

資訊科技教育教學法系列：  
在中學有效運用流動電腦裝置進行電子學習（修訂）  
EI0020220264 第一節



香港中文大學 學習科學與科技中心 (CLST)

Cer Centre for Learning Sciences and Technologies (CLST)  
The Chinese University of Hong Kong



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# 中學 R8AA 班

第一節：

日期：2022/06/07 (星期二)

時間：18:30 - 21:30

地點：香港中文大學崇基校園信和樓614室

第二節：

日期：2022/06/14 (星期二)

時間：18:30 - 21:30

地點：香港中文大學崇基校園信和樓614室



# 導師簡介

文可為

MAN HO WAI, WALLACE

BSSc. (HON.) / PGDE (DIST.)/ MEd, CUHK

樂善堂余近卿中學副校長

教育局資訊科技教育組

香港中文大學 學習科學與科技中心 顧問

HKU e-Learning Technology Development Laboratory

香港教育大學 卓越教學發展中心 顧問

行政長官卓越教育獎(資訊科技教育)



## 課程目標：

本課程旨在介紹基本的電子學習應用程式和其功能，以有效運用流動電腦裝置進行電子學習。

## 活動詳情：

1. 概述常用的流動電腦裝置；
2. 了解流動電腦裝置用於學與教的基本操作；
3. 用戶身份驗證和帳戶管理；
4. 運用EdPuzzle進行翻轉課室；
5. 運用Google Classroom促進電子學習；
6. 介紹擴增實境 (AR) 虛擬實境 (VR) 增強課堂體驗；及
7. 運用EduVenture VR進行探究式學習。

## Objectives:

This course aims at :

equipping teachers with the **necessary knowledge and skills** in the effective and smooth operations of **mobile computer devices** in lessons by introducing the **essential applications and functions** for e-learning.



## This course enables participants to:

- (a) understand the **types of popular mobile computer devices** by operating systems (e.g. iOS, Android and Windows)
- (b) understand the operations of the **built-in functions** of mobile computer devices in lessons, e.g. searching and opening an app, connecting to WiFi access point / hotspot, screen mirroring to TV / projector, screen capturing and recording, etc
- (c) understand the major differences of applications **with and without student accounts** and understand the use of **single sign-on (SSO)**
- (d) understand the operation of simple applications to conduct **e-Learning activities without student accounts** e.g Plickers, Kahoot and Quizizz (instant response and assessment), Poll Everywhere (polling and brain-storming);

## This course enables participants to:

- (e) understand the operation of **applications with student accounts**, e.g Quizlet (online quiz), Coggle (mind mapping), Class Dojo (classroom community);
- (f) understand the features of some other applications / platforms for **specific purposes**, e.g Google Drive and related applications (**online collaboration**), HP Reveal (**augmented reality**), EdPuzzle (**flipped video**) and Google Classroom (**integrated learning management system**);
- (g) **design and create simple e-Learning activities** using the e-learning applications for specific learning objectives, e.g to enhance students' learning motivation and engagement, to conduct assessment and provide instant feedback, to enhance class interactions, to promote collaborative learning and to facilitate students to master abstract concepts



# Session 1

1. Overview of **Mainstream Mobile Computer Devices**
2. Understanding **Basic Operations of Mobile Computer Devices** for Learning and Teaching
3. Using **Google Classroom** to Facilitate e-Learning
4. Conclusion and Discussion of Course Assignment



## Session 2

1. Assignments Feedback
2. User **Authentication** and **Account Management**
3. Using **EdPuzzle** for **Flipped Classroom** Learning
4. Using **AR/ VR** to Enhance Classroom **Experience**
5. Using **EduVenture® X** and **EduVenture® VR** in **Inquiry-based Learning**
6. Conclusion and Discussion



# 0) 疫情下的香港資訊科技教育 疫情下的學與教支援學生在家學習的重要性



# 停課不停學 疫情下的學與教

1. 學校主要通過甚麼**措施**支援學生在家學習？



2. 學校怎樣運用這段時間安排合適的**學習活動**，以保持學生的**學習動力**？



3. 學生的**學習進展**如何？



4. 學生怎樣獲得**五育均衡**的發展機會？



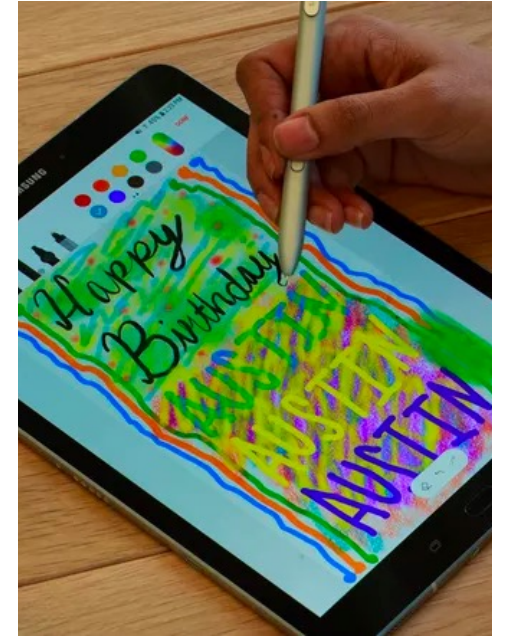
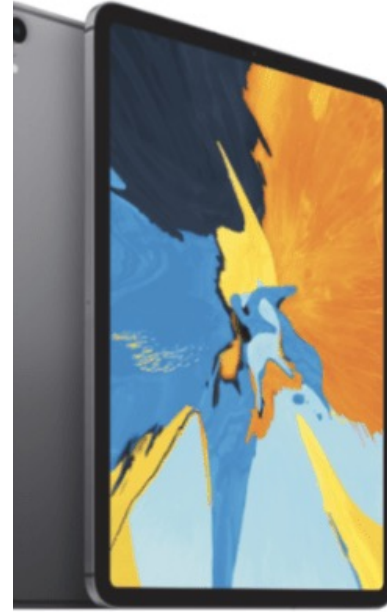
5. 學校如何藉今次疫情，**反思將來**的發展？



6. 學校支援學生在家持續學習的工作處於甚麼**階段**？



# 停課不停學 疫情下的學與教



流動電腦裝置 + 無線網絡環境 = 提升學習效能?

 Microsoft Surface

Google  
Pixelbook

 iPad Pro

 ANDROID

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# 學生資助處（學資處） - 中小學生資助計劃 - 上網費津貼

## 支援有經濟需要學生上網學習補充津貼

### WIFI 蛋



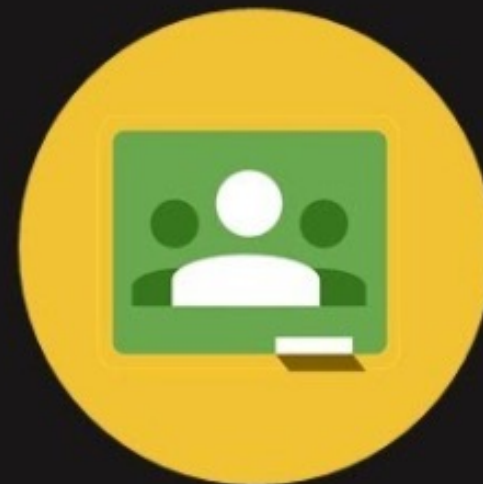
### DATA SIM 上網卡



# 停課不停學 疫情下的學與教 學習管理系統



MICROSOFT TEAMS



GOOGLE CLASSROOM

1

2

3

4

100% IN-PERSON

100% ONLINE

**FACE-TO-FACE**

**BLENDED**

**HYBRID**

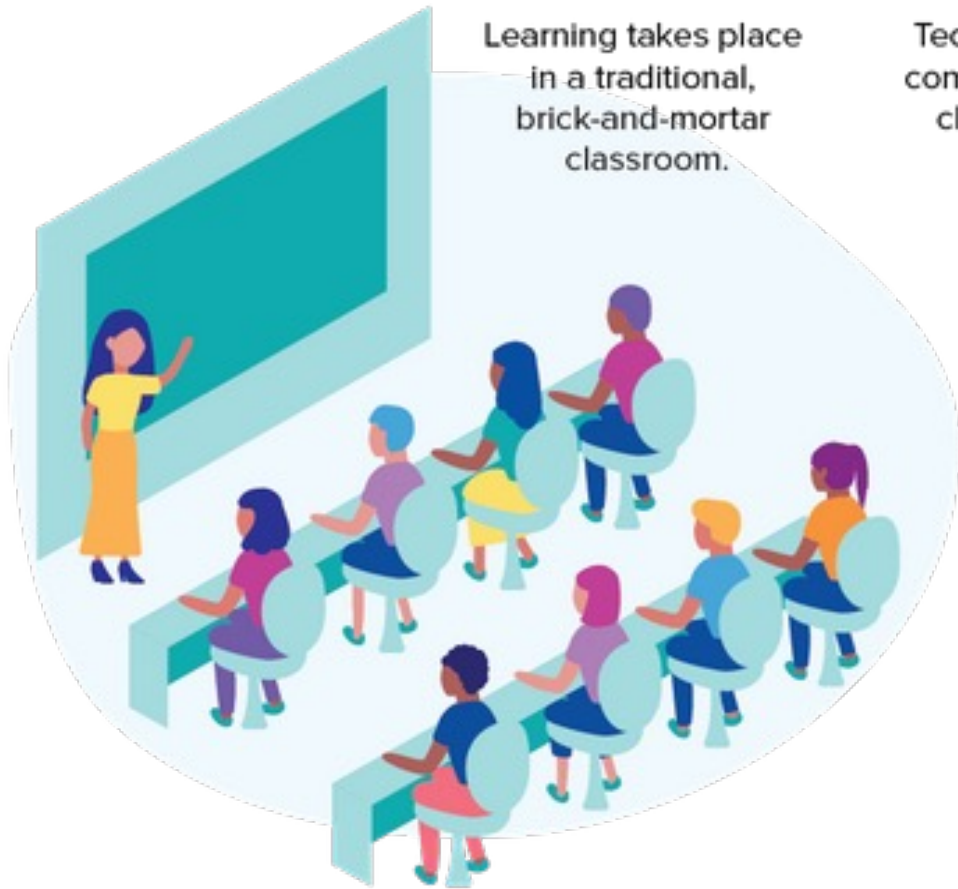
**ONLINE**

Learning takes place in a traditional, brick-and-mortar classroom.

Technology is used to complement traditional classroom learning.

Learning takes place online and offline with online learning replacing some face-to-face instruction.

All learning takes place online.







← **blended** →

**face-to-face**

**classroom aids**

**flipped**

**hybrid**

**fully online  
(distance)**

**no technology**

**(delivery)**

**all technology**



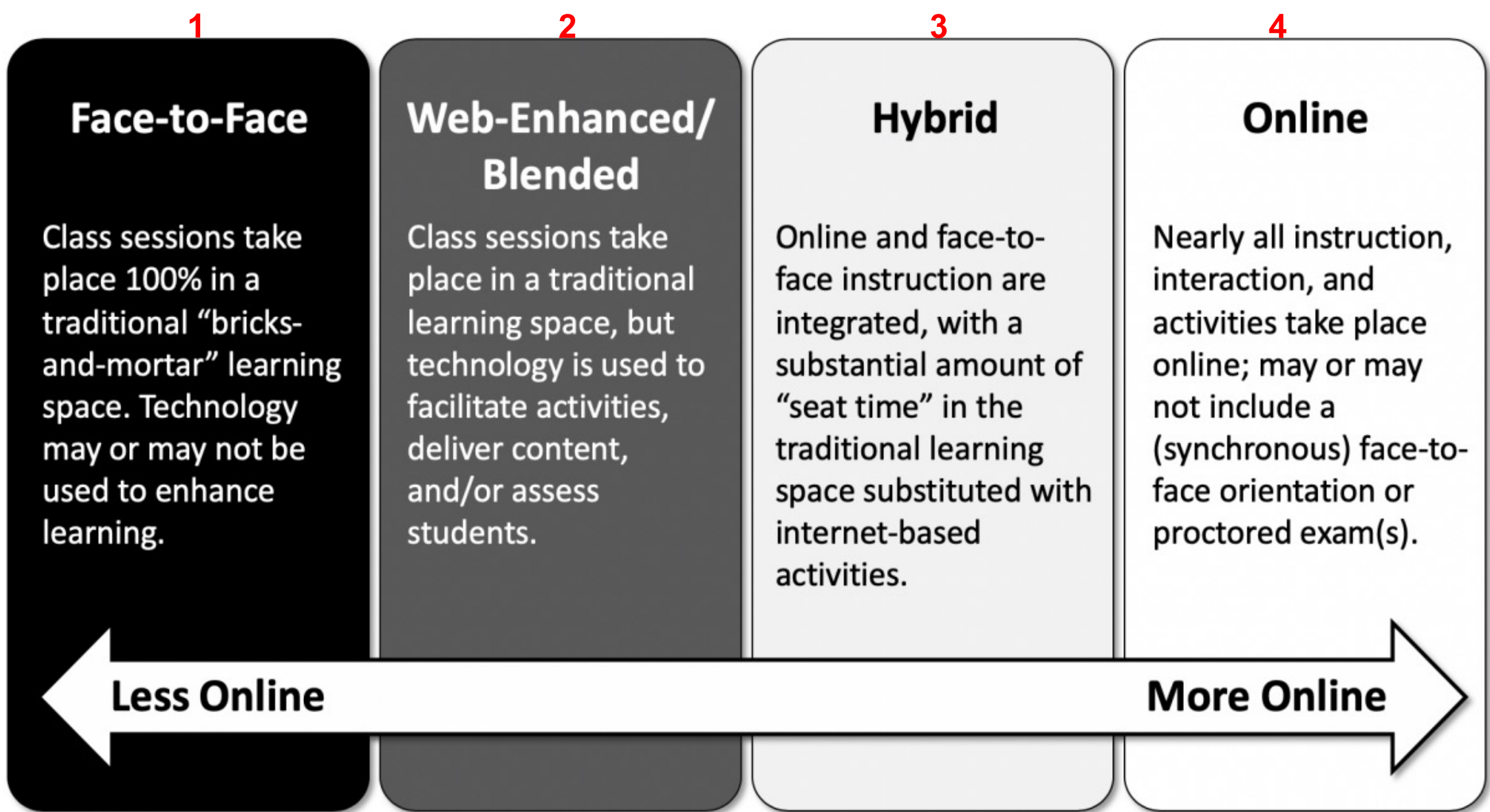


Chart 1. Online Learning Spectrum

### Face to face is good for:

- Establishing social presence and support
- Nonverbal communication
- Defining assignments
- Negotiating expectations and responsibilities
- Diagnosing students' conceptual problems and providing immediate feedback
- Brainstorming
- Role play
- Student demonstration of psycho-motor skills

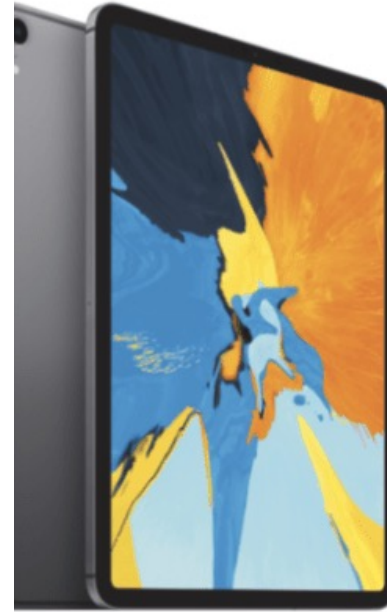
### Online is good for:

- Sustaining group cohesion, collaboration, and support
- Reflective, on-task discourse
- Broader participation in discussions
- Critical analysis
- Self-paced learning and practice
- Self-assessment quizzes with feedback
- Automatic grading of multiple choice, T/F, fill-in-the-blank tests
- Create a content outline, chunking content into modules.

