香港體育教師的看法：科技在未來體育教學的角色
Perception of Hong Kong PE Teachers about the Role of Technology in the Future Physical Education

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2020 主題: 未來的學校體育
Theme 2020:
The Future Physical Education

Content Page

1. From our experience: Online PE
2. **Perception of PE teachers about ...**
3. *** Example collected from Preservice PE teachers and PE teachers**

根據我們的經驗：網上體育課

體育老師對科技在未來體育教育的看法

*來自職前體育老師和體育老師的
示例分享

What is Online Physical Education?

- An alternative medium used to deliver physical education — often to secondary students — to gain physical education credit and satisfy graduation requirements outside of the physical context

一種為獲得體育學分並滿足畢業要求的體育教學**替代媒體**。
（通常是向中學生提供）

(Buschner, 2006; Daum & Buschner, 2012; Mosier, 2012)

SHAPE America — SOCIETY OF HEALTH AND PHYSICAL EDUCATORS®

health. moves. minds.

美國健康與體育教育協會

Guidance Document

Guidelines for K-12 Online Physical Education

What is Online Physical Education?
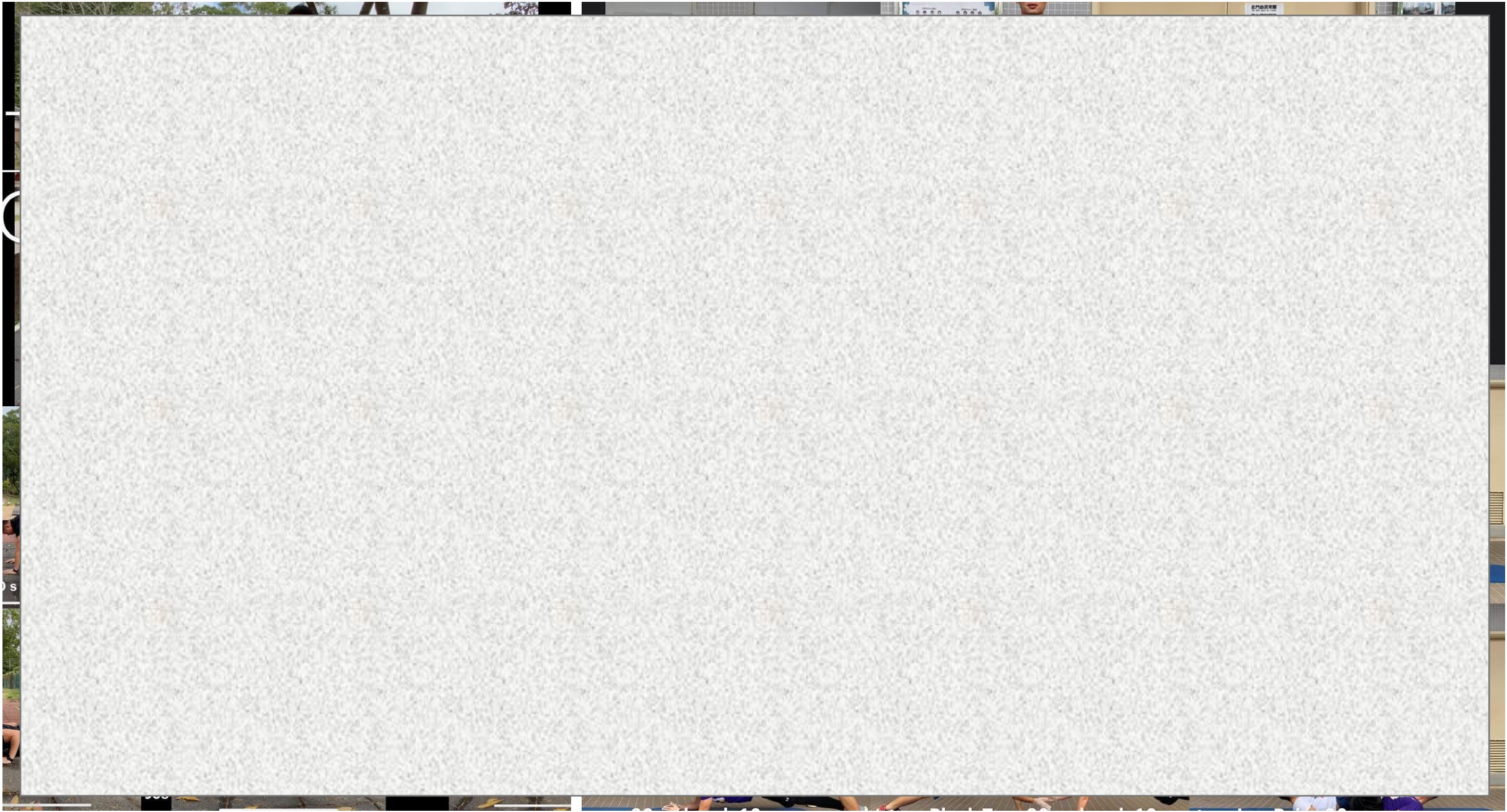
- Hybrid (混合式)
- Exclusively online (全網上形式)

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Guidance Document

Guidelines for K-12 Online Physical Education

在吃晚餐

有多少人真的跟着做

平日的訪問更切身

可以三線發展

5:21 / 7:56

Comments from a student *Youtuber https://www.youtube.com/watch?v=kDcv-P4_QF8#t=5m51s

