partner hold her hands to help pull her up for the last few sit-ups.
  - Sue can push her wheelchair for locomotor patterns. Encourage her to maneuver her wheelchair in different directions and with increasing speed.
- III. Skill focus
  - A. Have students sit facing you, then review the components of a skillful kick: components of kicking (show picture and demonstrate, highlighting key points):
    - 1. Look at ball while walking forward toward ball.
    - 2. As you get closer to ball, bring arms out to side for balance.
    - 3. Last step should be a little leap in which you simultaneously plant nonkicking foot next to ball while
    - swinging lower part of kicking leg backward.
    - 4. Forcefully bring kicking leg forward and kick ball with toe or instep.
    - 5. Allow kicking leg to follow through up into the air.
  - B. Break into five kicking stations (five students per station) to work on kicking skills. Have a picture of the
  - correct kicking pattern at each station, and emphasize correct pattern to students. Once stations have been set up and students are practicing appropriately, teacher will monitor station #2 below (stations are listed below). Students should stay at each station for 3-5 minutes and move on teacher's command.
    - 1. Kicking beach bails as far as possible
    - 2. Kicking Nerf balls as hard as possible against a wall (vary distance from wall for each student)
    - 3. Kicking and knocking down plastic bowling pins or bottles
    - 4. Kicking Nerf balks over small target volleyball net hung low to ground)
  - 5. Kicking balloons as far as possible

Substitute throwing for kicking at all stations (have a picture of throwing from a wheelchair and make Suesure she is working on components from her short-term objective).

#### IV. Reinforcing game

- "Kicking-Clean Up Your Backyard." Class is divided into two teams with each team standing on either side of a volleyball net hung down to the ground. Each team is given several balloons, beach balls, and A. Nerf balls. Teacher explains that the purpose of the game is to kick the ball over the net to the other team. At the end of the game, the team that has the least number of balls on its side is the winner. Emphasize using proper kicking pattern when kicking the balls and balloons. Begin kicking on teacher's command and play for approximately 2 minutes. Rest, reinforce, and repeat if time permits.
- Sue is allowed to throw rather than kick. Sue-

If she cannot reach balls, make sure her team members continue to give her balls during the game.

The Education University Students sit in squads.

Review components of kicking and reinforce specific students for doing certain components excepof Hong Kong Library tionally well.

- Not for publication or further reproduction courage students to practice kicking during recess and at home.
  - D. Have students close eyes and take three deep breaths.
  - Call squads to line up at door and leave with classroom teacher.



To what extent you can modify a soccer game to cater students' individual needs (e.g., 肢殘/過度活躍/智障)?





How can wheelchair users or students with visual impairments視 The Education University 障participate in a volleyball game ?

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- Modify activities for promoting inclusion
- Modify or avoid elimination-type 淘汰類 games/activities
- Modify activities to use abilities rather than disabilities
- Modify activities in a way that allows students without disabilities to assume disability
- Select activity in which contact is made and maintained with an opponent, partner, or small group (cooperative learning & peer assessment)

Example





- 你所進行的調適合理麽?
- Will it take less time to teach the student減 少教學時間?
- Will use of the adaptation maintain or enhance related motor/communication skills利於技能和溝通能力發展?
- Will the adaptation increase active participation提升参與度?





- Assessment
- To determine the status and needs of students with ASD
- Recommended tools:
- ① Test of Gross Motor Development II (TGMD-2)
- ② Brockport Physical Fitness Test (BPFT)
- ③ I CAN
- ④ FITNESSGRAM
- Considerations?