# 1. 概述常用的流動電腦裝置

## Overview of Mainstream Mobile Computer Devices





## 流動電腦裝置 + 無線網絡環境 = 提升學習效能?

 Microsoft Surface

Google  
Pixelbook

 iPad Pro

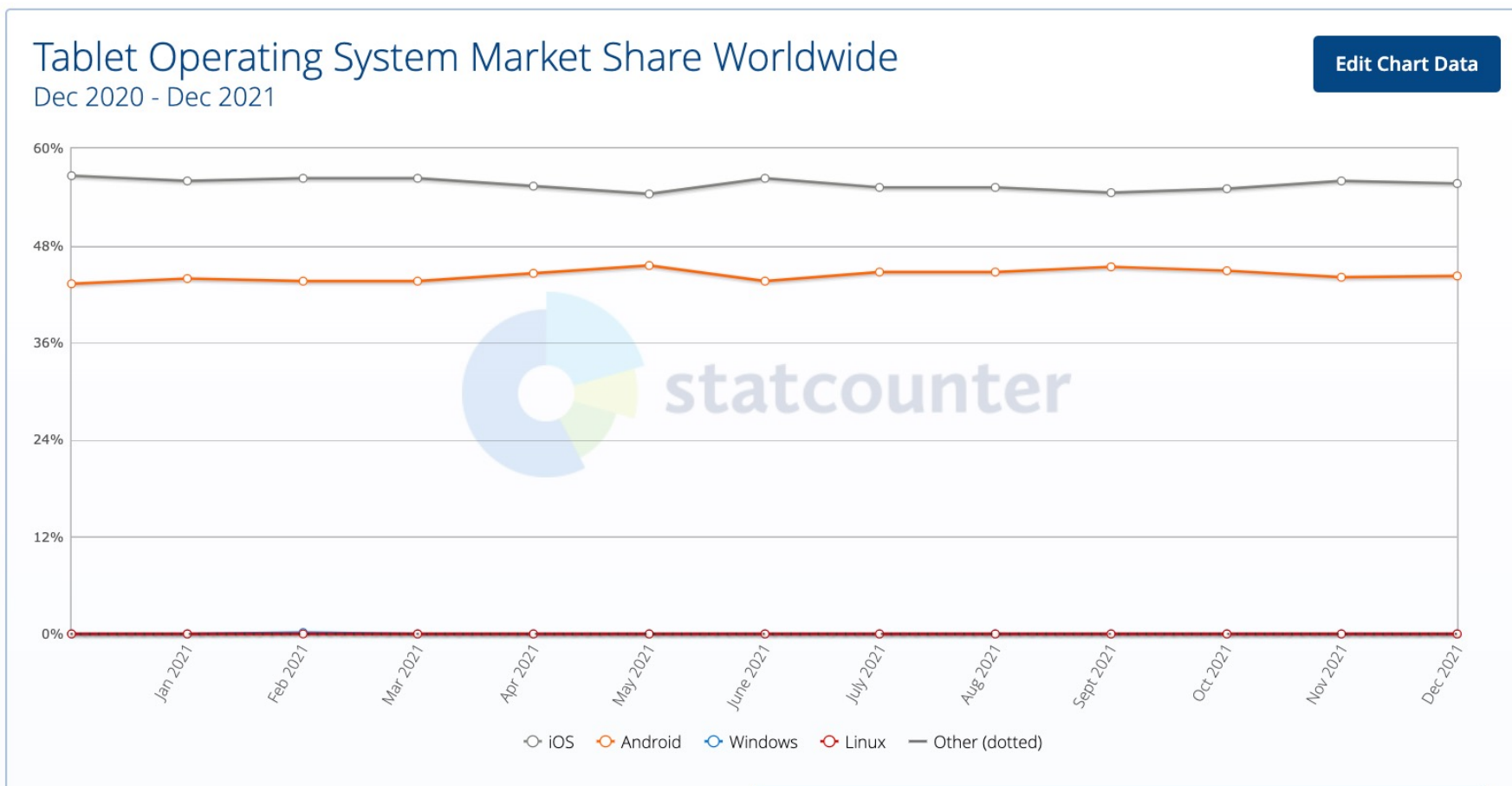
 ANDROID

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# 比對不同作業系統 於教育應用





# 流動電腦裝置 – 提升學教效能

## 討論交流

1. 學校選購了那種流動電腦裝置？
2. 考慮了甚麼因素？
3. 現在使用模式？ 1:1 or Shared Device?
4. 遇見的問題？ 技術上 / 學術上？
5. 如何定義善用流動電腦裝置
6. 有沒有使用學習管理系統 (LMS)？考慮那些因素？
7. 學校如何推展電子教學？成效如何？問題關鍵？