Experience of PE teachers in HK using Technology in PE (Suspension Period)

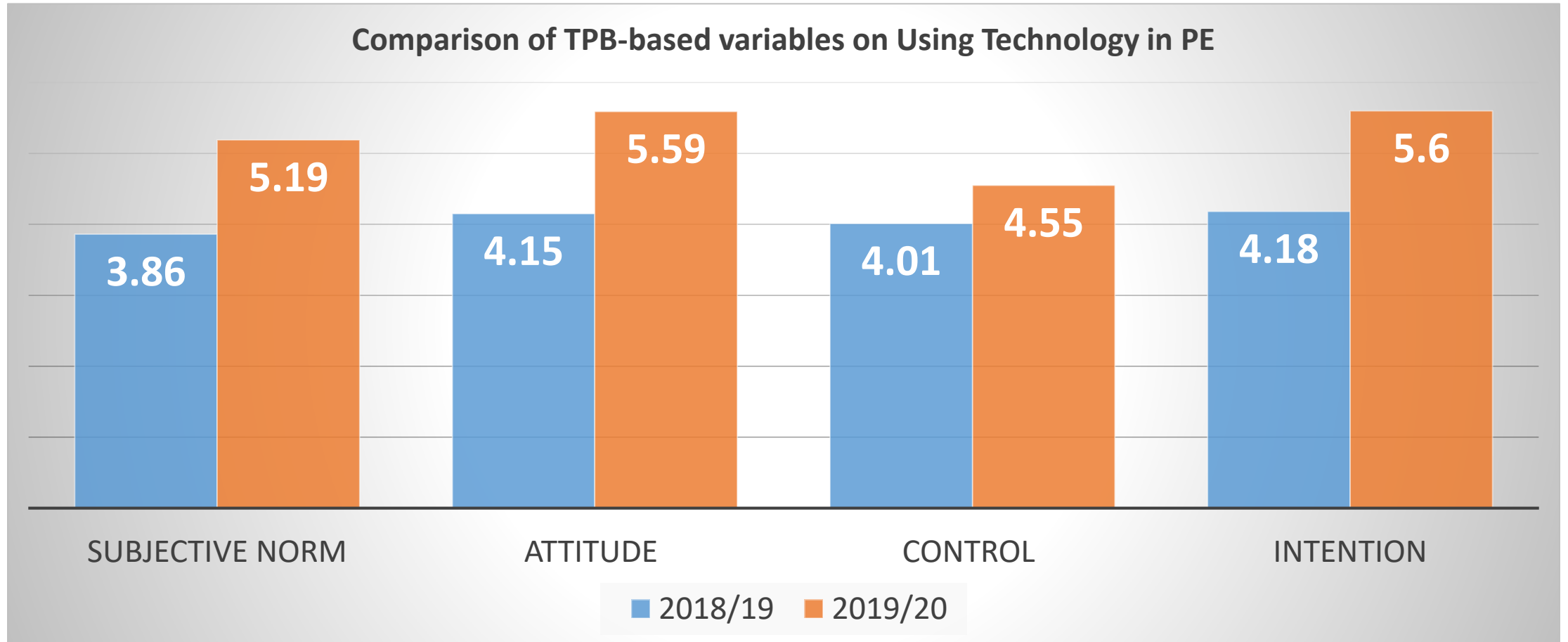| Using technology in PE teaching during school suspension 曾使用科技工具教授體育	78.9%
• **Distance Learning** 即時遙距教學	38.9%
• **Recorded Lesson** 預錄授課	57.8%
• **Exercise Demonstration** 預錄授課	53.3%
• **Online Learning Platform** 網上學習平台	75.6%
• **Written Assignment** 分配作業（書寫）	55.6%
• **Physical Activity Assignment** 分配作業（體能）	61.1%

