

The Education University of Hong Kong PES4902 Honours Project (PE)

**Capstone Report** 

**Adapted Physical Education Online Learning Package** 

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## **Capstone Product**

**Google Site - The Adapted Physical Education Online Learning Package** Link: <u>https://sites.google.com/s.eduhk.hk/ape-resources/%E7%B0%A1%E4%BB%8B</u>

### **Statement of the topic**

The Adapted Physical Education Online Learning Package is designed to cater to the adapted physical education activities, especially for students with mild to moderate intellectual disability (ID) or Autism Spectrum Disorder (ASD). Through the application of supportive strategies, help students with ID to have an active and healthy lifestyle and raise their involvement in Physical education.

## A literature review or an investigation into the topic

Nowadays, online education provides flexibility and is more accessible for both students and teachers. The unique concerns of adapted physical education teachers consisted of a lack of teaching resources. A series of teaching resources had been designed for APE teachers and parents to teach students with intellectual disabilities (ID) or Autism spectrum disorder (ASD).

A total of 15 APE teachers filled up the questionnaire, there are 50% of teachers are having 5-10 years teaching experience; 33% of teachers are having 3-5 years of teacher experience. Over 50% of teachers responded that APE teaching videos are not enough. All of the APE teachers agreed to increase online teaching resources. Teaching videos and game resources are most expected to create. There are 3 types of teaching resources that are the most popular, which include (1)Fundamental movement, (2)Rhythmic activity, and (3)Fitness related activity.





In deed, research has found that not only do visual aids improve participants' ability to justify the decisions made but also substantially improved the effectiveness of learning for pupils with mild to moderate intellectual disability (ID) or Autism spectrum disorder (ASD) (Armstrong, K., DeLoatche, K. J., Preece, K. K., & Agazzi, H., 2015). For young children with ASD or ID, visual supports can be individualized easily to provide assistance in the areas of social and behavioural learning.

Moreover, research has found that students with intellectual disabilities have better visual comprehension compared to verbal communication, and visual strategies can match the learning characteristics of students with ID (van Dijk, W., & Gage, N. A., 2018).

## **Description of project outputs**

The content of the package is mainly defined in 4 sessions, and visual aids had been embedded in all sessions. The learning package provided teaching resources with a series of fundamental movement demonstration videos, rhythmic activity videos and interactive games. Supportive learning strategies like visual aids were implemented to help students to learn fundamental movement skills.





#### (1) Fundamental movement session

This session mainly includes teaching videos on Locomotor skills and Object manipulative skills, total 12 videos were created. Visual support has been embedded in all of the teaching materials. In Locomotor skills session, it included running, galloping, skipping, single leg jump, double leg jump and sliding. In Object manipulative skills, it include teaching videos of catching, throwing, kicking. There are multiple movement levels are provided in each video, which allow APE teachers and parents take a reference to support diversity of students' learning.



#### (2) Interactive fitness games

In this sessions, there are total 4 interactive activity sets are created. Each set of activity included a interactive power point slide and a demonstration video. Using instruction had been added in each power point which assist teachers to understand the game rules; the demonstration video may present to students and let them know how to involve to game situations. Through interactive games, students can develop cardiorespiratory endurance, and muscle strength and learn how to follow instructions.



#### (3) Rhythmic activities (RA) teaching resources

In the rhythmic activities session, there are total 3 teaching videos are created. Which are towel exercise, seated towl exercise and basketball exercise. Not only movement notice had been added to give a hint for student to ready for the following movement but also the RA teaching resources provide multiple exercise levels to cater needs of students, especially students with physical disabilities. Due to some of the students may not be able to standup by themselves, a seated towel exercise video can provide a alternative for student to follow and apply in their daily life.



#### (4) Static Stretching Resources

In this session, there are total 12 videos had been created. All of the teaching videos are active stretching, each of the video include demonstration add visual aids. In order to support students understanding of video, the "U Know Stretching Cards" system was added into the video, the cards are providing a cartoon to demonstrate the stretching movement.





#### (5) Visual Support and Safety concerns

Extra visual support notice and safety concerns had been added to guild teachers and parents to apply the learning package in either a school setting or home setting. Related notice and exercise schedules can be downloaded for users.



#### Result analysis and discussion of findings/output

In the second questionnaire investigation of the APE learning package, there are total 17 APE teachers and 22 parents responded to evaluate the package and give comments. On one hand, the questionnaire collected 10 APE teachers from moderate ID special school and 7 APE teachers are from mild ID special school. 20 parents were randomly recruited from the Home Exercise for SEN class which held by the health and physical education department of the Education University of Hong Kong. The following paragraphs describes the data analysis and discussion.