# 流動電腦裝置 – 提升學教效能

## 考慮因素

1. 單機價錢
2. 整體效能
3. 儲存空間
4. 屏幕大小
5. 網絡連接
6. 相關配件
7. 保養維修
8. 操作系統
9. 應用程式
10. 向後兼容

# IOS 教育上應用及管理

1. Content Control
2. Security Concern and Solutions
3. Firmware Update
4. Universal Apps for all IOS Devices



# 學校推動電子學習發展的重要元素

學校推行BYOD以促進自主學習和個人化學習

## 基建及工具

- 無線網絡
- 流動電腦裝置/ 電子學習資源/ 工具

## 教學規劃

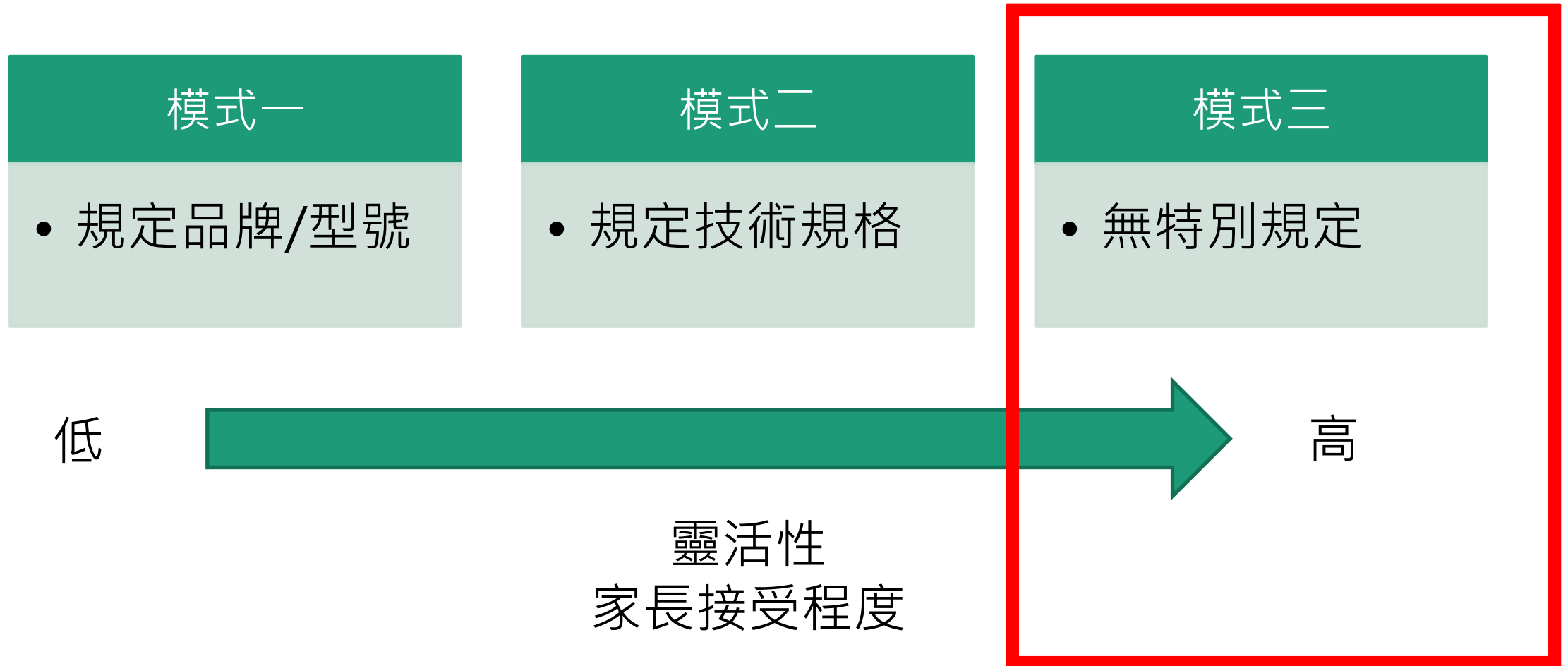
- 電子教學規劃
- 教師專業發展
- 學生資訊素養

## 持份者

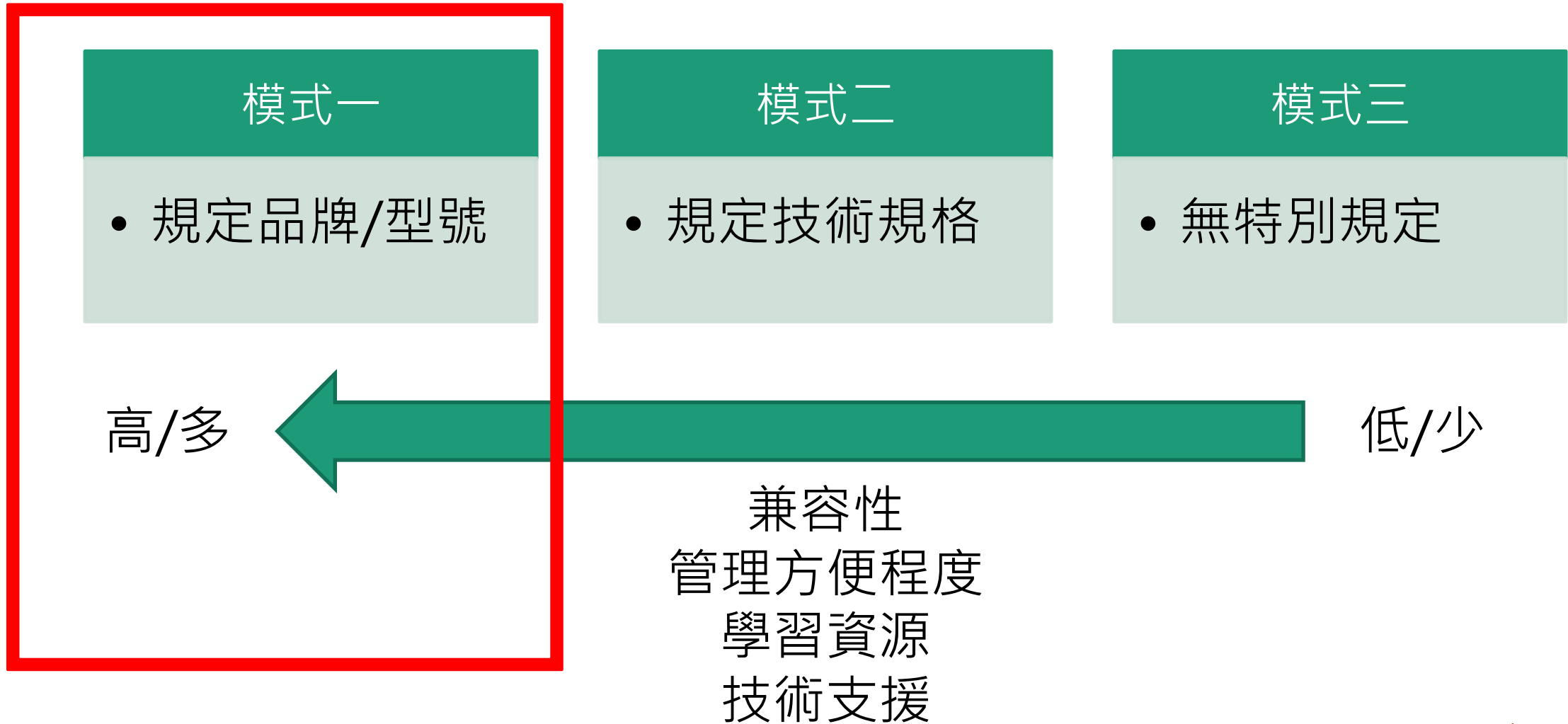
- 家長教育
- 學生輔導
- 為低收入家庭提供支援



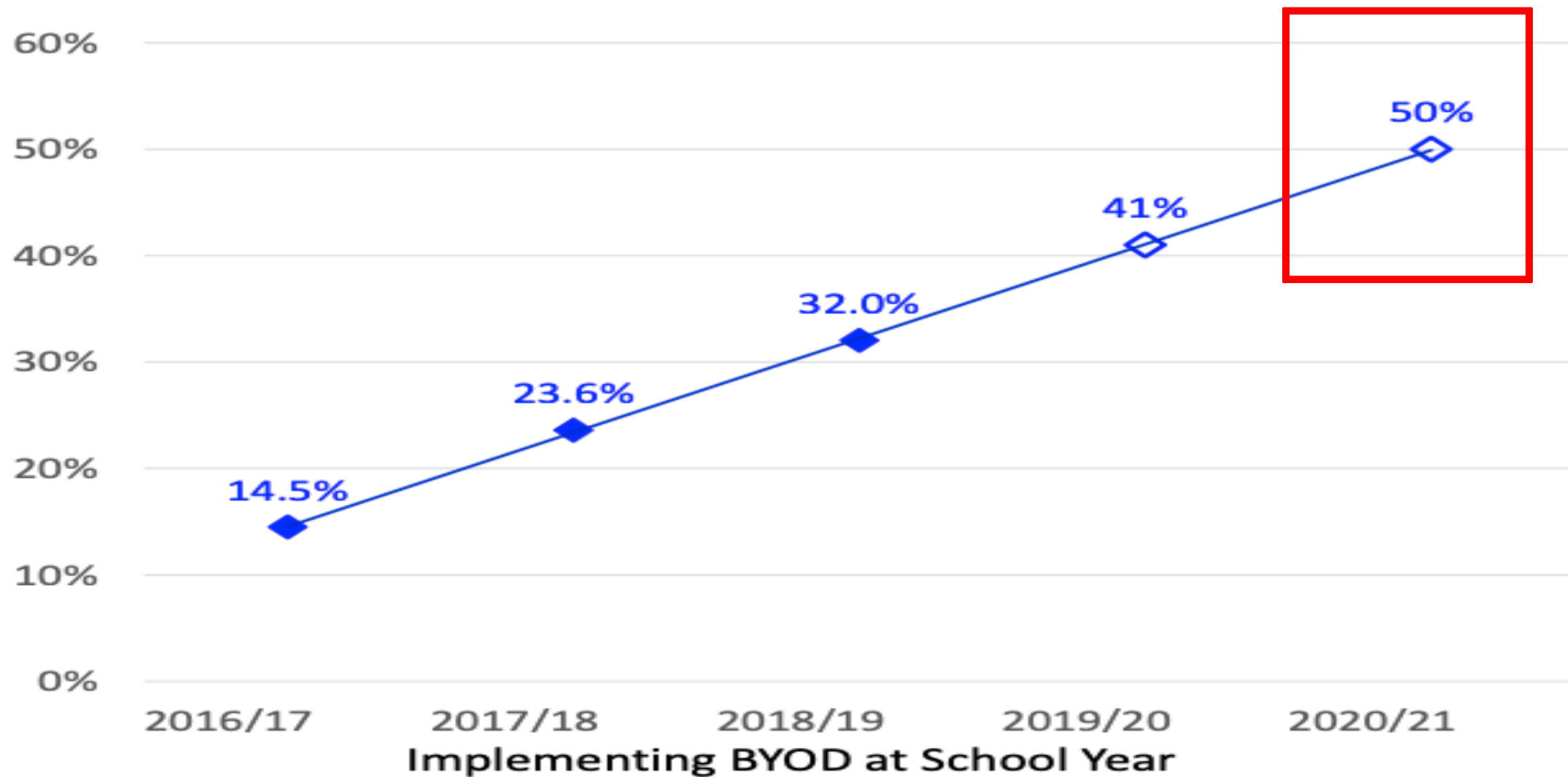
# 三種「自攜裝置」模式



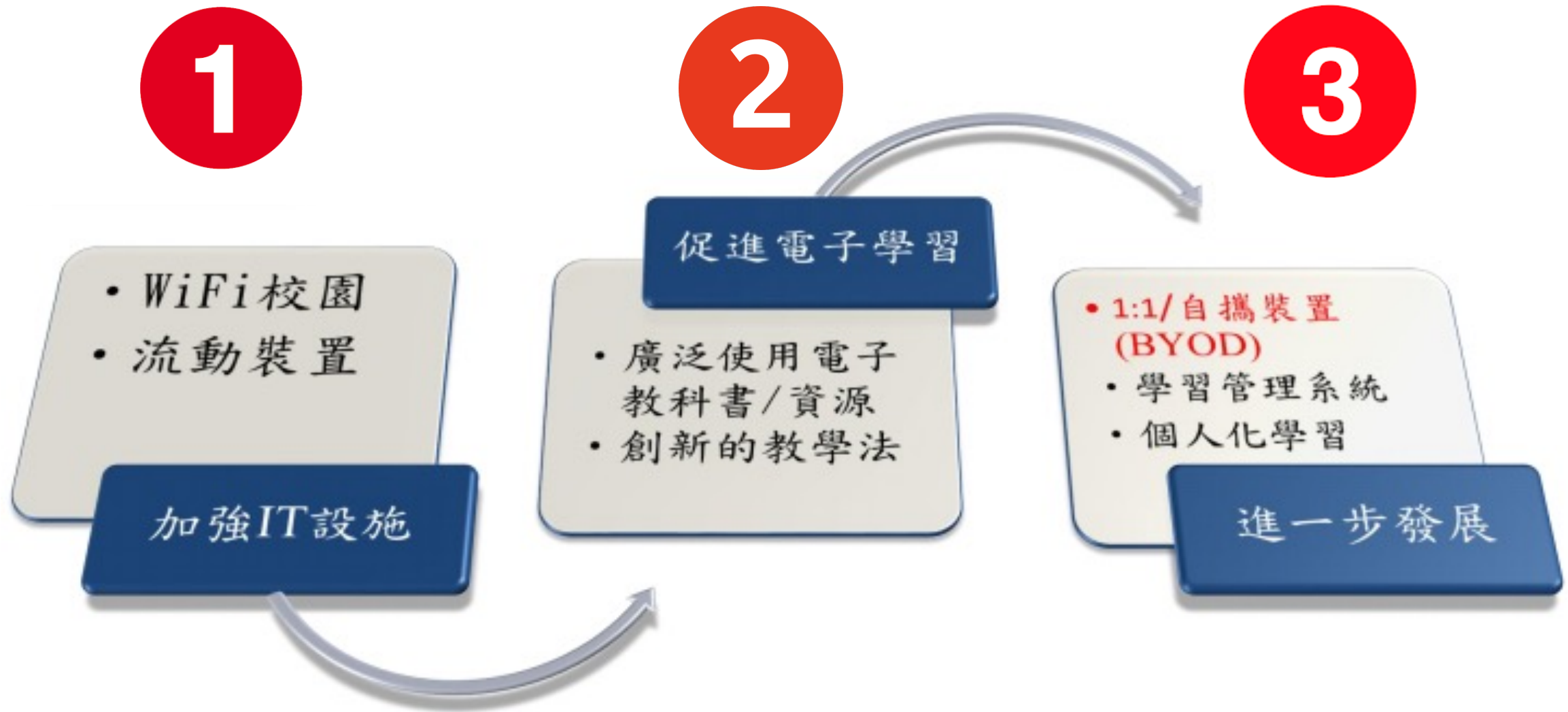
# 三種「自攜裝置」模式



# 預計於2020/21學年推行自攜裝置學校的比例



# 學校在運用流動電腦裝置進行學習的發展

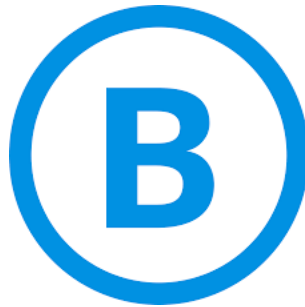


# 學校提供裝置或自攜裝置？

由學校按課堂需要提供學生  
流動電腦裝置進行學習活動



學生攜帶自己的流動電腦裝置  
回校進行學習活動



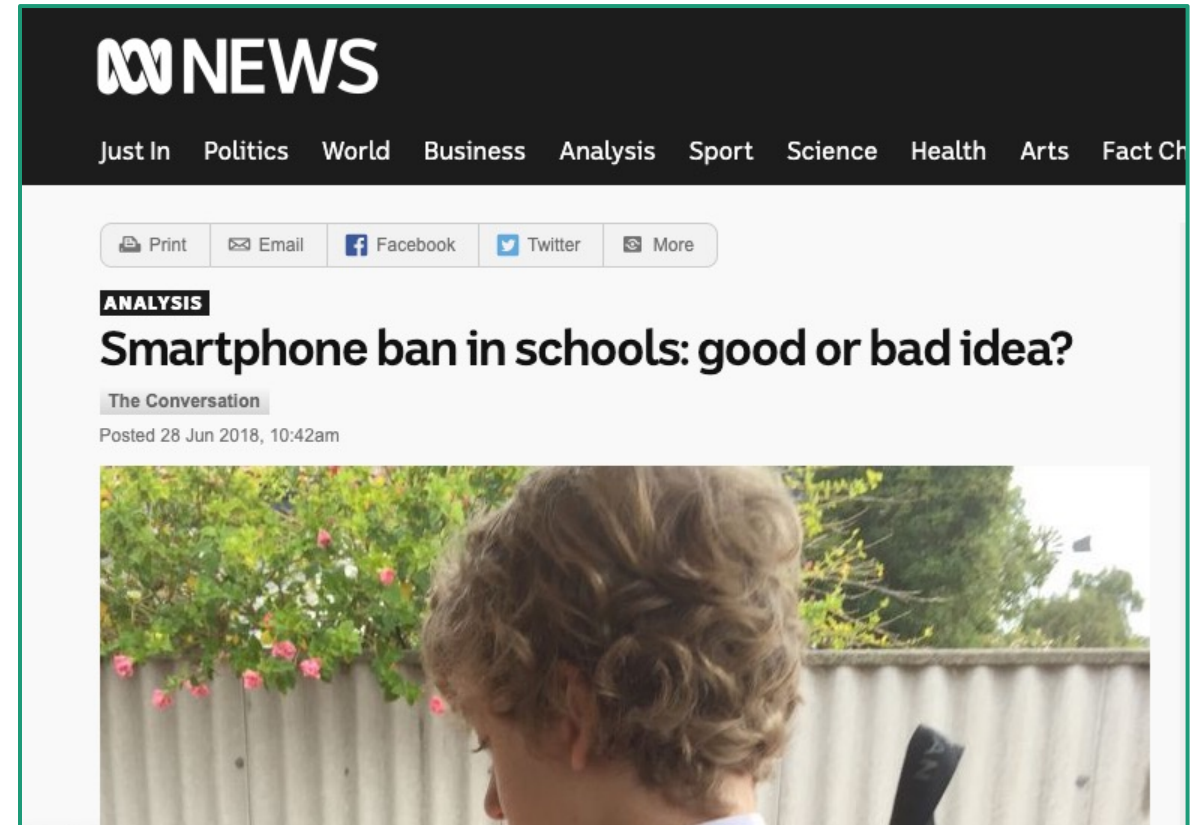


# 推行電子學習的再思 – 利？弊？

## 使用資訊科技是學生重要的廿一世紀技能

- 發展學生的**自主和協助學習**能力
- 要配合學校課程規劃和教學安排  
(包括資訊素養)
- 不能擋的趨勢，不應擋的改變
- 小心計劃，認真推行

## 法國學校禁用手機



# 推行電子學習的再思 – 利？弊？

利用媒體獲取信息，閱讀不同媒介文本，已經成為二十一世紀關鍵能力（或核心素養），這種關鍵能力就是**資訊素養**

資訊素養（Information literacy）指的是「個人知道**何時**需要資訊，並能有效**找尋**、**評估**、和**利用**資訊的能力。」

在資訊爆炸的知識經濟時代，如何培養學生具備良好的**資訊素養**成為各階段教育的重要**任務**

## 澳洲學校禁用手機

澳洲教育部門發公告 禁止學生在校園使用手機

Unwire.hk

發布時間：2019年11月30日02:00



# 推行電子學習的再思 – 利？弊？

善用 = 提升學習效能

濫用 = 影響學習效能



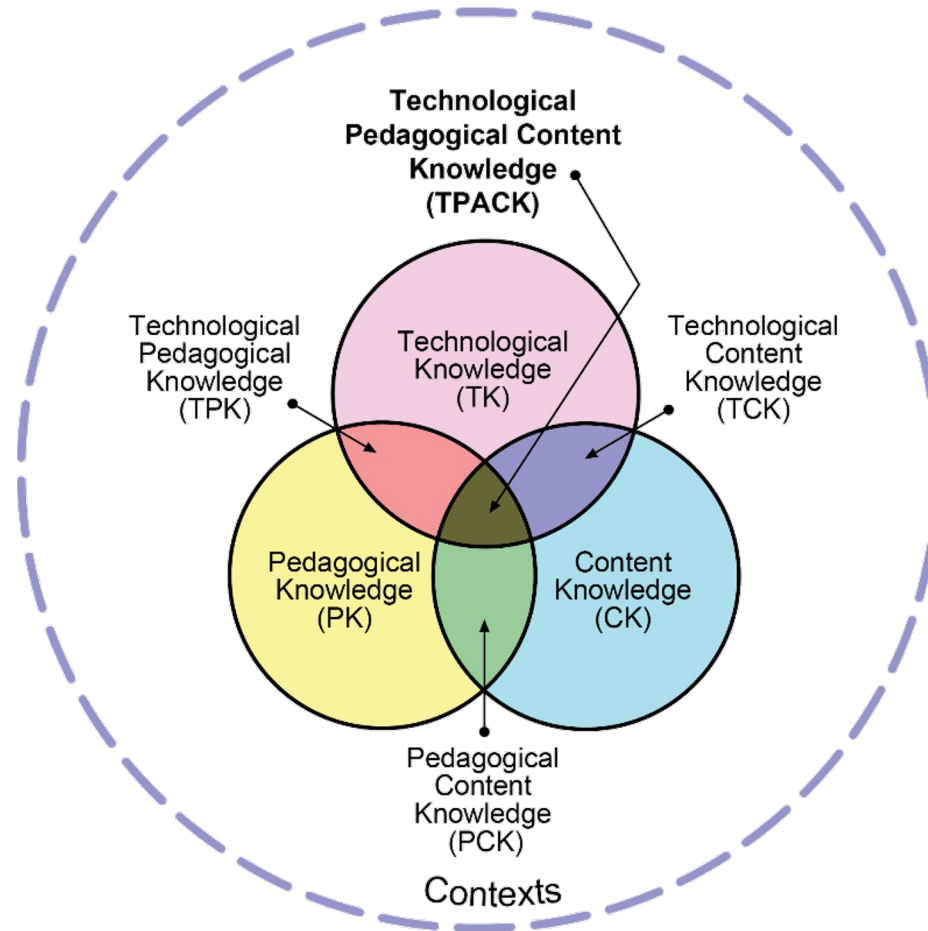
# 「自攜裝置」的優勢

- 減省在課堂進行電子學習的相關預備工作。
- 學生使用自己的流動電腦裝置，有助學生於課堂內外與朋輩進行協作學習。
- 學生熟悉自己的裝置，能有效地在學習中使用它。
- 可配合學校的學習管理系統(LMS)，讓老師更易掌握學生的學習情況。



# Technological Pedagogical Content Knowledge (TPACK) Framework

Effective technology integration for pedagogy around specific subject matter requires developing sensitivity to the dynamic, transactional relationship between these components of knowledge situated in unique contexts.

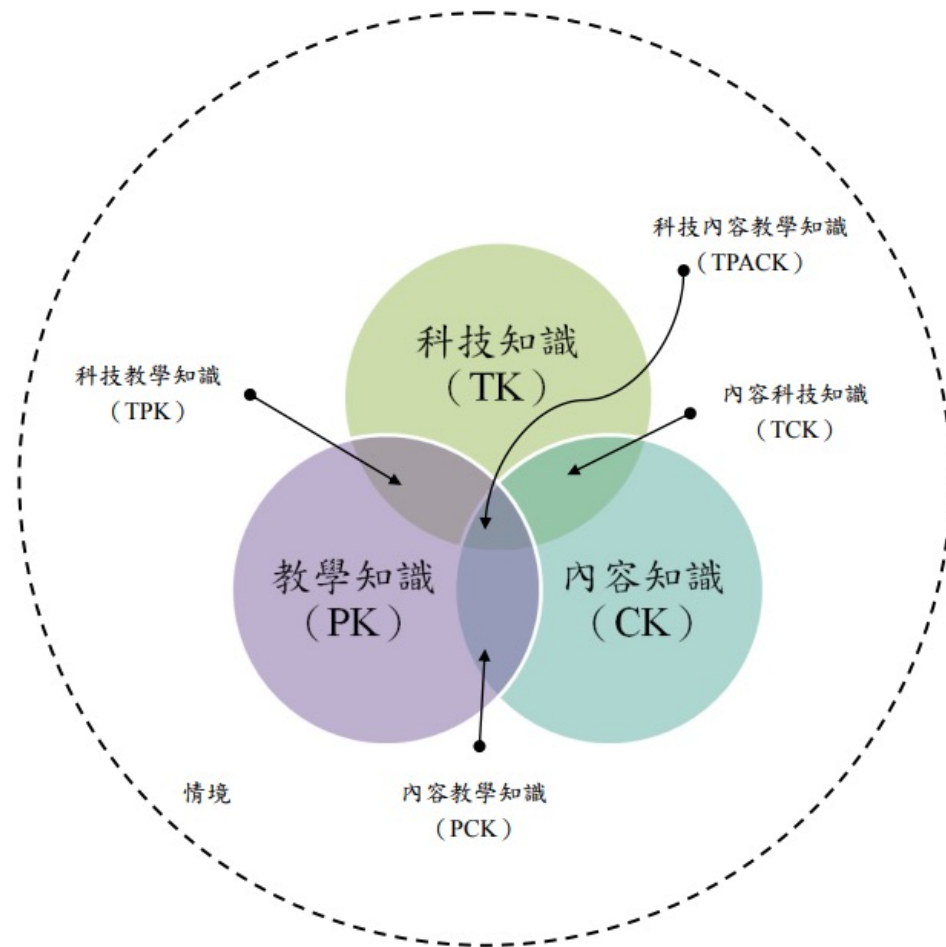


There is no “**one best way**” to integrate technology into curriculum.

Integration efforts should be creatively designed or structured for particular subject matter ideas in specific classroom contexts.