19.4%

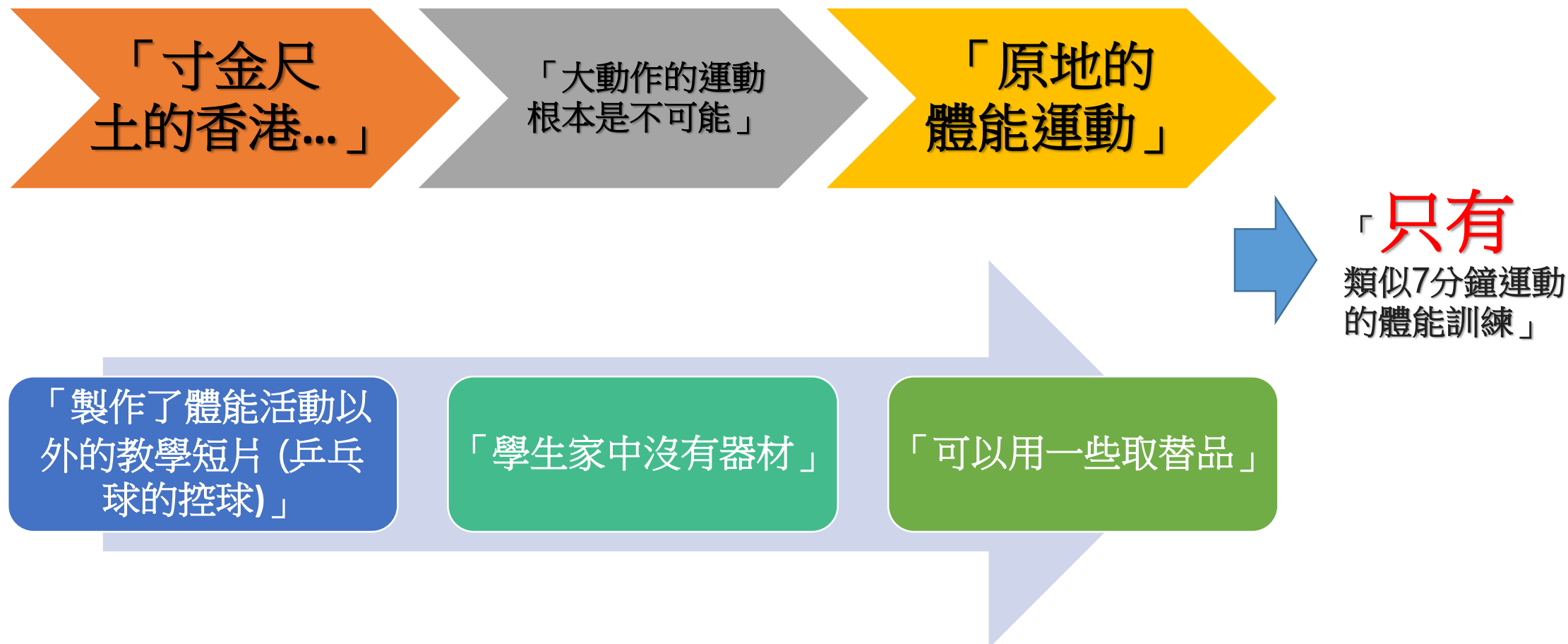(Li, Kam , Zhang, 2019)

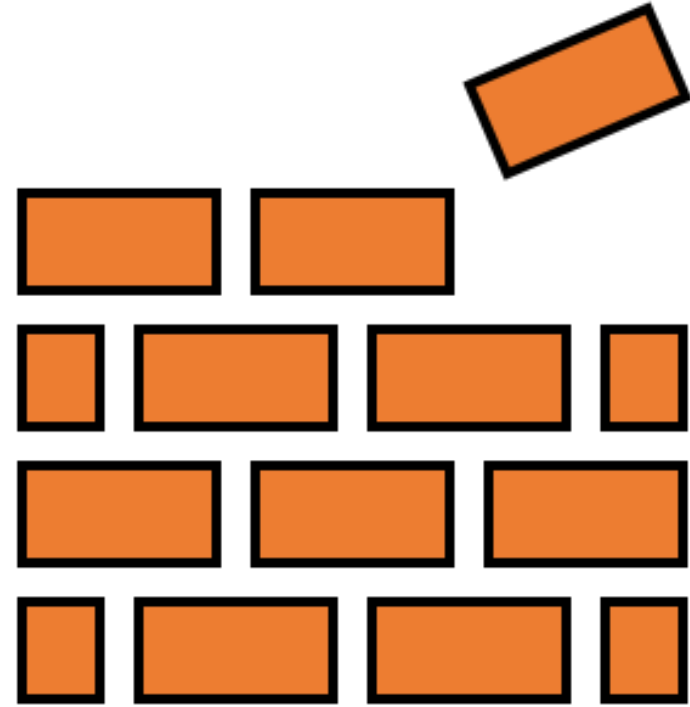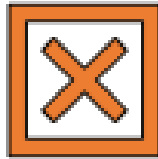Before Suspension Period
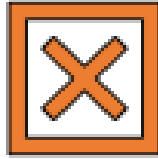
n = 90

Chow, et al. (Unpublished Data)

Perception of PE Teachers on Using Technology in PE (Comparison)

Comparison of TPB-based variables on Using Technology in PE

	SUBJECTIVE NORM	ATTITUDE	CONTROL	INTENTION
2018/19	3.86	4.15	4.01	4.18
2019/20	5.19	5.59	4.55	5.6

Difficulties
- Logical flow

「寸金尺土的香港…」 → 「大動作的運動根本是不可能」 → 「原地的體能運動」

→ 「只有類似7分鐘運動的體能訓練」

「製作了體能活動以外的教學短片 (乒乓球的控球)」 → 「學生家中沒有器材」 → 「可以用一些取替品」

Wong, B. (2020, March 29). 【讀者投稿】疫情下的體育堂=7分鐘運動？一個體育老師的反思. Retrieved from https://today.line.me/hk/pc/article/【讀者投稿】疫情下的體育堂 7分鐘運動？一個體育老師的反思-GLgnY5

SHAPE America — health.moves.minds.