In APE teachers' perspective, 70.6% of teacher agree that the visual cues (such as stretch cards and footprints) that embedded in package can help enhance students' learning effectiveness in a large extent; 29.4% of teachers agree the statement at a normal extent. 64.7% of the teachers agree that the package can enhance the teaching effectiveness of adapted physical education lessons at a normal extent; 35.3% of teachers agree the statement in large extent. 64.7% of teachers agree that the package can effectively assist students to learn fundamental movement skills; 35.3% of teachers agree that at a normal extent. 47.1% of teachers agree the package can effectively assist students to learn fundamental movement skills; 35.3% of teachers agree that at a normal extent. 47.1% of teachers agree the package can effectively assist students to learn fundamental movement skills; 35.3% of teachers agree that at a normal extent. 47.1% of teachers agree the package can effectively assist students to learn static stretching at a large extent; 35.5% of teachers agree the statement at a normal extent.



At parents' perspective, 50% of parents agree that the visual cues (such as stretch cards and footprints) that embedded in package can help enhance students' learning effectiveness in a large extent; 50% of parents agree the statement at a normal extent. 40.9% of parents agree that the package can effectively raise students' learning motivation at a large extent; 54.5% of parents agree that at a normal extent. 36.4% of parents agree the package can improve students' fitness level at a large extext; 59.1% parents agree that at a normal extent. 31.8% of parents agree that at a normal extent. 31.8% of parents agree the package can help student to maintain a health and active life style at a large extext; 63.6% parents agree that at a normal extent.

For summary of data analysis, over 95% of the APE teachers and parents evaluated the APE learning package as an effective tool in helping the student to learn fundamental movement, rhythmic activities, and static stretching; the visual support strategy is successfully applied in the APE online learning package.

Furthermore, some comments and suggestion had been collected on phone interview with APE techer. It shows that visual cues (such as stretching cards and footprints) help enhance the effectiveness of students' learning; it can effectively enhance/improve students' learning motivation. In addition, appropriate instructions or hints can help students master the skills. The application of package is convenient as it only need simple equipment to use in teaching process.

However, there are some limitation about the learning package. Some parents responded that the stretching cards and footprints require a lot of space which are difficult to apply the visual tools at home setting. Also, students are more likely attracted by dynamic activity videos instead of static activities. Besides, it may add more interactive activities sets and add animation effects to enhance visual effects.

#### **Conclusion**

Finally, the package still have lot of space for improment. In the near future, more teaching resources can be create to fix the limitation of package. Indeed, some students may need adults to assist their learning process. Thus, adults assitance video and passive stretching can be create to cater the needs of APE curriculum. Also, teaching videos can be created in partition which make the learning progress more easier to handle.

To sum up, the Apapted Physical Education Online Learning Package demonstrated a sets of practical teaching materials that are able to cater diversity of learning needs. It provide alternatives ways for teachers, parents to teach physical activities, especially for students with mild to moderate intellectual disability (ID) or Autism Spectrum Disorder (ASD). Eventually, hope the APE online learning package can help students to maintain healthy and active life style.



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## **Appendix 1: Questionnaire for APE Teachers**

- 1. What type of special school are you teaching?
- 2. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students learn fundamental movement skills?
- 3. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students learn rhythm activities?
- 4. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students learn how to perform static stretching?
- 5. Do you think the visual cues (such as stretch cards and footprints) wrapped in the " Adapted Physical Education Online Learning Package " can help enhance students' learning effectiveness?
- 6. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance your physical education teaching effectiveness?
- 7. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance/improve students' learning motivation?
- 8. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance/improve students' physical fitness?
- 9. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance/improve students' cognitive level?
- 10. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students lead an active and healthy lifestyle?
- 11. Do you think there is any thing that can be improved in the "Adapted Physical Education Online Learning Package "?
- 12. If you have any suggestions for the Adapted Physical Education Online Learning Package, you can leave your valuable comments.



## **Appendix 2: Questionnaire for Parents**

- 1. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students learn fundamental movement skills?
- 2. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students learn rhythm activities?
- 3. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students learn how to perform static stretching?
- 4. Do you think the visual cues (such as stretch cards and footprints) wrapped in the "Adapted Physical Education Online Learning Package " can help enhance students' learning effectiveness?
- 5. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance/improve students' learning motivation?
- 6. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance/improve students' physical fitness?
- 7. Do you think the "Adapted Physical Education Online Learning Package " can effectively enhance/improve students' cognitive level?
- 8. Do you think the "Adapted Physical Education Online Learning Package " can effectively help students lead an active and healthy lifestyle?
- 9. Do you think there is any thing that can be improved in the "Adapted Physical Education Online Learning Package "?
- 10. If you have any suggestions for the Adapted Physical Education Online Learning Package, you can leave your valuable comments.