# 科技教學內容知識模型 (TPACK)

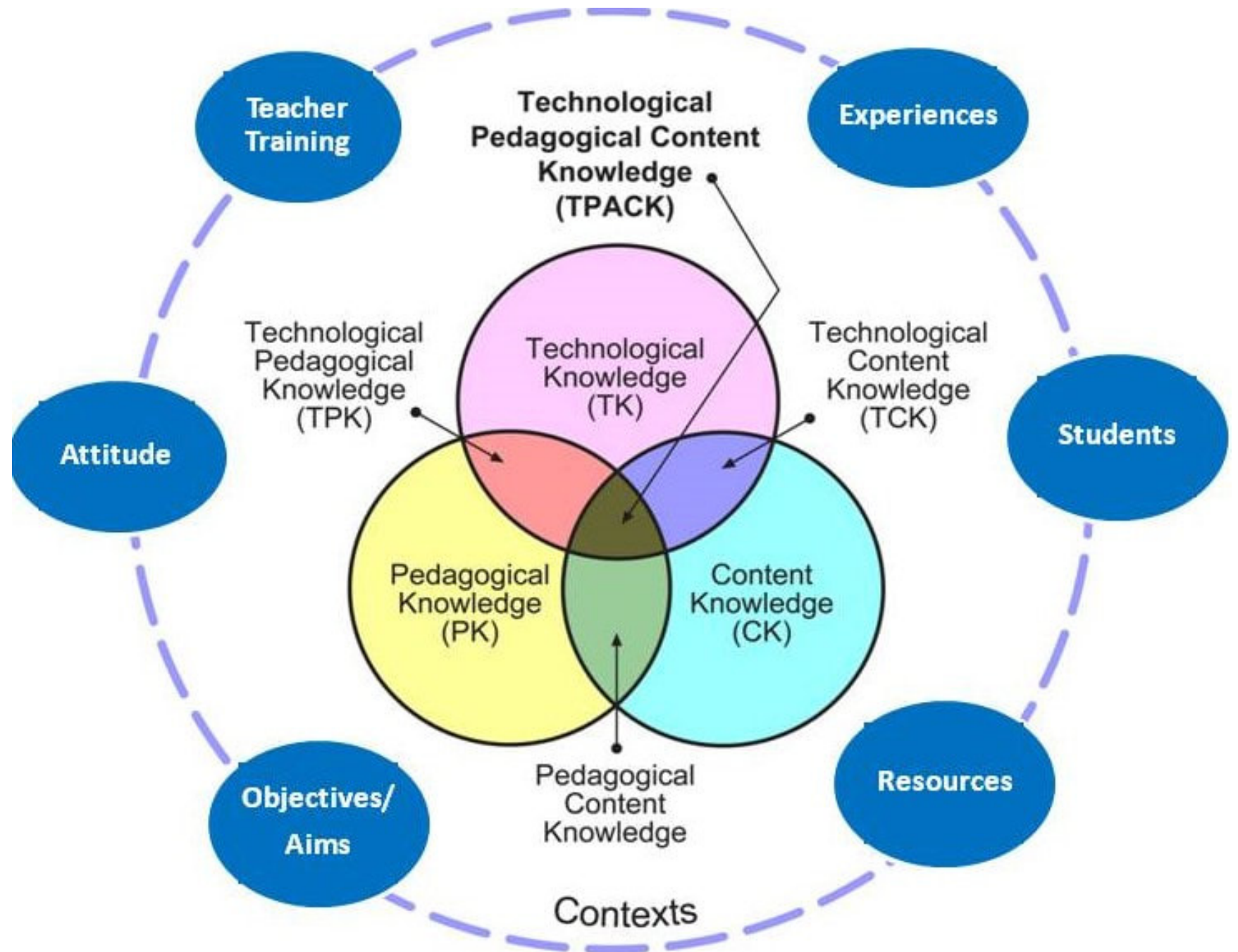
應用科技並融入教學法，將適用的資訊轉化為獨特的教學內容。



科技融入在課程並沒有一定的「最好的方法」。

在科技融入課程時，應針對特定的課堂環境和學習主題進行具創意的設計和建構。

# 科技教學內容知識模型 (TPACK)



Mishra & Koehler (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.

# The SAMR Model framework

created by Dr. Ruben Puentedura



Image Modified from Original by Lefflerd's on Wikimedia Commons



# 課程規劃



# 「自攜裝置」的優勢

- 減省在課堂進行電子學習的相關預備工作。
- 學生使用自己的流動電腦裝置，有助學生於課堂內外與朋輩進行協作學習。
- 學生熟悉自己的裝置，能有效地在學習中使用它。
- 可配合學校的學習管理系統(LMS)，讓老師更容易掌握學生的學習情況。



# 進入移動學習世界



**黃 SIR 做到了，我們欠缺了甚麼？**

# XXXX 學校 2022



What changes with ubiquitous access?



## 移動學習 定義

Clark Quinn (2000) ，行動學習就是透過**行動輔具**：如個人數位助理、行動電話等，**進行電子化學習**。

Harris (2001) 認為 **學習透過點與點交集的概念**，認為行動學習即是**行動科技與網路學習** 的交集點，然後創造**不受時間、地點限制**的學習經驗。

Topland(2002) 則從學習的**管道定義**行動學習，認為行動學習是**多種管道式 (Multi-Channel)**的網路學習，透過行動電話、個人數位助理、可攜式的筆記型電腦或平板電腦等管道進行學習活動。

## 移動學習 優勢

- Learning Path
- Performance Support
- Higher Engagement
- Multi-Device Support
- Collaborative Learning
- Better Completion Rate and Higher Retention
- Flexibility to Learners

Cer

## 7 Benefits of Mobile Learning Over Traditional eLearning

**Performance Support**  
mLearning is ideal for performance support intervention as learners have easy access to information while at work. This leads to increased usage and retrieval.

**Multi-Device Support**  
The same course is available on varied devices ranging from PCs and laptops to tablets and smartphones.

**Better Completion Rates and Higher Retention**  
The bite-sized or microlearning approach makes it easier for learners to initiate, complete, and retain learning better.



### Learning Path

Mobile devices can be used to update learners on their “learning path” thereby facilitating “learning as a continuum”.

### Higher Engagement

The training experience is more immersive and completion rates are higher as compared to traditional eLearning.

### Collaborative Learning

It is a great way to engage with peers to share learning experiences and be part of communities of specific practices.

### Flexibility to Learners

With mLearning, learners have the flexibility of learning “anytime, anywhere” on the device of their choice and in varied formats.



# Why is Mobile Learning so Effective?

- Convenience
- Duration
- Focus
- Microlearning
- Distribution
- Content Evolution

## WHY IS MOBILE LEARNING SO EFFECTIVE?

### MOBILE LEARNING Infographic



#### Convenience

All the required learning and compliance training at the tip of your workforce's fingertips.



#### Duration

Short and concise courses; allow for broader participation and motivate users.



#### Focus

Effective mobile learnings highlight specific learning objectives. This type of focus allows for greater overall comprehension and delivery.



#### Microlearning

Brief focused learning modules can be created to further the knowledge obtained via additional mediums.



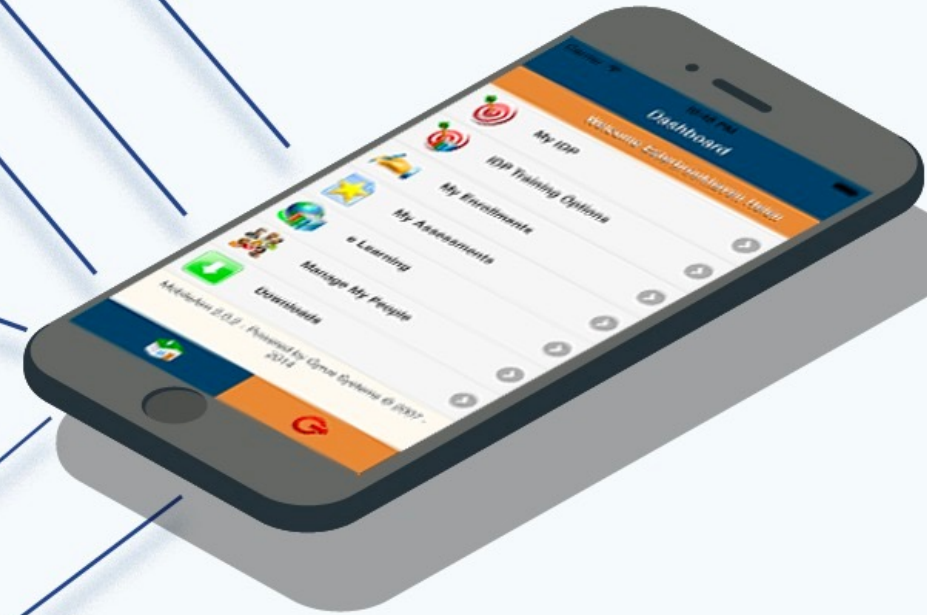
#### Distribution

Instantly and globally make available learnings that will immediately impact your program.



#### Content Evolution

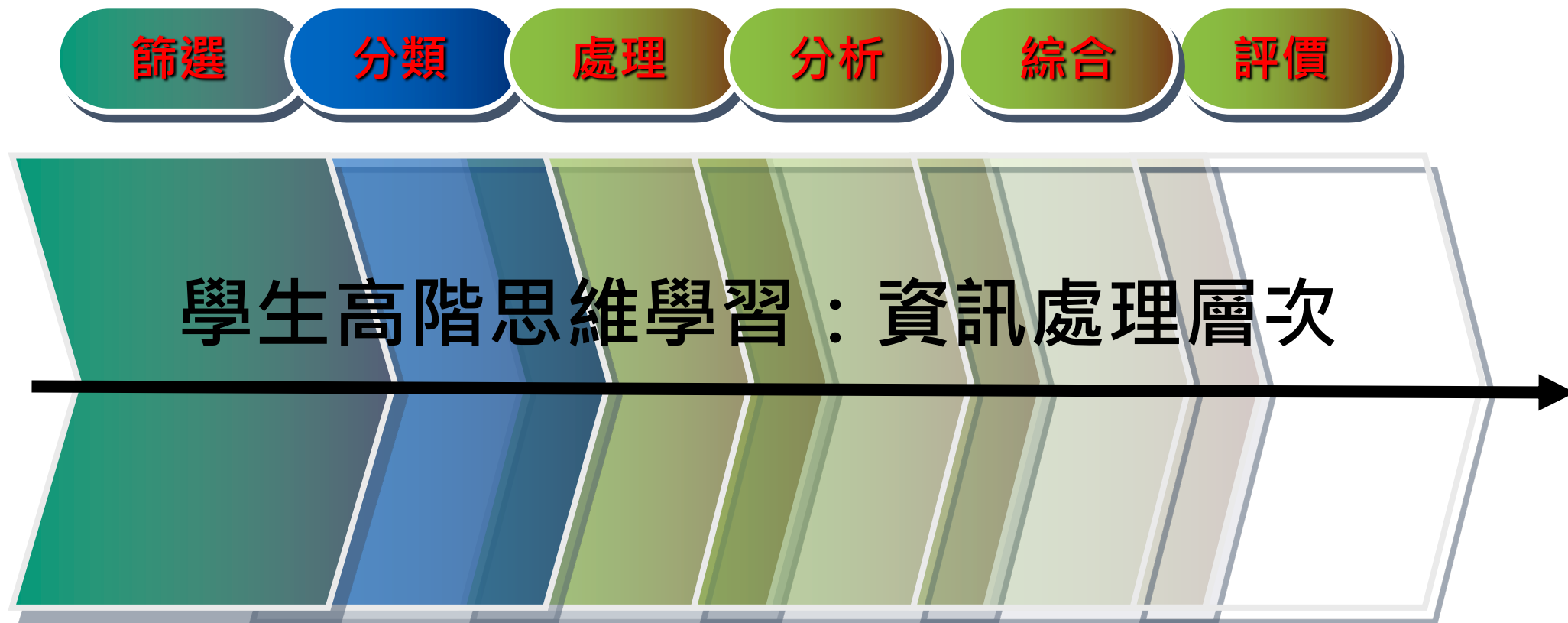
With the growth of the platforms themselves, we experience grander content capabilities. Modern, more dynamic content allows for a greater utilization of media and ultimately superior effectiveness.



### Summary

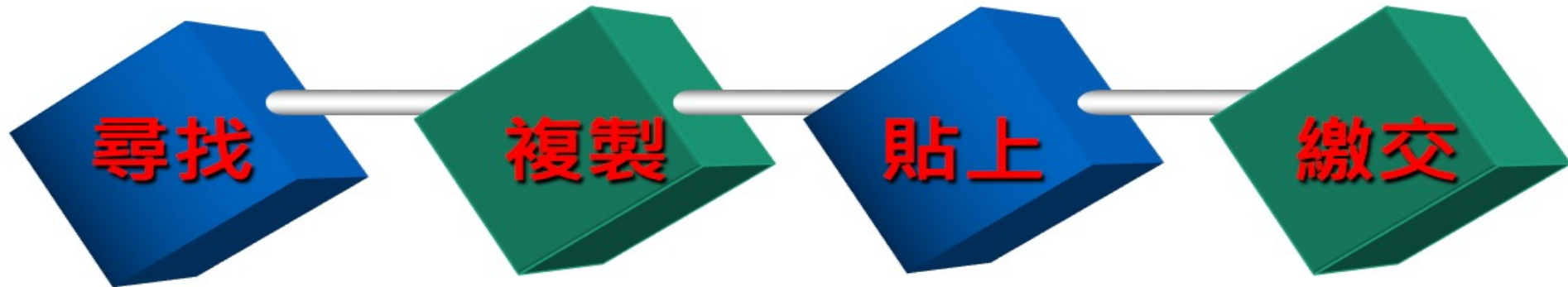
Mobile learning is really gaining a foothold in the industry and is continuing to become a vital component of a well-rounded blended learning environment. With continuous growth on the distant horizon and traits and features such as these, it is hard to imagine it showing any signs of slowing. If your organization currently excludes mobile learnings and you are interested in its value going forward; be sure to tune into the Gyrus Systems Blog, as we will continue to explore this captivating topic.

# 理想：資訊科技教育學習模式





# 現實：資訊科技教育學習模式



## 資訊素養及電子安全相關支援 – 香港學生資訊素養



香港學生資訊素養

教師

專業發展課程 | 教學資源 |  
相關活動

家長

家長講座 |  
參考資源

學生

學習資源 |  
相關活動

健康上網支援網絡



### 香港學生資訊素養簡介

資訊科技是一種發揮學生學習潛能的有效工具。隨著科技的發展，以及透過在各學習領域（包括STEM）創新教學法中應用科技，學生的資訊素養、自主學習和其他廿一世紀所需的能力如創造力、解難能力、協作能力和計算思維能力，都得以提升。為促進學生的學習和追求卓越，教育局在不同階段制訂了資訊科技教育策略，透過資訊科技優化互動學習和教學經歷。

資訊科技作為一種重要的能力，能幫助學生辨識對資訊的需要；尋找、評鑑、提取、組織和表達資訊；創造新的意念；應對資訊世界的變化；合乎道德地運用資訊，以及不讓自己作出違反道德的行為如網絡欺凌和侵犯知識產權。學生在資訊世界中處理不同媒體資訊時，可透過應用共通能力培養資訊素養。資訊素養亦涉及不同知識範圍，並與各學習領域有著密切的聯繫。

學校可參考《香港學生資訊素養文件》的建議，促進學生知識、技能和態度的發展，讓他們合乎道德地及有效地運用資訊和資訊科技，成為負責任的公民和終身學習者。將資訊素養融入學校整體課程，可為學生提供真實的情境應用這些能力，並幫助他們學習相關的學習領域。

相關文件

類別	八個素養範疇	
有效及符合道德地運用資訊，以達致終身學習	1	符合道德地及負責任地使用、提供和互通資訊
一般的資訊素養能力	2	識別和定義對資訊的需求
	3	找出和獲取相關資訊
	4	評估資訊和資訊提供者的權威、公信力及可靠性
	5	提取和整理資訊以及產生新意念
資訊世界	6	能夠運用資訊科技處理資訊和建立內容
	7	認識社會上資訊提供者（例如圖書館、博物館、互聯網）的角色和功能
	8	認識能獲取可靠資訊的條件

# 個人化學習的四大元素

Source: Gates Foundation's "Working Definition" of Personalized Learning

## A WORKING DEFINITION OF PERSONALIZED LEARNING

Personalized learning seeks to tailor student learning by tailoring the environment—what, where, when, and how students learn—to address their needs, skills and interests. Students can take ownership of their learning, while also developing personal connections with their teachers and other adults.