April 2020
Secondary Mind & Body Calendar

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
National Health Observances • National Autism Awareness Month • National Minority Health Month • National Distracted Driving Awareness Month • Stress Awareness Month • April 7: World Health Day			**1** Yoga is a great way to relieve stress. Try Savasana, considered to be the hardest yoga pose! Fully relax & clear your mind.	**2 Star Jumps** Jump up with your arms and legs spread out like a star. Do 10 then rest and repeat.	**3 Crane Pose** Here's a challenge! Put your hands on the ground, lean forward & balance your knees on your elbows.	**4 4 Walls** Face each wall in a room and do a different exercise for 30 seconds -side shuffle -grapevine to left then right -wide stance punches -vertical jumps
5 Mindful Snack When eating a snack today, really pay attention to the taste, feel, sound, smell and look of the snack you're eating. What do you notice?	**6 Balance** Stand on your right leg and lift your left knee at a 90 degree angle. Touch your toe without falling repeat 10 times then switch sides.	**7 World Health Day** Did you know regular, moderate-intensity physical activity can help prevent diabetes? Go for a walk with an adult & discuss other ways to prevent diabetes.	**8 10 Jump Lunges** Complete a right leg lunge, while in the down position jump up landing in a lunge position on the left leg.	**9 Tabata** Jump squats 20 seconds of work 10 seconds of rest 8 rounds	**10 Before Bed Breathing** While lying in bed, place your hands on your stomach and pay attention to the up and down of your belly as you breathe.	**11 Dribble Challenge** Dribble a ball 100 times with each hand. Can you successfully dribble 100 times with each hand while moving?
12 Fish Pose Hold fish pose for 60 seconds. Take a break and hold for another 60 seconds	**13 Card Fitness** Take a deck of cards, flip the top card. Complete exercises based on the suit & number on the card. Face cards are worth 15. Spades- jumping jacks, Clubs- squats, Hearts- mountain climbers, Diamonds- Your choice	**14 Wild Arms** As fast as you can complete: 10 Arm Circles front & back 10 Forward punches 10 Raise the Roof's Repeat 3x	**15 Mindful Senses** What do you notice around you? Find: 5 things you see 4 things you feel 3 things you hear 2 things smell 1 thing you taste	**16 Jump rope to music!** Can you jump to an entire song without stopping?	**17 How Fast Can You Go?** Pick a distance and see how fast you can run the distance.	**18 Slide, Slide, Sprint** Slide to your left for 10 steps, slide to right for 10 steps then face forward and sprint for 10 seconds.
19 Garland Pose Practice your balance with this pose!	**20 Tabata** Tuck Jumps 20 seconds of work 10 seconds of rest 8 rounds	**21 Commercial Break** Can you hold a plank for an entire TV commercial break?	**22 Nighttime Note** Empty your mind before you go to bed by writing a note about what you're thinking and leave it for tomorrow.	**23 Chair Pose** Hold for 30 seconds, relax then repeat.	**24 Positive Talk** Be sure to talk to yourself today like you would talk to someone you love.	**25 Jump, Jump** Jump side-to-side over an object or line for 1 minute straight. Go again but jump front to back. Repeat each jump twice.
26 Put your favorite song on and make up a dance or fitness routine!	**27 Paper Plate Planks** In plank position with paper plates under your feet. Complete 30s each: -mountain climbers -in and out feet -knees to chest	**28 Step Jumps** Find a step or a bench and jump up and down 50 times. Be careful. Take a break if you need to.	**29 A Gratitude Attitude** Write down something you're thankful for and why.	**30** Try Savasana again. Use this to relax and wind down all year!	**SHAPE America recommends school-age children accumulate at least 60 minutes and up to several hours of physical activity per day. Each bout of physical activity should be followed by cool-down stretches that help reduce soreness and avoid injury. Happy exercising!** Yoga photos from www.forteyoga.com	

Mini – exercise to experience the tools you "commonly" use.
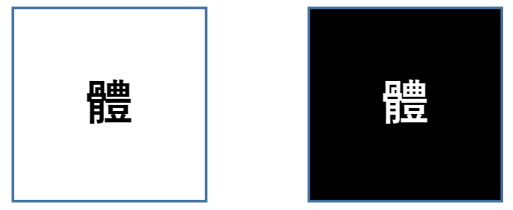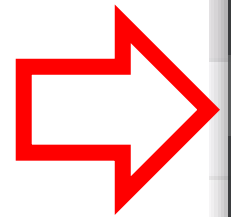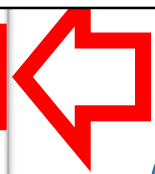
Q1. What is the use of technology below?
Q2. Which technology should we use?

		Lesson Planning (計劃課堂)	Assessment (協助評估)	Public Relations / Professionalism (加強交流 (朋輩/ 專業))	Effective Teaching (教平效能)	Data Collection (收集數據)	Motivation (增加動機)
Heart Monitor Monitor	心率監測器						
Online Learning Platform	網上學習平台						

Research in Online Physical Education

Meaningful assessments

- Challenge students in real-world contexts
在現實世界中挑戰學生

Teacher educator (SHAPE)

- Supportive at the secondary level
對中學生有相對好的支援

Teacher educator (HK)

- Supportive …?

Mini – exercise to your approach towards Online PE

Online PE Practice Approach

- Appropriate? Inappropriate? 適合 / 不適合

1. Curriculum 課程:
   - Technology and Content – Change? Keep it the same?

2. Learning Environment 學習環境:
   - Active during screen time? Active without screen time?

3. Instructional Strategies 教授策略:
   - Explore new way to teach? Enrich the original strategy?

Online PE Practice Approach

	Appropriate	Inappropriate
Technology	Change	No change
Content	Change	No change
Parents	Involve	Not involve
Choice	Student	Teacher
Learning dependent	Student	Teacher
Teaching Mode	Screen	No screen
Communication Rules	Yes	No
PETE Online training	Yes	No