- Suggested physical activities
- Walking or hiking
- Bike riding
- Swimming
- Weighted backpack/vest 負重背包或背心







- General teaching strategies
- Create a highly structured environment (boundaries) and instructions結構化環境(e.g., <u>TEACCHing</u>)
  - ① Physical structure物理結構: actual layout or surroundings
  - ② Scheduling時間表: a planner indicating what/when to do
  - ③ Work system工作系統: what is expected during/after an activity
  - ④ Routine常規: a routine involves checking one's schedule
  - ⑤ Visual structure視覺結構: visually-based cues視覺提示



- General teaching strategies (cont')
- Offer a "preview" 視覺時間表 of the PE lesson before the class



(Houston-Wilson, 2014, p. 207)

- General teaching strategies (cont')
- Use selected sensory stimulation感官刺激to increase attention span
- Instruct in an environment where noise, smells, lights will not interfere with learning 避免環境過度刺激學生感官
- Use the Picture Exchange Communication System圖像交換通

Software/Apps:

**First Then** 

Boardmaker

Proloquo2Go



- General teaching strategies (cont')
- Use teaching stations分站during activities
- Use task cards 任務卡片
- Keep directions short 講解精簡
- Provide ample practice time with a high success rate





- General teaching strategies (cont')
- Use peer tutors小老師

Job description: peer buddy Peer buddy: Molly Pyfer Student: Cole Huettig Physical education teacher: Dave Auxter

Physical education: Monday, Wednesday, and Friday, 8:00 to 8:45

Every time your class goes to PE,

- 1. Walk behind Cole in line. Take his hand if he starts to get out of line. Tell him, "Cole, walk with me, please." If he says, "No," drop his hand.
- 2. Sit next to Cole in the gymnasium.
- 3. Follow Mr. Auxter's direction so that Cole can watch you and learn from you.
- 4. If Cole is not doing what the class is doing, tell Cole, "Watch me."
- 5. During free play, ask Cole, "Will you play with me?" If he says, "No," leave and go play with other friends.

6. If Cole does play with you, tell him, "I like of Hong Koplaying, with you, For private study or 72 str Cole/hits, spits, Not for publication or further of fifth and tell Mr. Auxter. Training peer tutors in advance is necessary!

Sample peer tutor instruction (Auxter et al., 2010, p.194)

- General teaching strategies (cont')
- Use peer tutors小老師

#### Sample:

- 1. Locker room更衣室: Help student change clothes. Accompany student to gymnasium
- 2. Beginning of class: Help student find floor spot. Retrieve回收 task card.
- 3. Warm up: Encourage student to jog with the class.
- 4. Learning task: Provide word cues/directions as needed. Cue for start and stop of activity.
- 5. Game play: Reminder student of rules. Redirect social interaction if needed.
- 6. Closure: Remind student to stay with the class. Reword重述 questions if necessary.
- 7. End of class: Assist student in changing clothes and leave locker room in a timely manner.

- General teaching strategies (cont')
- Use a consistent behavior management行為管理 system
- a. Set realistic goals and expectations
- b. Make sure students know expectations
- c. Use proximity control距離控制 if a problem is arising
- d. Provide a reward system for good attitudes/behaviors
- e. Be consistent and fair with your rules and consequences
- f. Get to know the students and show interest toward them outside of the PE classes



- 自閉症學生出現以下問題,如何處理或解決問題?
  - 1.體育課前下大雨,必須取消,他/她堅持要去球場。
    2.上課鈴聲響起后,會不停地在課室門口來回走動。
    3.進入更衣室之後不想離開,或離開時表現得很焦慮。
    4.熱身活動開始之後,除了他/她之外都在跑圈。
    5.上課過程中經常捂住耳朵或咬自己的手。
    6.突然間地大叫,扔東西,或破壞東西。
    7.進行接力活動(A→B→A),從A跑到B后停住,不跑回 A處。
  - 8. 分組時候, 沒人願意跟他/她一組。
  - 9. 分組活動進行時,跑到其他組的活動區域。

10. 下課前集合哨響,不懂得要站哪裡。

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Putting all together!



#### **Final Remarks**

- The abilities of students with and without SEN can range from gifted to severely challenged in PE
- Some need a lot of help while others need less
- Students' needs is likely to be met through small changes/modifications
- Good teaching is adapted 良好的教學是能適應學生不同學習需要的
- Let's be brave in taking one more step further!



# 肆、公開論壇

## **Open Forum**