### GETTING STARTED

This is a working definition of personalized learning that is intended as a tool to help educators design student-centered instructional models. These attributes and tactics were developed from the practices of a number of leading schools. They are grouped together to offer a comprehensive view of the possible. No one school fully employs each of these today. Start where you want and progress from there.



### LEARNER PROFILES

Each student has an up-to-date record of his/her individual strengths, needs, motivations and goals.

學生學習歷程記錄



### COMPETENCY BASED PROGRESSION

Each student's progress toward clearly-defined goals is continuously assessed. A student advances and earns credit as he/she demonstrates mastery.

學生能力為本的學習進程

How might we capture each student's current level of mastery within each of the dimensions that we believe is essential for his/her success (e.g. academic skills, social-emotional skills)? In what ways might we highlight a student's attention to their individual needs?

How might we support each student in understanding and articulating his/her interests and aspirations?

How might we support each student in setting personal goals within each dimension that we believe is essential for his/her success? In what ways and how frequently might we ask students to reflect on their progress and adjust their goals accordingly?

### INFORMATION & FEEDBACK

In what ways and how frequently might we provide timely, actionable information and feedback to each student? How might we also provide that information to their teachers and families?

How frequently might we assess mastery within the dimensions that are essential for his/her success?

How might we support each individual student to pursue his/her learning as soon as he/she has mastered a skill? How might students attain mastery?



### PERSONAL LEARNING PATHS

All students are held to clear, high expectations, but each student follows a customized path that is tailored to his/her individual strengths, needs, motivations and goals.

個人化的學習途徑



### FLEXIBLE LEARNING ENVIRONMENTS

Student needs drive the design of the learning environment. All operational elements—staffing plans, space utilization and time allocation—respond and adapt to support students in achieving their goals.

### OPERATIONAL ALIGNMENT

How might we deliver all of the learning experiences that our students need, with the resources we have available? How might we build flexibility into our design to enable us to respond and adapt to student needs?

### STAFFING & ROLES

How might we ensure that our staff have the skills and roles necessary to support personalized learning?

### SPACETIME UTILIZATION

How might we ensure that our student learning experiences are designed to be engaging and effective?

### TIMING & SCHEDULING

How might we ensure that our student learning experiences are designed to be engaging and effective?

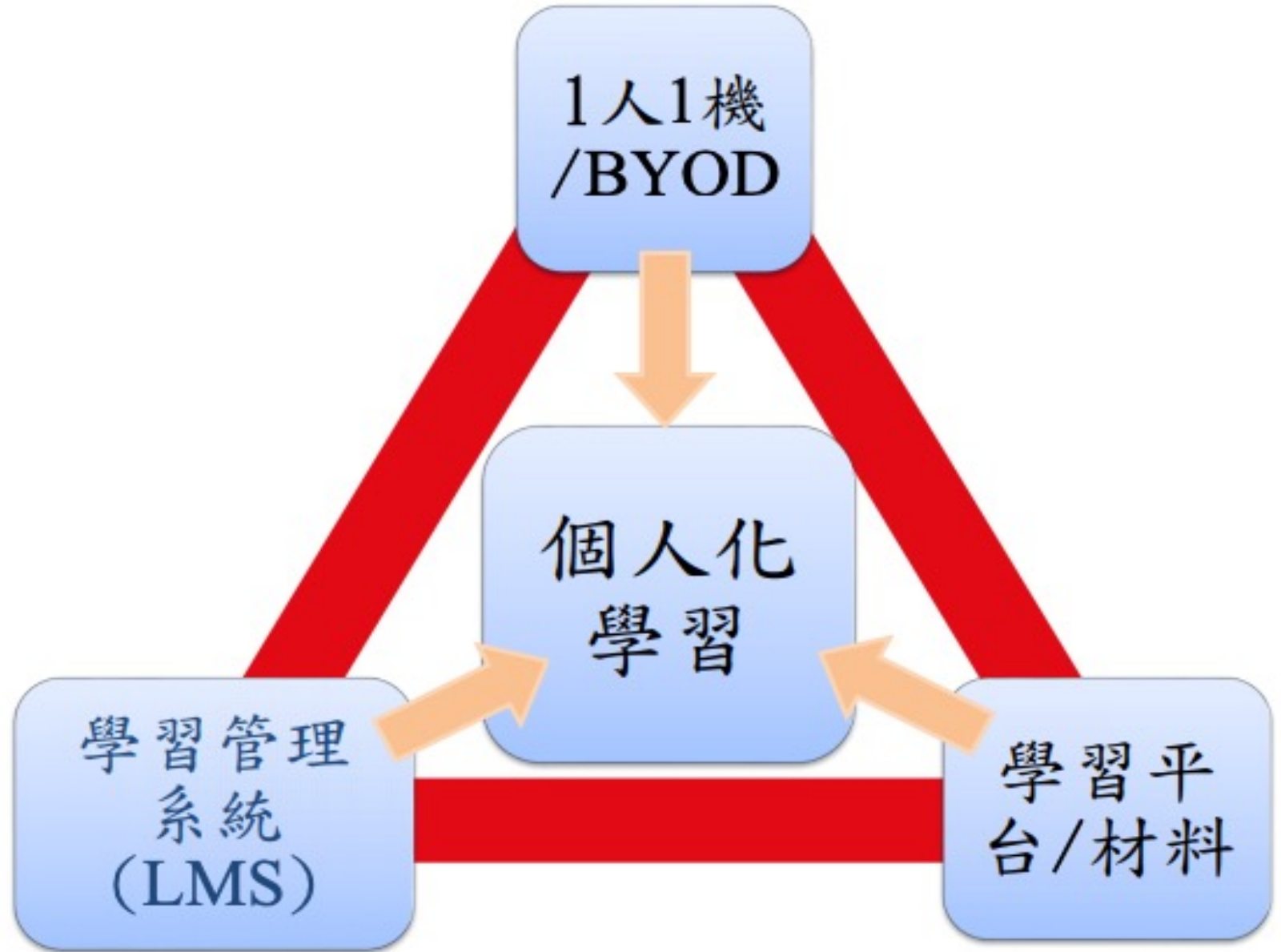
### GROUPING & CONNECTIONS

How might we ensure that our students to enable the varied learning experiences we hope to offer? How might the way we group students change over time?

靈活的學習環境

# 個人化學習的四大元素

Source: Gates Foundation's "Working Definition" of Personalised Learning



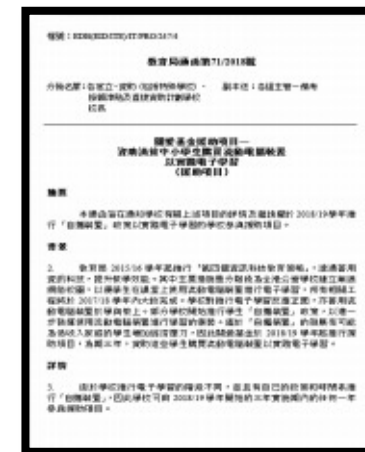
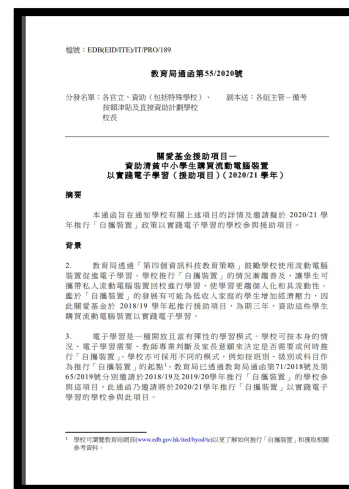
# 關愛基金援助項目

項目於2018/19學年起推行，為期三年，資助清貧學生購買流動電腦裝置以配合學校推行「自攜裝置」實踐電子學習。

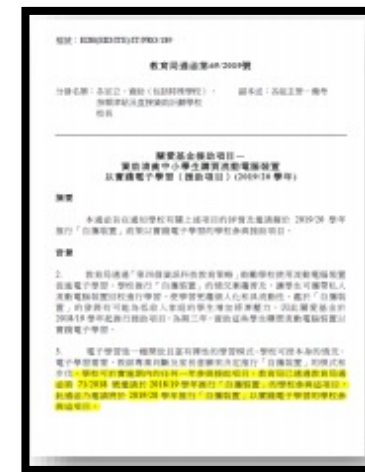
教育局會每年邀請推行BYOD的學校參加。學校應按本身的情況、電子學習需要、教師專業判斷及家長意願來決定是否推行「自攜裝置」政策及相關的時間表，並按學生需要參與這項目。

教育局通函第55/2020號

EDBCM 71/2018 (2018/19)



EDBCM 65/2019 (2019/20)



# 關愛基金援助項目－資助清貧中小學生購買流動電腦裝置以實踐電子學習

[主頁](#) | [最新消息](#) | [表格及參考資料](#) | [專業發展課程](#) | [問與答](#)

## 背景及目的

教育局於2015/16學年起推行「第四個資訊科技教育策略」，為全港公營中小學校建立無線網絡校園，以便學生在課堂上使用流動電腦裝置進行電子學習。部分學校開始推行學生「自攜裝置」政策，以進一步發揮使用流動電腦裝置進行學習的優勢。鑑於「自攜裝置」的發展有可能為低收入家庭的學生增加經濟壓力，因此關愛基金於2018/19學年起推行這援助項目，為期三年，資助這些學生購買流動電腦裝置。

## 合資格的受惠對象

受惠對象必須符合以下條件：

1. 就讀官立、資助（包括特殊學校）、按位津貼或直接資助計劃的中小學；並正領取由社會福利署發放的綜合社會保障援助（綜援），或領取在職家庭及學生資助事務處轄下的學生資助處的學校書簿津貼計劃全額資助（全津）或半額資助（半津）；及
2. 就讀的學校及班別正推行電子學習，並建議學生自攜流動電腦裝置。

## 資助用途

在項目的三年推行期內，每名合資格的學生只可接受資助一次\*。資助金額可用於購買流動電腦裝置、在產品安裝學校所需的流動裝置管理系統、其他基本配件（例如螢幕保護貼及裝置保護套），以及三年產品保養。

關愛基金援助項目—資助清貧中小學生購買流動電腦裝置以實踐電子學習  
(援助項目) 申請表格 (2020/21 學年)  
(請於 2021 年 1 月 29 日或以前以郵寄或傳真遞交)

## 關愛基金援助項目—資助清貧中小學生購買流動電腦裝置以實踐電子學習

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### 表格及參考資料

#### 1. 表格

- [申請表格 \(2020/21 學年\)](#)
- [學生因轉校而需要申請額外資助的程序及表格](#) 

#### 2. 資料單張

- [資料單張](#)
- [索取資訊單張表格](#)



**關愛基金援助項目一  
資助清貧中小學生購買流動電腦裝置以實踐電子學習（援助項目）**

**申請表格（2020/21 學年）  
（請於 2021 年 1 月 29 日或以前以郵寄或傳真遞交）**

致：教育局資訊科技教育組（傳真：2382 4403）

本校將會在 2020/21 學年推行「自攜裝置」政策以實踐電子學習。現就教育局通函第 55/2020 號所規定，申請參加援助項目。詳情如下：  
（請以正楷填寫各項資料，並在適當方格內加✓及在\*號處刪去不適用者）

**甲部：學校資料**

學校名稱：\_\_\_\_\_

學校編號：

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學校類別： 小學     中學     特殊學校

資助類別： 官立     資助     按額津貼     直接資助

學校聯絡：電話：\_\_\_\_\_ 傳真：\_\_\_\_\_ 電郵：\_\_\_\_\_

地址：\_\_\_\_\_

負責老師：姓名（中文）：\_\_\_\_\_ \*先生/女士 姓名（英文）：\_\_\_\_\_

職位：\_\_\_\_\_ 電話：\_\_\_\_\_ 電郵：\_\_\_\_\_

**乙部：推行詳情**

**(1) 本校的推行情況如下：**

- 本校已於 2018/19 及/或 2019/20 學年參加這項目，並將於 2020/21 學年繼續推行「自攜裝置」政策。（請填寫乙部(2)）
- 或**
- 本校將推行「自攜裝置」政策以進行電子學習，並會於 2020/21 學年首次參加項目。
- (a) 已透過以下途徑建議家長為學生購置流動電腦裝置，以進行電子學習：
- 2020/21 學年的教科書單     學校通告/信件
- 學校網站     其它 (請列明) \_\_\_\_\_
- (b)  本校已制定「可接受使用政策」<sup>1</sup>，以便學生使用流動電腦裝置進行學習。

<sup>1</sup> 「可接受使用政策」(Acceptable Use Policy) 是規範學生使用流動電腦、無線網絡和資訊的政策或協議，詳述可接受和不可接受的行為。

**(2) 2020/21 學年的估算合資格學生人數：**  
（請所有參加學校提供合資格學生的估算人數作預算之用）

「自攜裝置」 年級	「自攜裝置」 班別數目	2020/21 學年的估算合資格學生人數			總人數
		領取綜合 社會保障援助	領取學校 書簿津貼計劃 全額資助	領取學校 書簿津貼計劃 半額資助	
<b>總人數</b>					

**聲明：**茲聲明本申請表內各項資料均據實填報。本人明白如故意虛報任何資料，任何獲批的資助將不獲發放，而已支付的款項亦須退還教育局。

校長簽署：\_\_\_\_\_

校長姓名（中文）：\_\_\_\_\_ \*先生/女士

校長姓名（英文）：\_\_\_\_\_

日期：\_\_\_\_\_

學校印章

# 項目概覽

- 教育局會向學校發放資助，由學校代學生購買流動電腦裝置、裝置管理系統、其他基本配件及三年產品保養。
- 每名受惠學生所獲得的資助上限每年會按綜合消費物價指數調整。2020/21 學年，綜援及全津學生的資助金額上限為 **4,740 元**；而半津學生的資助金額則為產品實際費用的一半，上限為 **2,370 元**
- 學生升學或轉校時，如果新校採用的裝置與舊校的不同，有關學生則可再獲資助購買另一部裝置，但須將原有裝置交回舊校。



優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

<https://applications.edb.gov.hk/circular/upload/EDBCM/EDBCM22086C.pdf>

優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

## 優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援

[主頁](#) | [最新消息](#) | [表格及參考資料](#) | [常見問題](#)

[查詢新學生曾否受惠於關愛基金援助項目（購置流動電腦裝置） / 優質教育基金電子學習撥款計劃](#)

今學年撥款計劃的受惠學生應在最近三年內未曾獲取同類政府資助，包括關愛基金援助項目（購置流動電腦裝置）及本撥款計劃（收取的新學生除外）。

如學校欲查核所取錄新學生的相關受惠記錄，所需的步驟如下：

Centre for Learning Sciences and Technologies (CLST)  
The Chinese University of Hong Kong



# 優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

<https://applications.edb.gov.hk/circular/upload/EDBCM/EDBCM22086C.pdf>

## 優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

步驟	細節
1	學校將填妥的「 <a href="#">表格II</a> 」[點擊左方超連結下載表格] 傳真至教育局（傳真號碼：2382 4403 / 2382 6551）。
2	教育局收到「 <a href="#">表格II</a> 」後會把「新學生查核表」的電子檔案透過網上校管系統的聯遞系統（CDS）發送給學校。
3	學校於「新學生查核表」的電子檔案輸入學生資料（例如學生英文姓名、學生編號、學生舊校的學校編號等資料），然後透過CDS交予教育局。  <b>**註：學校須留意，根據《個人資料(私隱)條例》，學校必須先徵得家長同意，才可向教育局提供學生的個人資料以查核其受惠記錄。**</b>
4	教育局會於收到學校已填妥的「新學生查核表」電子檔案的10個工作天內，將查核結果透過CDS發送予學校。