Curriculum; Environment & Instruction

Online PE Practice Approach

	Appropriate	Inappropriate
Students' Skill level requirement	Yes	No
Prerequisites for enrollment	Yes	No
Assessment	Multi-facet	Uni-domain
Meet the PE KLA	Yes	No
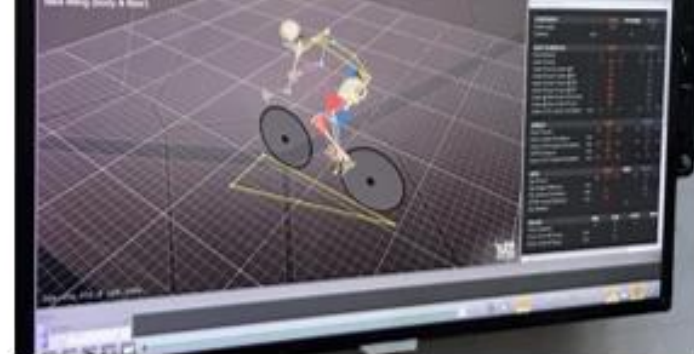
Kinovea – Motion Tracking (Manual entry)

Motion Tracking with Markers (Problem Solving) (Automatic)

EDDO Biomechanics

otion Tracking without arkers (Problem Solving) anual entry)

Make your decision to ASK a good question

ing without Markers (Problem Solving) (Artificial Intelligence - AI)

(Manual entry)

Online Physical Education Replace

Face-to-Face PE Teaching❓

☑ ☒

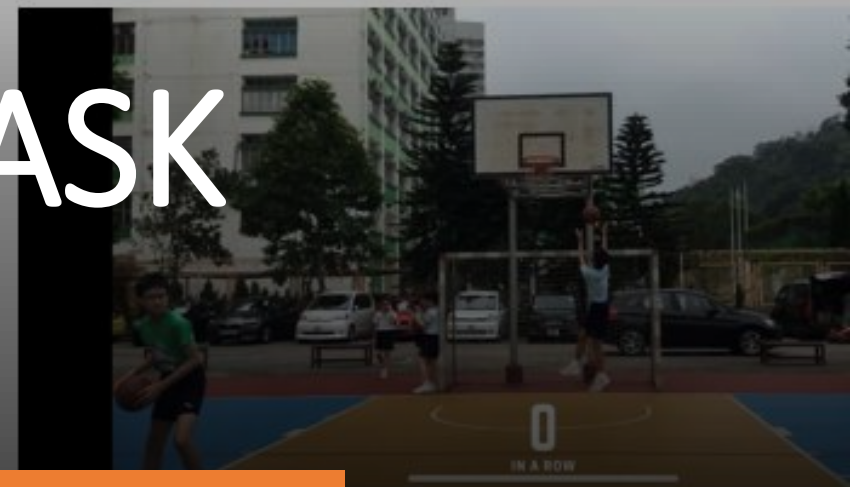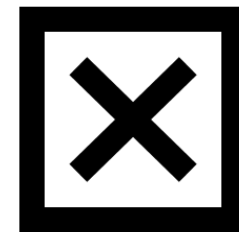* Example collected from Preservice PE teachers and PE teachers

Program Name	Program description
Walking is easy: Fitness and PA Gained	Earn ONE PA hour with a walk of a minimum of 10,000 steps per day. Walking is easy but 10,000 steps a day could be a challenge! Go challenge yourself!
Physical activity diary	Submit TWO weeks of your activity diary, with at least 40 mins physical activities per day. You can earn 10 PA hours!
4,3,2,1 Workout at Home	Record a video featuring you completing one set of our designated workout exercises. Complete the other two sets per day by yourself. Submit the video record link with the workout details to get ONE PA for a day.
Muscle Training at Home (with PA Hours) Phase II	Submit ONE set workout video per day & get max ONE PA for a day.
Let's Plan and Workout	Choose any activity(ies) you like and submit the session plans before the real workout. Follow your plan and edit the entire workout video in 10 minutes in order to earn 10 PA hours!

Token Scheme 代幣制度

Set up the currency of Physical Activity to learning hours

Apply learning Portfolio to online PE

Post-exercise video recording/assignment

Self-directed learning

香港恒生大學
THE HANG SENG UNIVERSITY OF HONG KONG | 學生事務處
Student Affairs Office

What do we need "Self-directed Learning?"

- 自主學習是指學習者主動地計劃、 選擇和運用策略、調控個人的感受、 行為和環境，以期有效地達到所設定的目標 (Perry, 1998; Zimmerman, 2002)。

- 過程 / 階段: 計畫 → 行為表現 → 自我反思 (Zimmerman, 2002)

consider innovation in three areas:

Pedagogical design

Technology uses and

Impact on learning

Hybrid mode: Incorporating e-learning activities with face-to-face learning (blended learning)

E-CONTENT + CLASSROOM CONTENT + STUDENT PREPARATION = A COMPLETE COURSE

一個完整的課堂設計

E-CONTENT MUST BE PLANNED AS BEING A PART OF HOW THE STUDENTS WILL COME TO FULFIL THE LEARNING OUTCOMES OF ANY GIVEN COURSE.

配合學習目標而計畫

(Briffett Aktaş, 2020)

Experience and Training in Online PE

- *1.3% (N = 522)*
  - field experiences for preservice teachers in online education, while an additional 13% indicated current plans to integrate virtual field experiences

    (Kennedy & Archambault, 2012)

- *100% (N = 51)*
  - FT students: Online PE (EdUHK, 2019-20)

- *100% (N = 51)*
  - FT students: Online PE

Feedback from students (University)

- "Lecturers' technical knowledge:
  - **They really need workshops** as in how to optimise the use of zoom.