## **Appendix 3: Questionnaire data from APE teachers**

1. 您正在任教學校類別是:

17 responses



2. 你認為「適應體育學習教材套」能有效幫助學生學習基礎動作技能





3. 你認為「適應體育學習教材套」能有效幫助學生學習韻律活動

17 responses



4. 你認為「適應體育學習教材套」能有效幫助學生學習如何進行靜態伸展





5. 你認為「適應體育學習教材套」裏的視覺提示(如伸展卡及腳印)有助提升學生的學習效 能

17 responses



6. 你認為「適應體育學習教材套」能有效提昇你的體育教學效能





7. 你認為「適應體育學習教材套」能有效提升/改善學生的學習動機

17 responses



8. 你認為「適應體育學習教材套」能有效提升/改善學生的健康體適能





9. 你認為「適應體育學習教材套」能有效提升/改善學生的認知層面

17 responses



10. 你認為「適應體育學習教材套」能有效幫助學生擁有積極健康的生活方式





11. 你認為「適應體育學習教材套」什麼何改善的地方嗎?

17 responses

随了視覺教具等支持性學習策略外,可以在視頻中加入動畫特效,增强視覺效果,提高趣味

Nope

動作提示

NA

整體不錯

N/A

分析動作

可以加入更多互動性的活動

可加入大人輔助影片



#### Appendix 4:

1. 你認為「適應體育學習教材套」能有效幫助學生學習基礎動作技能(如跑步、橫移步、 踢球、滾球、雙足跳等)

22 responses



2. 你認為「適應體育學習教材套」能有效幫助學生學習韻律活動





3. 你認為「適應體育學習教材套」能有效幫助學生學習如何進行靜態伸展

22 responses



4. 你認為「適應體育學習教材套」裹的視覺提示(如伸展卡及腳印)有助提升學生的學習效 能





5. 你認為「適應體育學習教材套」能有效提升/改善學生的學習動機

22 responses



6. 你認為「適應體育學習教材套」能有效提升/改善學生的健康體適能





7. 你認為「適應體育學習教材套」能有效提升/改善學生的認知層面

22 responses



8. 你認為「適應體育學習教材套」能有效幫助學生擁有積極健康的生活方式





9. 你認為「適應體育學習教材套」什麼何改善的地方嗎?

22 responses

#### 未有

若可以將動作拆細動作方法(有關顧特殊需要小朋友的能力)

毛巾操:轉換不同動作時,最好先反回原位然後保持靜止或預備狀態三兩秒後才做下一個動作,因為sen的小 朋友反應沒那麼快,當他們察覺要轉動作時,導師已經差不多做完,真的不易趕上

留意時間上的分配, sen小朋友一般專注力比較弱,需留重複或者相似的動作他們很容易分心去咗第三度

伸展咭及腳印需要很多空間才做到 在疫情期間在家難做到 在地下投球比較容易做到

1. 可以把影片拍得生動一些, 以增興趣性, 2. 可以把動作融入遊戲中表達出來

所有都是正常健康運動,靜態對小朋友難D喜歡。

好好玩,小朋友玩得好開心

10. 如對於適應體育的教學資源有任何建議,可留下您的寶貴意見。

22 responses

隨了背景音樂,覺得加插導師的適當指令或重要提示都十分有用,例如做動作的要點、何時呼/吸氣、甚麼部 位要伸直、彎曲等等

建議設獎勵計劃,協助小朋友定下取得各項等級的目標。 例如沉悶的重複動作,可以當完成一組動作後,出現qrcode畀小朋友自己scan,每做完一組動作可以得到 一個特定分數或者虛擬貼紙,一段影片可以出現數次,嘗試要用呢個特點去吸引小朋友由頭睇到尾,千祈唔 好喺最尾先出現qRcode,有啲小朋友知道片尾先有,就一下掃到去片尾到,咁就冇咗意義

可以設計一些用有限空間做的運動

可能影片用傳統的表達方式,所以有點悶,可以較活潑的表達方式

以平價錢買到運動工具又不用大地方罷放,給引小朋友覺得好玩,小朋友就能維特。

希望 暑假後都繼續有班



## **Appendix 5: Rhythmic Activity Videos Document**

1. 韻律籃球操	球繞頭 球繞腰 球繞膝 持球弓步 平舉深蹲 踏步傳左右 雙手運球
2. 韻律毛巾操	向前平推 肩膊上推 高舉彎腰 平推轉腰 平舉踢毛巾 REST 深蹲執毛巾 半蹲平舉 弓箭步上推 毛巾劃彩虹 高舉波浪
3. 韻律毛巾操	向前平推 肩膊上推 高舉彎腰 平推轉腰 平舉踢毛巾 大髀上波浪 平舉波浪 高舉波浪 毛巾劃彩虹

# 韻律活動影片文檔