如有查詢，請致電3698 3670或3698 4149與教育局資訊科技教育組聯絡。



## 優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

### 撥款金額及用途

在撥款計劃的三年推行期內，學校可為每名符合條件的學生申請一次「基本撥款」，每名學生的撥款金額上限為 4,700 元。

學校可運用撥款購置下列部分 / 全部項目，供該名學生借用：

- 1) 流動電腦裝置連三年產品保養；
- 2) 流動裝置管理系統；及
- 3) 按學習需要而訂定的基本配件，包括螢幕保護貼、裝置保護套、分拆式鍵盤、觸控筆、滑鼠及耳機。

優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

<https://applications.edb.gov.hk/circular/upload/EDBCM/EDBCM22086C.pdf>

優質教育基金電子學習撥款計劃—提供流動電腦裝置及上網支援（2022/23 學年）

為了支援個別因居住環境所限而未能獲得合適上網服務的有經濟需要學生，學校可申請「額外撥款」購置可攜式無線網絡路由器供他們借用，及 / 或向他們提供流動數據卡。

學校獲發放的撥款金額會按學生在每一學年的實際需要計算，在本撥款計劃三年的推行期內的撥款金額上限為每名受惠學生 1,700 元。每名受惠學生的首學年撥款金額上限為 800 元，用於購置路由器及 / 或流動數據卡。

其後學年，若學生仍符合受惠資格，學校可按該名學生每學年的實際需要申請撥款，購買該學年所需的流動數據卡，每名受惠學生的撥款上限為 450 元。就此，在 2021/22 學年已開始受惠的有關學生，若於 2022/23 學年因居住環境所限仍未能獲得合適上網服務，學校需要在申請「額外撥款」時包括他們。

資助學校採購程序的參考資料：

[https://www.edb.gov.hk/tc/sch-admin/fin-management/procurement-procedures-in-aided-schools/procurement\\_procedures\\_in\\_aided\\_schs.html](https://www.edb.gov.hk/tc/sch-admin/fin-management/procurement-procedures-in-aided-schools/procurement_procedures_in_aided_schs.html)

財政限額	採購安排	批核人員
5,000 元或以下	毋須為採購物料或服務進行公開競投，但校內適當職級的人員須證明有關採購是必須的及價格公平合理	校長 / 副校長  <i>[ 註：如學校沒有副校長，校長將為批核人員。 ]</i>
5,000 元以上至 50,000 元	邀請最少兩個口頭報價	
50,000 元以上至 200,000 元	邀請最少五個書面報價	校長
200,000 元以上	邀請最少五名供應商投標	標書批核委員會，成員須包括校監 / 校董、校長、一名教師及一名家長教師會代表或家長校董。

# 參考： Apple 授權教育經銷商 - Apple (香港)

<https://www.apple.com/hk/education/how-to-buy/aaer.html>

## Hong Kong Island

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### **HKT Education Limited**

17/F, PCCW Tower, TaiKoo Place,  
Quarry Bay, Hong Kong

### HKT Education Limited

香港鯉魚涌太古坊電訊盈科中心 17 樓  
(852) 1833282  
enquiry@hkteducation.com

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## Kowloon

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573 Nathan Road,  
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## New Territories

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### **Union Holdings Limited**

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# BYOD ( 自攜裝置 ) 政策和AUP ( 可接受使用策略 )

1. 推行校本BYOD ( 自攜裝置 ) 帶來的教學優勢
2. 推行校本BYOD ( 自攜裝置 ) 可能面對的困難
3. 要有效推行校本BYOD ( 自攜裝置 ) ，學校的行政領導應如何安排？ ( 推行策略 )
4. 應如何調適教師團隊、教學課材、課程調適？
5. 如何讓家長參與其中，加強成效？
6. 如何處理家長對BYOD ( 自攜裝置 ) 的憂慮和疑問
7. 如何提升學生的資訊素養，善用工具？
8. 如何借用外界資源，提升起步點？



# 整全方案

## BYOD

- Bring Your Own Device
- 自攜裝置政策

## AUP

- Acceptable Use Policy
- 可接受使用政策

## MDM

- Mobile Devices Management System
- 流動裝置管理系統

## IL

- Information Literacy
- 適時適地識用

# 自攜裝置Bring Your Own Device (BYOD)

## 電子學習的良好實踐經驗：學校實施學生一人一機「自攜裝置」經驗分享

- 教育局於 2015/16學年推行第四個資訊科技教育策略，旨在透過發揮資訊科技的潛能，提升學與教的互動經驗，以釋放學生的學習能量，讓學生學會學習、邁向卓越。
- 透過學校探訪、資料蒐集及小組會議等，知悉學校在推行電子學習的良好實踐經驗，包括實施學生「一人一機」/「自攜裝置」(BYOD)輔助學習，以提升學與教的效能。
- 為與學界分享，我們載述了五個良好的學校個案及其經驗，印證學校在發展電子學習的文化管理及經營。學校社群可按其運用資訊科技的發展、校政及在教學上的情況，參考這些實踐經驗，集思廣益。

參考：[https://www.edb.gov.hk/attachment/tc/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/Support/BYOD\\_GP20180509\\_C.pdf](https://www.edb.gov.hk/attachment/tc/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/Support/BYOD_GP20180509_C.pdf)

# 自攜裝置 Bring Your Own Device (BYOD)

- 特殊學校：匡智屯門晨崗學校

營造 e-學習文化 實踐學生「一人一機」/「自攜裝置」

- 小學：佛教慈敬學校(慈敬學校)及香港潮陽小學 (潮陽小學)

學生自攜裝置 提升學習效能樂趣多

- 小學：基督教香港信義會信愛學校

電子學習 e-領導 學生「一人一機」學習互動高

- 中學：伯裘書院

1:1 \「自攜裝置」促進電子學習

成就各持分者積極參與 群策群力

# 自攜裝置Bring Your Own Device (BYOD)

- 校本BYOD 政策的簡介；
- 持分者的責任及授權：
  - 學生；
  - 家長；
  - 科主任 / 教師/ 校長；
- 家長/ 監護人的承諾書；
- 裝置的遺失、被盜或損壞，以及對應的處理方案；
- 使用網絡（有線及無線Wi-Fi 網絡）時的注意事項；
- 實施策略、錦囊提示及常見陷阱的預防。



# 可接受使用策略 Acceptable Use Policy (AUP)

- AUP is a **written agreement**, signed by **students, their parents, and teachers**, outlining the terms and conditions of Internet use.
- It specifically sets out acceptable uses, rules of online behavior, and access privileges. Also covered are **penalties for violations of the policy**, including security violations and vandalism of the system.
- Anyone using a school's Internet connection should be required to sign an AUP and know that it will be kept on file as a legal, binding document. (Classroom Connect, December 1994- January 1995 issue).

# 可接受使用策略 Acceptable Use Policy (AUP)

## Acceptable Use Policy Components

- a description of the **instructional values and approaches** to be sustained by Internet access in schools
- a statement on the **educational uses and benefits** of the Internet in the school
- a list of the **duties** of teachers, parents, and students for using the Internet
- a **code of ethical conduct** governing behavior on the Internet
- a description of the **consequences** of violating the AUP

Source:

[https://catnet.adventist.ca/files/resources/res\\_96.pdf](https://catnet.adventist.ca/files/resources/res_96.pdf)



# 可接受使用策略 Acceptable Use Policy (AUP)

## Acceptable Use Policy Components

- a description of what constitutes **acceptable and unacceptable** use of the Internet
- a disclaimer releasing the school division, under specific circumstances, from responsibility
- a statement reminding users that Internet access and the use of computer networks is **a privilege**, not a right
- a statement that the AUP observes state and national telecommunication rules and regulations
- a **signature** form for teachers, parents, and students indicating that they intend to abide by the AUP

Source: [https://catnet.adventist.ca/files/resources/res\\_96.pdf](https://catnet.adventist.ca/files/resources/res_96.pdf)





# 可接受使用策略 Acceptable Use Policy (AUP)

建構 AUP (只供參考):

Ken Ngai

BSc, MBA, MSc, PgD(Digital Forensics)

Head of IT, The Hong Kong Federation  
of Youth Groups

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## Acceptable Use Policy AUP (可接受使用政策)

- 1) 引言
- 2) 目標
- 3) 協議
  - 家長
  - 學生
  - 校方
- 4) 學校網絡環境
- 5) 自携手提裝置 (BYOD)
- 6) 其他電腦裝置
- 7) 保安及責任

# 可接受使用策略 Acceptable Use Policy (AUP)

## 1. 引言

如:

- 互聯網與教學的趨勢
- 學校在對互聯網使用的方向
- 學校在 eLearning 上的政策
- 這文件的適用範圍
- 這文件的更新等



# 可接受使用策略 Acceptable Use Policy (AUP)

## 2. 目標

希望可達致的目標

如:

- 互聯網可提昇教學及學習樂趣、動機、加強溝通渠道
- Having an Acceptable Use (Internet Safety) policy outlining acceptable use of the Internet
- Using security software
- Limiting Internet features
- Teaching children to use the facility sensibly
- Supervising Internet usage
- Having rules for safe Internet usage

# 可接受使用策略 Acceptable Use Policy (AUP)

## 3. 協議家長

家長需同意校方在校內所推行的協議:

如

- 校方使受過濾軟件
- 學生在學校使用互聯網及學校網絡
- 使用學校所提供的電郵地址及其他資源
- 與子女討論並配合校方的AUP
- 使用裝置的限制
- 有需要時，接受校方檢查電腦
- 學生網上行為 (在校內或外)
- 老師於網上的責任
- 私隱免責
- 其他

# 可接受使用策略 Acceptable Use Policy (AUP)

## 4. 協議學生

- 同意並明白這協議
- 遵守這政策等

### 校方

- 保障校方及給予校方權力
- 引領學生正確及安全使用互聯網
- 過濾不良資訊
- 監察過量及不良使用行為
- 老師監察及引領學生的適用範圍
- 保護學生個人資料等



# 可接受使用策略 Acceptable Use Policy (AUP)

## 5. 學校網絡環境規則

- 可使用時間
- 可使用上網裝置
- 保護學校設備
- 網上禮儀 (netiquette)
- 不可接受的行為，如粗言穢語、淫褻、威脅、誹謗、種族歧視...等
- 不可偷拍、盜取他人賬戶、人身攻擊、欺凌等
- 不可下載非法軟件、遊戲



# 可接受使用策略 Acceptable Use Policy (AUP)

## 6. 自攜手提裝置

- 硬件配置
  - Minimum configurations
- 登記程序
  - 登記 MAC address ?
  - Network password ?
  - Open WiFi ?
- 軟件配置
  - OS, version, patches, security settings, anti-virus, other software



# 可接受使用策略 Acceptable Use Policy (AUP)

## 7. 其他電腦裝置

- 手提電話
- 遊戲機

## 8. 保安及責任





# 持份者角色 (BYOB + AUP)

## 家長角色

- 關鍵字: 引領、配合、留意、討論、協議

## 老師角色

- 老師於網上的身份;
- 巡邏、監察、了解 ...
- 與學生網上聯絡或討論
  - 範圍及時間;
  - 媒體 (如 FB, 電郵, WhatsApp ...);
  - 一般指引;



# 持份者角色 (BYOB + AUP)

## 學生協議及責任

- 學生網上禁止做的行為(以比較寬鬆的原則)，如欺凌、攻擊、淫褻、盜竊 (校內外) ... 等，違者可導致被學校處罰。
- 舉報
  - 違規舉報
  - 受害舉報
  - 程序
  - 証據 (擷圖)、時序等
  - 通知家長



# 自攜裝置Bring Your Own Device (BYOD) 和 可接受使用策略Acceptable Use Policy (AUP) 學校範例

香港真光中學 (BYOB + AUP)

[http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/HKTL\\_AUP.pdf](http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/HKTL_AUP.pdf)



佐敦谷聖若瑟天主教小學 (AUP)

[http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/jvsj\\_AUP.pdf](http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/jvsj_AUP.pdf)



# 自攜裝置Bring Your Own Device (BYOD) 和 可接受使用策略Acceptable Use Policy (AUP) 學校範例

## 聖士提反書院 (AUP)

[http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/St\\_Stephen\\_AUP\\_201409.pdf](http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/St_Stephen_AUP_201409.pdf)



## 沙田崇真學校 (BYOB+AUP)

[http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/STTS\\_elearning.pdf](http://www.edb.gov.hk/attachment/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/STTS_elearning.pdf)



# 自攜裝置Bring Your Own Device (BYOD) 和 可接受使用策略Acceptable Use Policy (AUP) 學校範例

博愛醫院陳楷紀念中學：

[www.pohck.edu.hk/ParentNoticeHome/ParentNotice/2019-20/1905-full.pdf](http://www.pohck.edu.hk/ParentNoticeHome/ParentNotice/2019-20/1905-full.pdf)

香港道教聯合會圓玄學院第一中學（通告參考）

[www.yy1.edu.hk/download/notice/202009101615208898927-1671287036.pdf](http://www.yy1.edu.hk/download/notice/202009101615208898927-1671287036.pdf)

順利天主教中學（通告參考）

[www.slcss.edu.hk/sites/default/files/files/cir\\_no\\_03\\_byod\\_new\\_s1\\_circular\\_update.pdf](http://www.slcss.edu.hk/sites/default/files/files/cir_no_03_byod_new_s1_circular_update.pdf)



# 自攜裝置Bring Your Own Device (BYOD) 和 可接受使用策略Acceptable Use Policy (AUP) 學校範例

Jockey Club Ti-I College (JCTIC) - Acceptable Use Policy  
<https://sites.google.com/a/tic.edu.hk/it-support/it-aup>

世界龍岡學校劉皇發中學:

[www.lwfss.edu.hk/sites/default/files/notice/2021-02.pdf](http://www.lwfss.edu.hk/sites/default/files/notice/2021-02.pdf)

博愛醫院歷屆總理聯誼會梁省德中學 「學生攜帶電子學習設備同意書」  
(可接受使用策略(AUP))

[URL](#)

彩虹邨天主教英文中學學生攜帶平板電腦回校之「可接受使用政策」

[www.choihung.edu.hk/download/notice/202001221411590861549.pdf](http://www.choihung.edu.hk/download/notice/202001221411590861549.pdf)

[www.choihung.edu.hk/download/notice/202010081037487281335.pdf](http://www.choihung.edu.hk/download/notice/202010081037487281335.pdf)



# BYOD ( 自攜裝置 ) 政策和AUP ( 可接受使用策略 )

## Mobile Devices Management 流動裝置管理系統

1. MDM全名Mobile Devices Management (流動裝置管理系統)。在使用平板作為電子教學工具的大趨勢下，無論設備管理，還是電子學校的課堂設計都成為新的挑戰。  
MDM可讓學校技術管理人員更有效管理平板電腦。例如統一無線安裝Apps及Wifi 於學生的平板，限制學生下載 Apps及清除鎖屏密碼(Passcode)等等。
2. MDM亦可以幫助前線教師進行電子課堂。例如下達簡單指令協助全班同學進入某個教學Apps或網頁資源、限制同學的平板權限功能、或遙控投影某個同學平板上作品進行分享等等。
3. 重點功能:
  1. 高效管理及安裝 (Software as Assistant)
  2. 課堂引導及分享 (Digital Interactive Classroom)
  3. 無線設置權限 (Restriction and Policy Setting)

# BYOD ( 自攜裝置 ) 政策和AUP ( 可接受使用策略 )

## 可接受使用策略Acceptable Use Policy (AUP)

- AUP is a **written agreement**, signed by **students**, **their parents**, and **teachers**, outlining the terms and conditions of Internet use.
- It specifically sets out acceptable uses, rules of online behavior, and access privileges. Also covered are **penalties for violations of the policy**, including security violations and vandalism of the system.
- Anyone using a school 's Internet connection should be required to sign an AUP, and know that it will be kept on file as a legal, binding document.  
(Classroom Connect, December 1994- January, 1995 issue).