    Need to work on the skills

  - Need to realise giving us the video link is better than we watching through lecturer's shared screen.

    Need to experience as a student.

  - **Maybe it's time to realise as we are using zoom and the original way of teaching designed for face to face lesson cannot be copy and paste to zoom.**

    Need to restructure a different teaching approach

「也許是時候要意識到以面授課程的原有教學模式是無法複製和應用到我們正在使用的網上教學環境。」

Is it the time to change our mind and design?

- Breakdown the 3-hour lecture

Class 04 – Online

Flow of the Class 4 (Online Learning)
1. i-search - Power Point
2. Exploring iSearch - 9:45 min
Video Description
1. To find an academic journal article: 4:10 min - 4:39 min
2. Advanced Search: 5:07 min -
2.1 Set up Keywords (4-6 keywords)
2.2 Refine the search: 7:55 min - 8:28 min
2.3 Save the article: 8:29 min - 8:36 min
3. Activity: Preliminary search of academic journal article
Spend 45 minutes to draft:
1. 4 - 6 keywords related to you research
2. Start your literature review using i-search
- Use advanced search to limit your number of studies
3. Record all the process by words
4. Activity: Draft your abstract of proposal - 45 minutes
1. Refine the research statement of your study.
Guide: Use the preliminary literature review to refine your research proposal
2. Use the template provided to draft the abstract of proposal.
Abstract-Template
5. Preliminary idea of proposal - Discussion Forum

Asynchronous + Synchronous online learning
(Flip classroom)

Early announcement in moodle
(Online Learning Platform)

	Activity	Duration	Remarks
1.	Read the power point of "1. i-search - Power Point"	10 minutes	Make some trials with the library website simultaneously
2.	Watch the YouTube video "Exploring iSearch - 9:45 min"	10 minutes	
3.	Complete the task: • Preliminary search of academic journal article.	45 minutes	1. 4 - 6 keywords related to you research 2. Start your literature review using i-search 3. Record all the process by words
4.	Use the "Abstract-Template" to draft the abstract of proposal	45 minutes	4. Refine the research statement of your study.
5.	Copy and paste the "drafted abstract" to the discussion forum "Preliminary idea of proposal - Discussion Forum"	On-going – after class	
		Total: 110 minutes plus (15 minutes break + 45 minutes consultation)	

Learning forums

Topic	Forum	Description	Discussions	Sub
Class 04 - Online	5. Preliminary idea of proposal - Discussion Forum	1. Copy and paste your draft of abstract with your names and student number 2a. Select one to two abstract that you are interested 2b. Commend the others' abstract either questioning or editing	11	

ronous online lear...
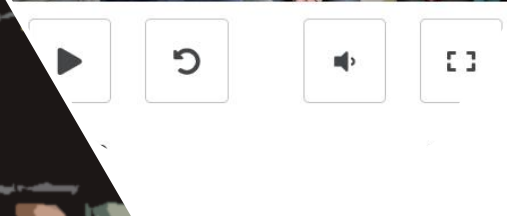
ry Learning

Flip classroom

翻轉課室

Short Online Synchronous lesson (1 h) with ONE Task Based Learning Activities

即時網上課堂 (精要 / 任務為本)

Post-lesson assignment

課後延伸活動

TPACK model

- Mishra and Koehler's (2006) TPACK model is interpreted as a dynamic framework. It highly depends on the context how pedagogical knowledge (PK) merges with the technological knowledge (TK) and content knowledge (CK).

- New technologies in PE must always be critically valued, in order to guarantee a careful integration and development of a sustainable digital pedagogy.

Routledge Studies in Physical Education and Youth Sport

DIGITAL TECHNOLOGY IN PHYSICAL EDUCATION

GLOBAL PERSPECTIVES

Edited by
Jeroen Koekoek and Ivo van Hilvoorde

Koekoek, Jeroen, & Van Hilvoorde, Ivo. (2018). Digital Technology in Physical Education (1st ed., Vol. 1). Milton: Routledge.
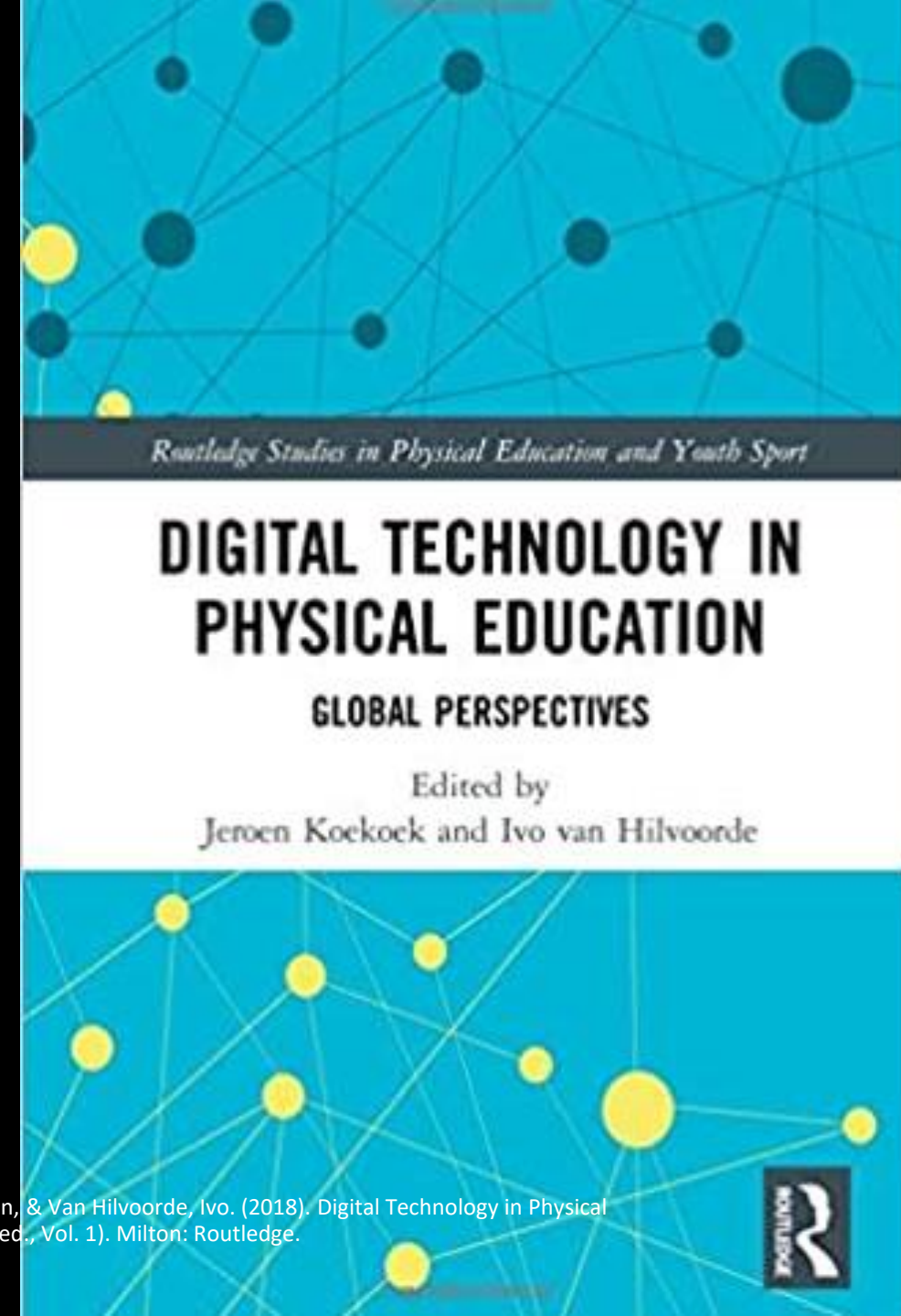
TPACK Model

- is a useful model for educators as they begin to use digital tools and strategies to support teaching and learning.
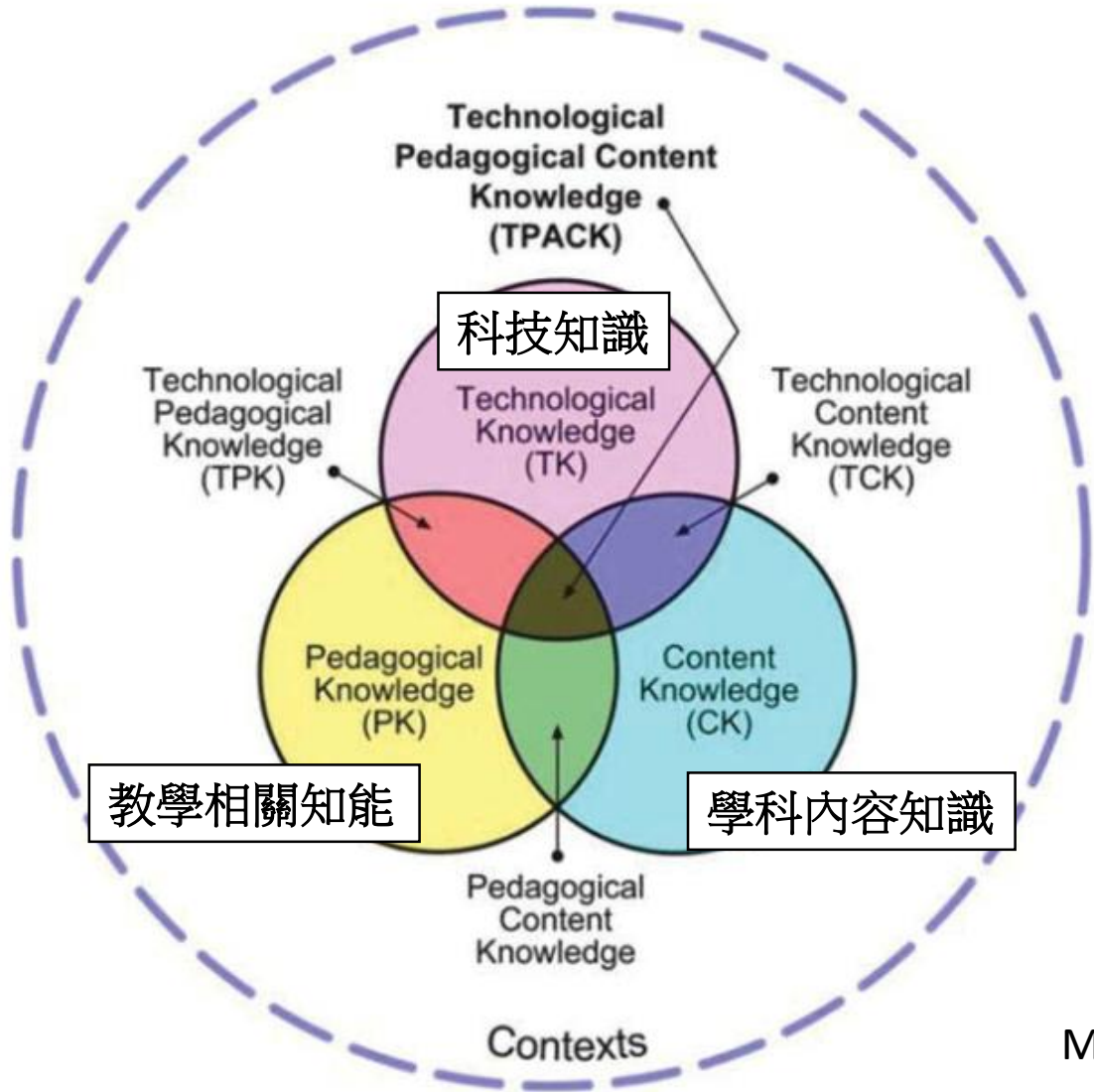
Mishra & Kohler, 2006