## 2. 了解流動電腦裝置用於學與教的基本操作

Understanding **Basic Operations of Mobile Computer Devices**  
for Learning and Teaching



# 了解流動電腦裝置用於學與教的基本操作

Understand the operations of the **built-in functions** of mobile computer devices in lessons

1. Searching and opening an app
2. Connecting to WiFi access point / hotspot
3. Screen mirroring to TV / projector
4. Screen capturing and recording, etc
5. Dark Mode
6. Cloud Backup



## Searching and Opening an app (IOS)

滑動來搜尋

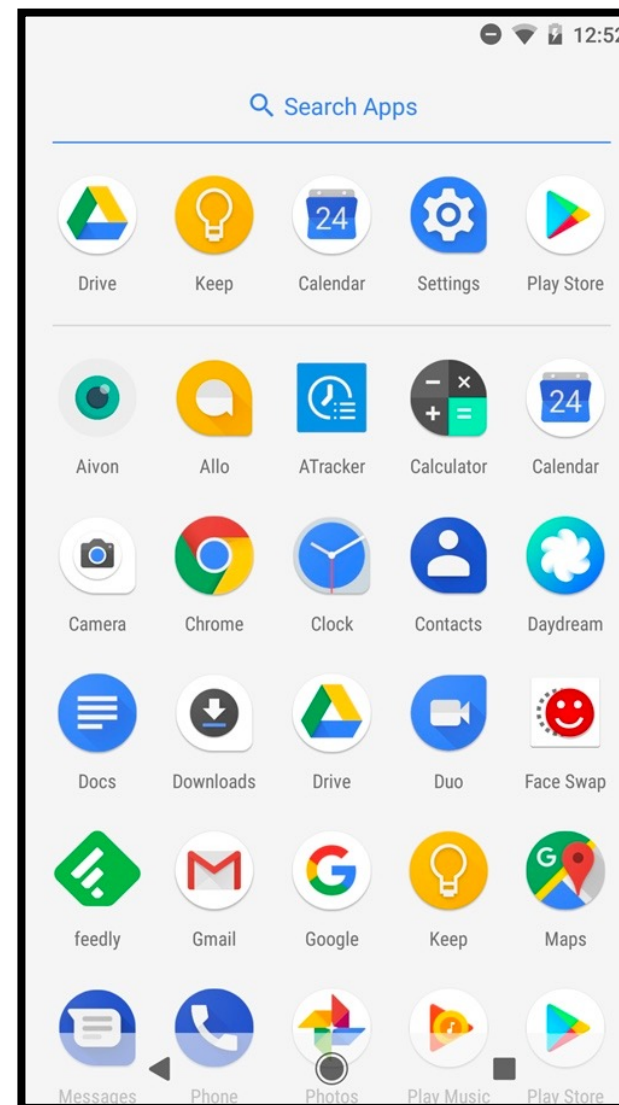
1. 從裝置的主畫面快速尋找你需要的 App。
2. 從主畫面中間**向下滑動**。
3. 點一下「搜尋」欄位，然後輸入你想尋找的 App。「搜尋」功能會在你輸入文字時實時更新搜尋結果。
4. 點一下搜尋結果即可打開。



## Searching and Opening an app (Android)

滑動來搜尋

1. 從裝置的主畫面快速尋找你需要的資料。
2. 從主畫面中間**向上滑動**。
3. 點一下「搜尋」欄位，然後輸入你想尋找的 App。「搜尋」功能會在你輸入文字時實時更新搜尋結果。
4. 點一下搜尋結果即可打開。



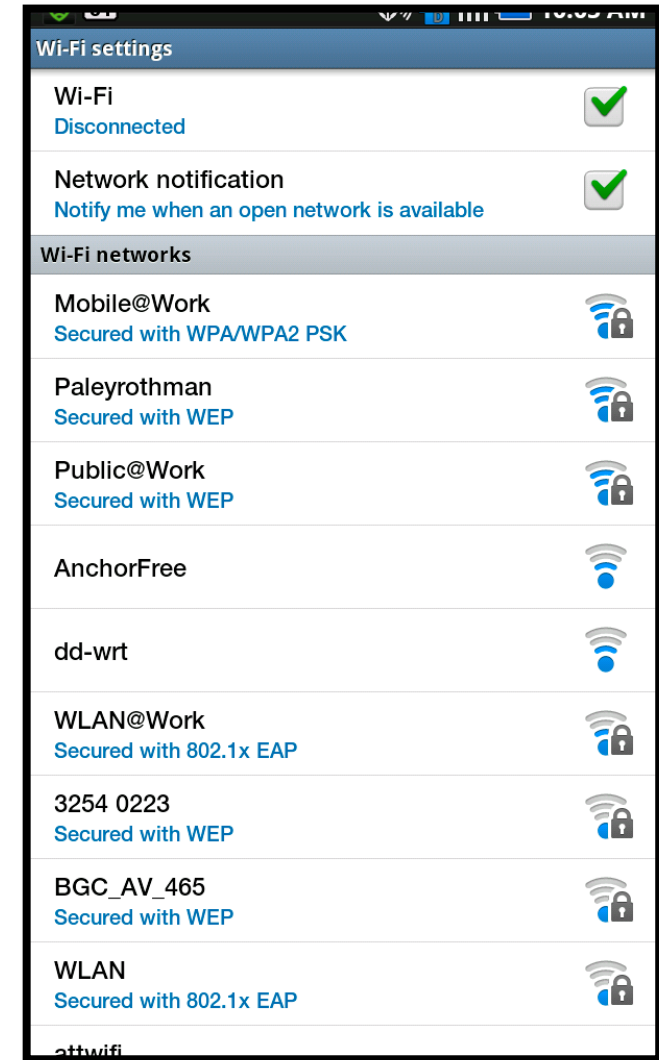
## Connecting to WiFi access point / hotspot (IOS)

1. 連線至安全的 Wi-Fi 網絡
2. 安全的 Wi-Fi 網絡會受密碼保護，而且名稱旁會顯示上鎖符號。
3. 前往「設定」>「Wi-Fi」，並確認 Wi-Fi 已開啟。點一下你想加入的安全 Wi-Fi 網絡的名稱。
4. 輸入安全 Wi-Fi 網絡的密碼，然後點一下「加入」。
5. 如果無法點按「加入」，即表示你輸入的密碼不正確。



## Connecting to WiFi access point / hotspot (Android)

1. Open your device's Settings app Settings app.
2. Tap Network & internet and then Wi-Fi. **Turn on Wi-Fi.**
3. **Tap a listed network.** If it needs a **password**, you'll see the Lock Lock.
4. After you connect: "**Connected**" shows under the network name. The network is "Saved."
5. When your device is near and Wi-Fi is on, your device automatically connects.



# 了解流動電腦裝置用於學與教的基本操作

## 投影技術 Screen mirroring to TV / projector



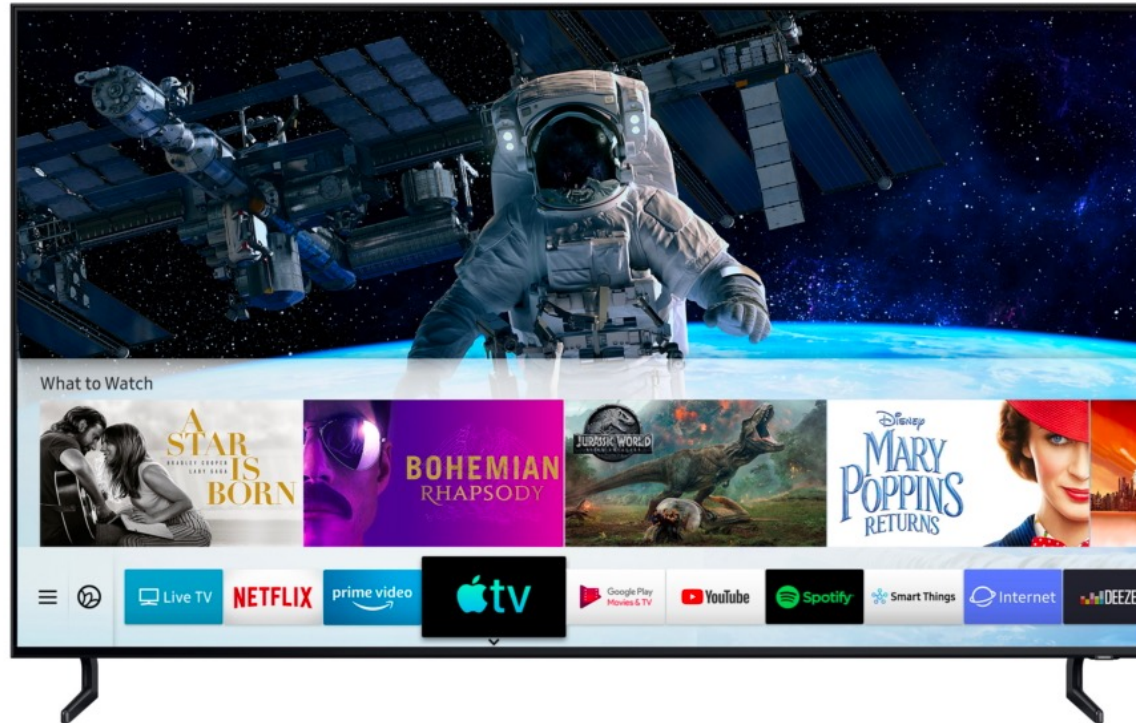
Cer

Centre for Learning Sciences and Technologies (CLST)  
The Chinese University of Hong Kong






# 了解流動電腦裝置用於學與教的基本操作

## 投影技術 Screen mirroring to TV / projector





## Screen capturing and recording Open your device' s (IOS)

1. Record your screen Go to Settings > Control Center > Customize Controls, then tap green plus icon  next to Screen Recording.
2. Swipe up from the bottom edge of any screen. On iPhone X or later or iPad with iOS 12 or later, swipe down from the upper-right corner of the screen.
3. Press deeply on gray record icon  and tap Microphone. Tap Start Recording, then wait for the three-second countdown.
4. Open Control Center and tap red record icon . 
5. Or tap the red status bar at the top of your screen and tap Stop. Go to the Photos app and select your screen recording.

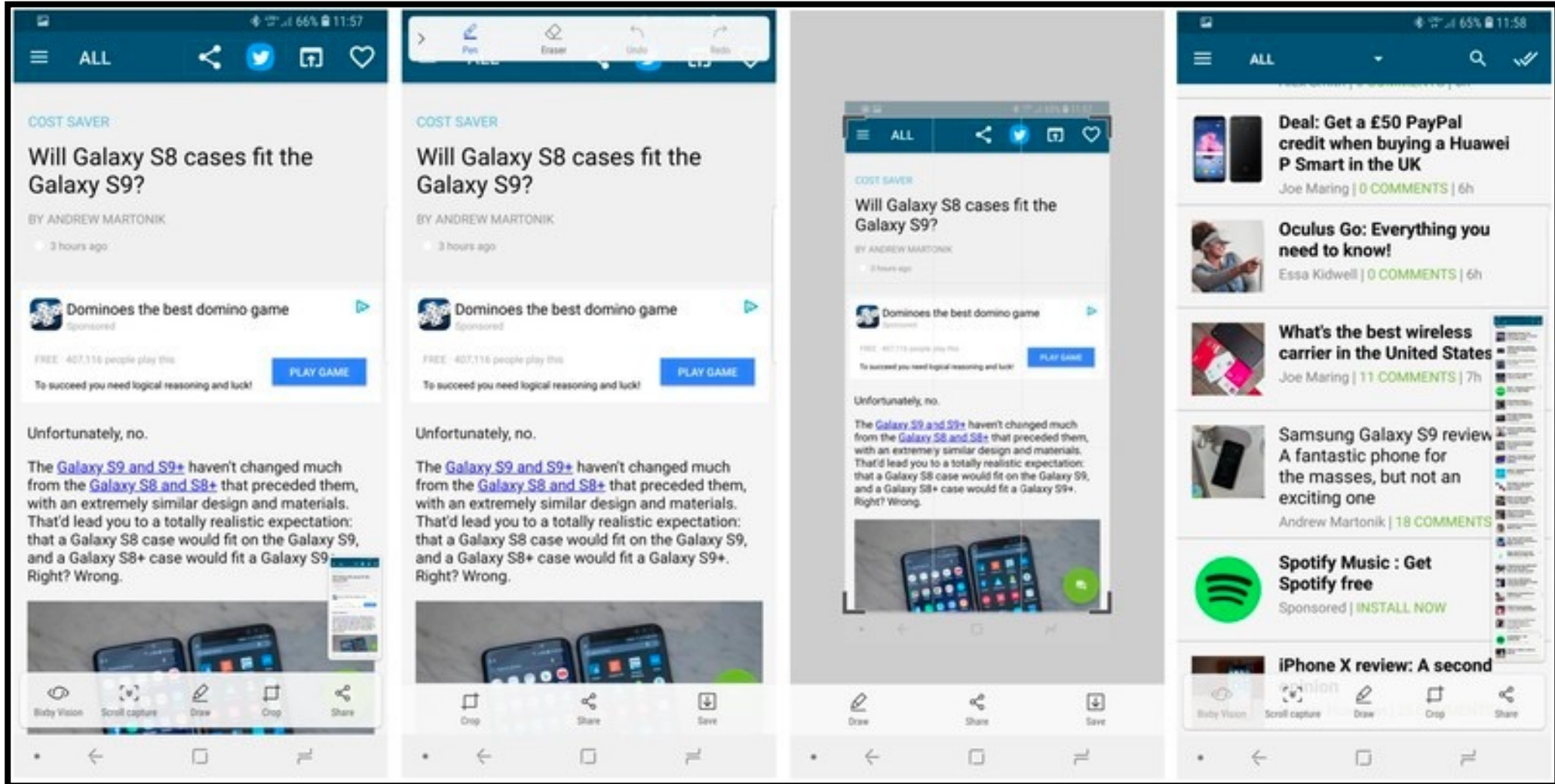


## Screen capturing and recording Open your device' s (Android)

- 1) Open the content on the screen you want to capture.
- 2) Press and hold the **volume down button** and **power button** for about 2 seconds.  
You'll see the screen shrink in, and editing options will appear briefly on the screen.
- 3) If you want to edit the screenshot right after it's captured, you can tap the bottom options to **draw, crop or share** it immediately.
- 4) If you miss those buttons, the screenshot will also be saved in the notification shade, where you can expand and tap the options to **edit, share or delete** it.
- 5) If you dismiss notifications, the screenshot can also still be found in **Gallery** or any other app you may use to manage photos, like Google Photos.

# 了解流動電腦裝置用於學與教的基本操作

## Screen capturing and recording Open your device' s (Android)






## Use Dark Mode on your IOS

Turn on Dark Mode for a great viewing experience especially in low-light environments.