Figure 1. Technological Pedagogical Content Knowledge (TPACK) framework (http://tpack.org).

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teachers' knowledge. *Teachers College Record, 108* (6), 1017–1054

TPACK model

- Many in-service physical education teachers agreed that using technology is an important skill and should be integrated in their teaching

  科技的使用是一項重要技能，而且應該融入教學之內

- Many of them reported the lack of adequate knowledge to effectively implement technology in real teaching

  缺乏足夠的科技知識來有效地實施在實際教學環境

(Ince et al., 2006; Lee & Tsai, 2008; Russell, 2007; Strand & Bender, 2011; Woods et al., 2008).

Feedback from the evidence

觀眾續看率
自影片上傳至今

1:40 (24.7%)
平均觀看時間長度

顯示更多

觀眾續看率
自影片上傳至今

2:48 (39.0%)
平均觀看時間長度

顯示更多

My Grids

A Grid is for your classroom or learning community. New to Flipgrid? Check out this **Getting Started Guide**.

Add New Topic   **311 Topics**   2185 videos   20235 views   205.2 hours of engagement

Add New Grid   **20 Grids**   🔍 Search Grids

	Name	Flip Code	Activity	Last Updated ∨		
	[SUNKEI] Challenge... 🏫 School Email	skchallenge100	**311** Topics **2185** Videos	Jul 8, 2020	🚀 Share	Actions ∨ ✏️
	Exercise Challenge at ... 🏫 School Email	exercisechallenge	**20** Topics **115** Videos	Jul 2, 2020	🚀 Share	Actions ∨ ✏️
	Physical Education in ... 🌐 Public Community	peinhk	**5** Topics **19** Videos	Jun 19, 2020	🚀 Share	Actions ∨ ✏️
	2020 Home Olympic 🌐 Public Community	2020homeolympi	**3** Topics **1** Video	Apr 27, 2020	🚀 Share	Actions ∨ ✏️
	[Public] Global Cha... 🌐 Public Community	globalchallenge100	**330** Topics **0** Videos	Apr 26, 2020	🚀 Share	Actions ∨ ✏️

Selected reflection from Inservice PE teachers

- "**20年前科技還未很先進的時候，就已經出來教書，我的科技知識就停留在20年前了！**"

- "**誘發小朋友認真表現自己的能力**"

- "**科技幫助說明動作的要求...視像化表現...延展課堂學習**"

- "**雖然科技對體育課上看似有很多益處，但在課堂上真正採用時亦會面對不少的挑戰。如學生平板電腦的擺放、如何有效地換上心率帶、甚至乎跨學科的專題探究，可能須要更改課程的編排等等。因此，學校要有相對的策略才能容易的推動在體育科上加入科技的元素。**"

PDP (STEM in PE) 2019/20

Chaos created by using technology in PE

產生壓力，焦慮和睡眠的問題

解決教學問題

- depending on how technology is used and displayed for competition and student comparisons, it may cause stress, anxiety, and disruptions in sleep pattern

- technology provides physical educators with an additional tool to solve pedagogical problems that, in turn, can potentially enhance student outcomes

動物老師介紹

單手持拍擊球
(以右手持拍為例)

宣基動物體育堂

Summary 總結

1. A different perspective of PE teachers on using technology in PE in this new era

   現在的體育老師對在體育中運用科技已有不一樣看法

2. Making a good choice based on our NEED in future PE

   合適的選擇取決於體育教學的真正需要

   1. Classroom setting / Learning Objectives
   2. Create / Choose appropriate Technology
   3. Allow ourselves to be creative

3. Important to know our students' learning experience

   要從學生的角度了解新的教學經驗

Acknowledgement

- 基督教宣道會宣基小學
Christian & Missionary Alliance Sun Kei Primary School
- 港澳信義會明道小學 HKMLC Ming Tao Primary School
- 培橋書院 Pui Kiu College

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