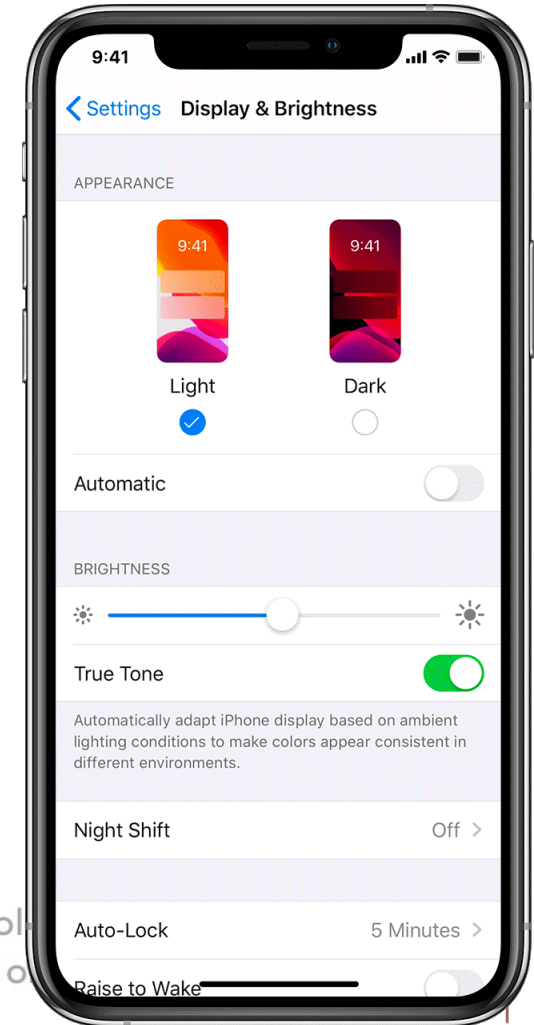
## How to turn on Dark Mode

1. Go to Settings > Display & Brightness.
2. Select Dark to turn on Dark Mode.

To turn [Dark Mode on or off from Control Center](#), pull down from the top-right corner of your device, then touch and hold the brightness control . Then tap  Dark Mode On or  Dark Mode Off.

You can also set Dark Mode to turn on automatically at sunset or at a specific time.

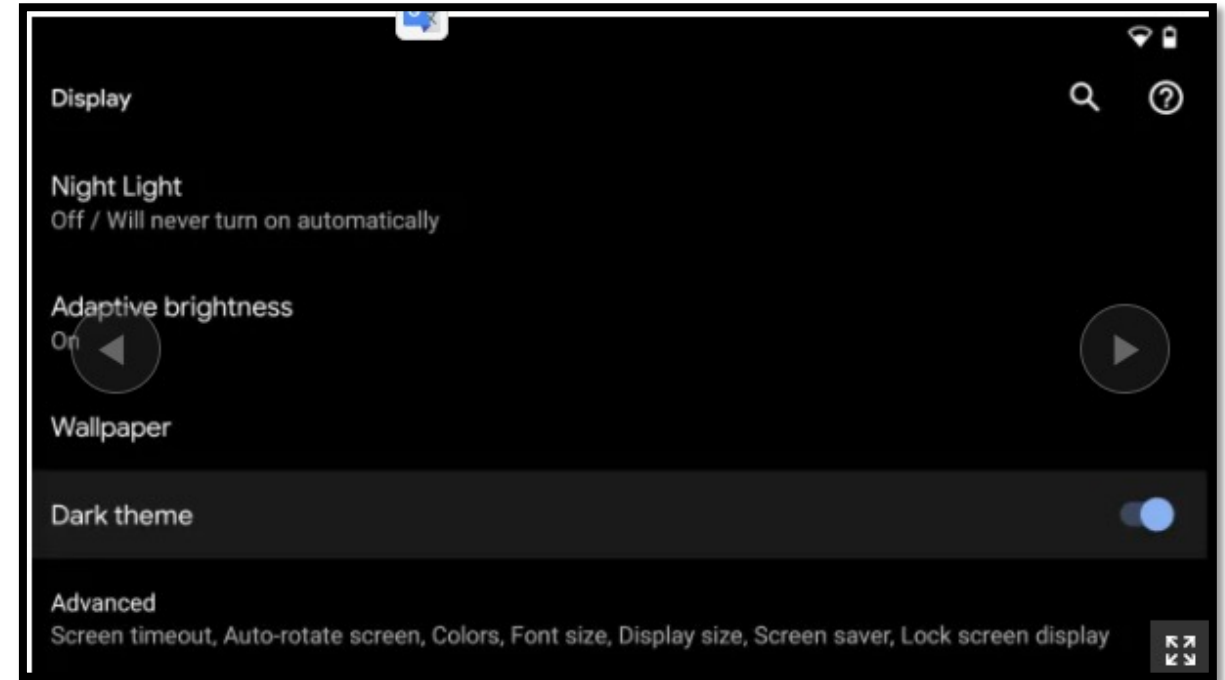
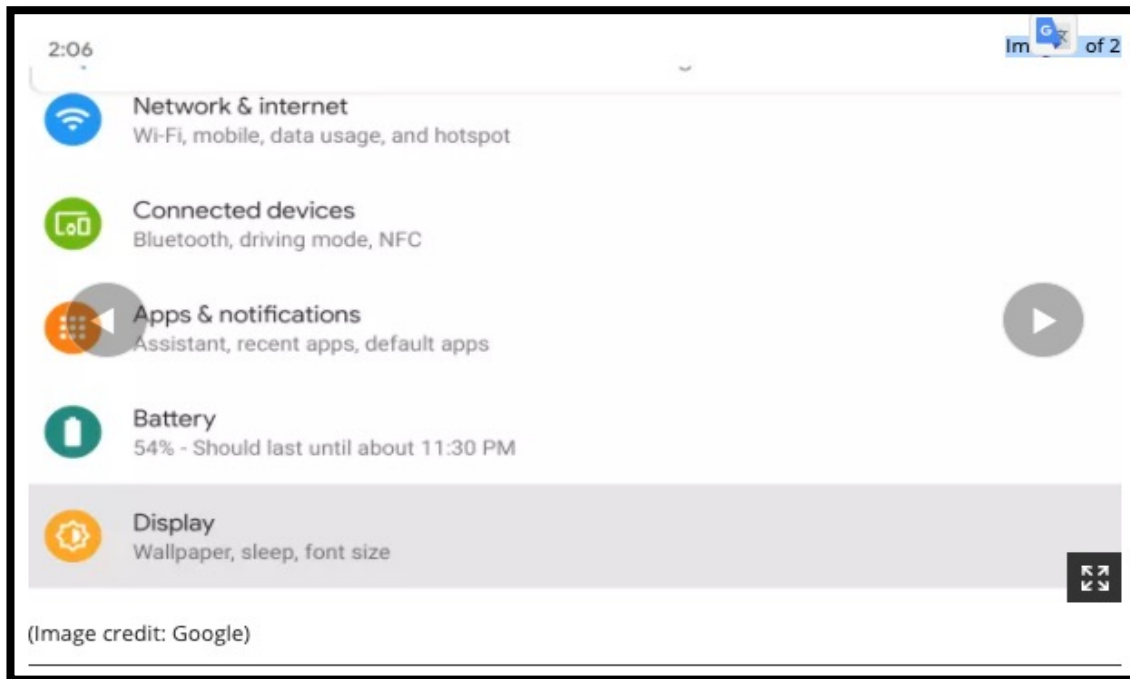
Go to Settings > Display & Brightness and select Automatic. Tap Options to set a schedule for Dark Mode.



## Use Dark Mode on your Android

Turn on Dark Mode for a great viewing experience especially in low-light environments.

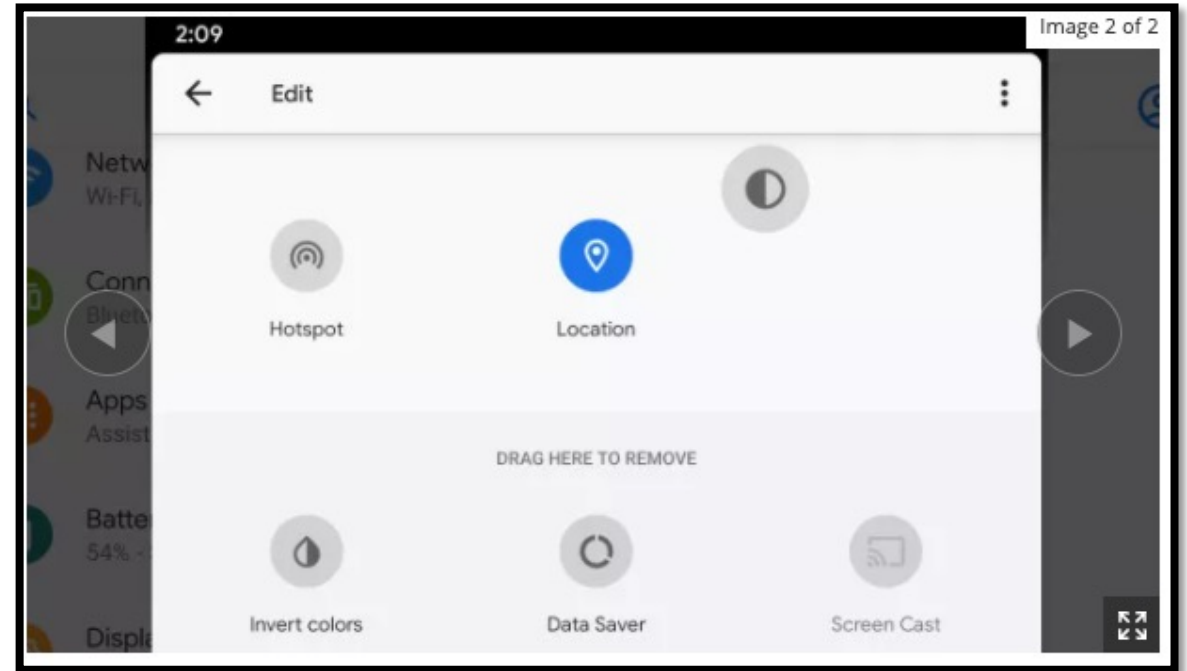
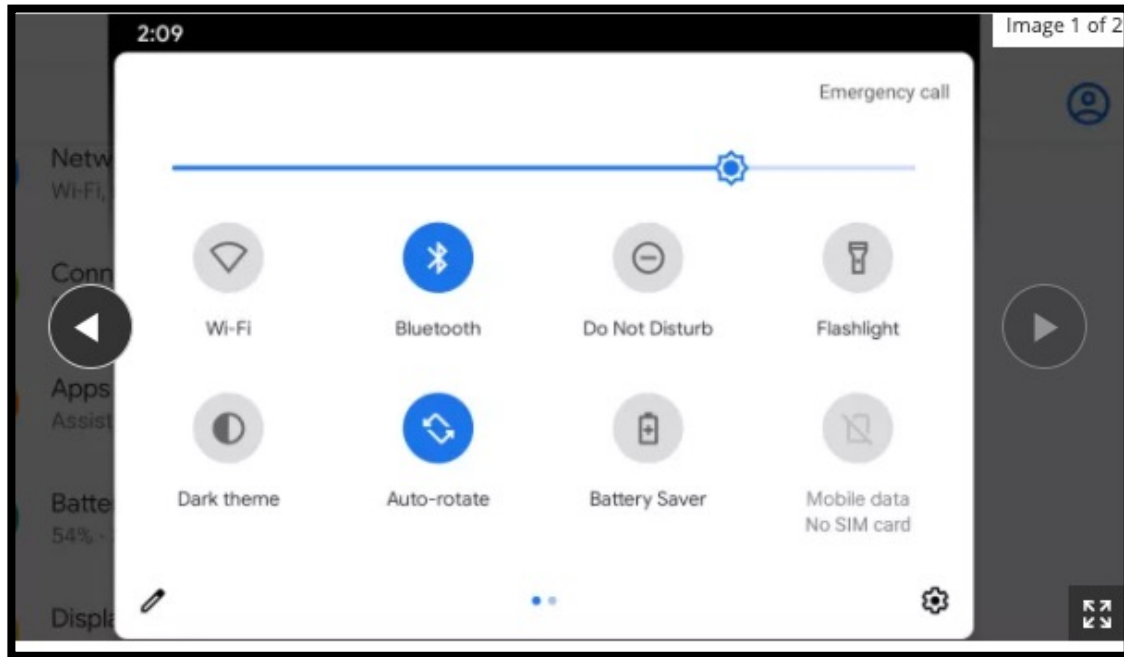
### Method 1: Change your System Settings



## Use Dark Mode on your Android

Turn on Dark Mode for a great viewing experience especially in low-light environments.

### Method 2: Quick Settings

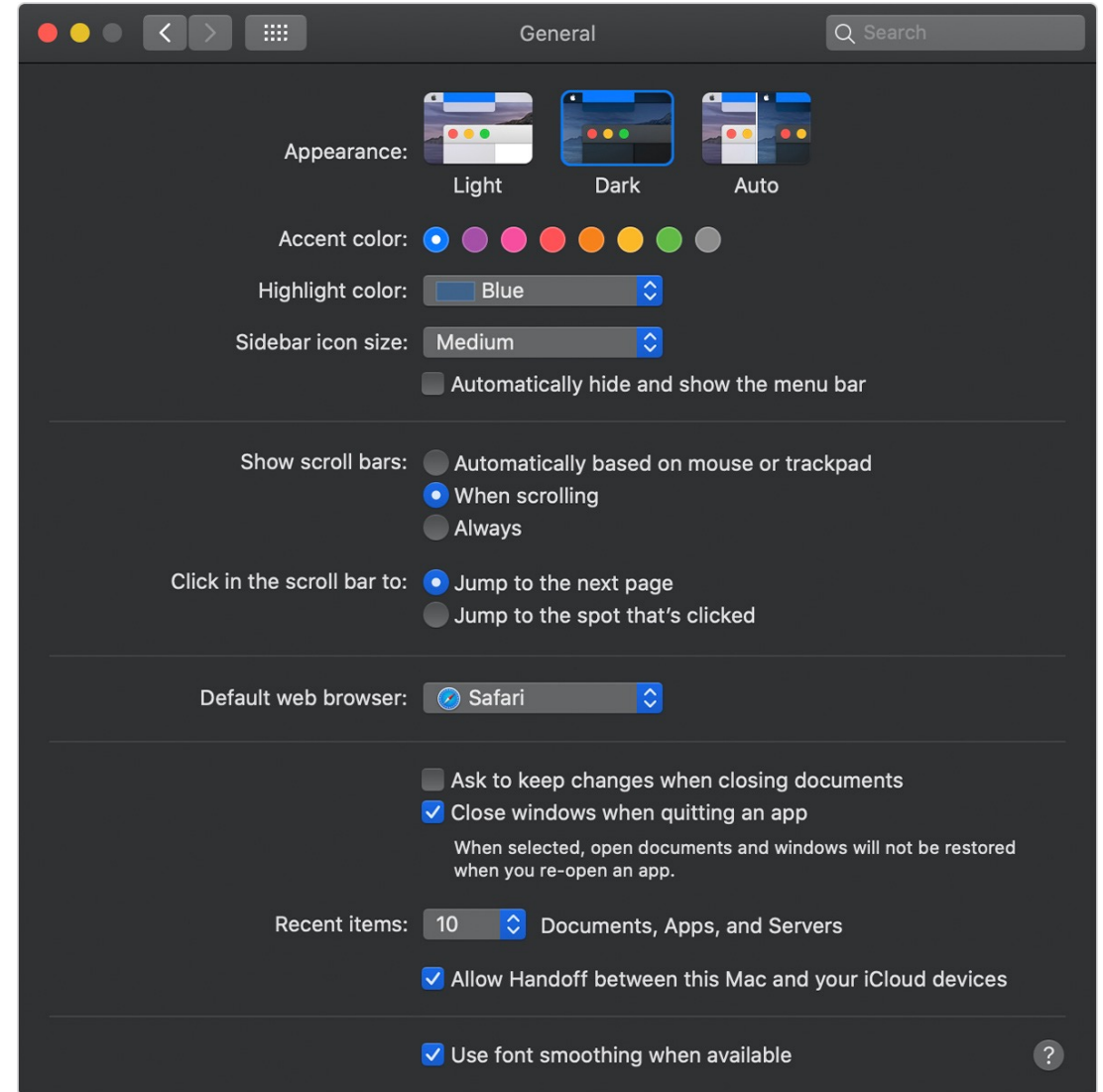


## Use Dark Mode on your MAC

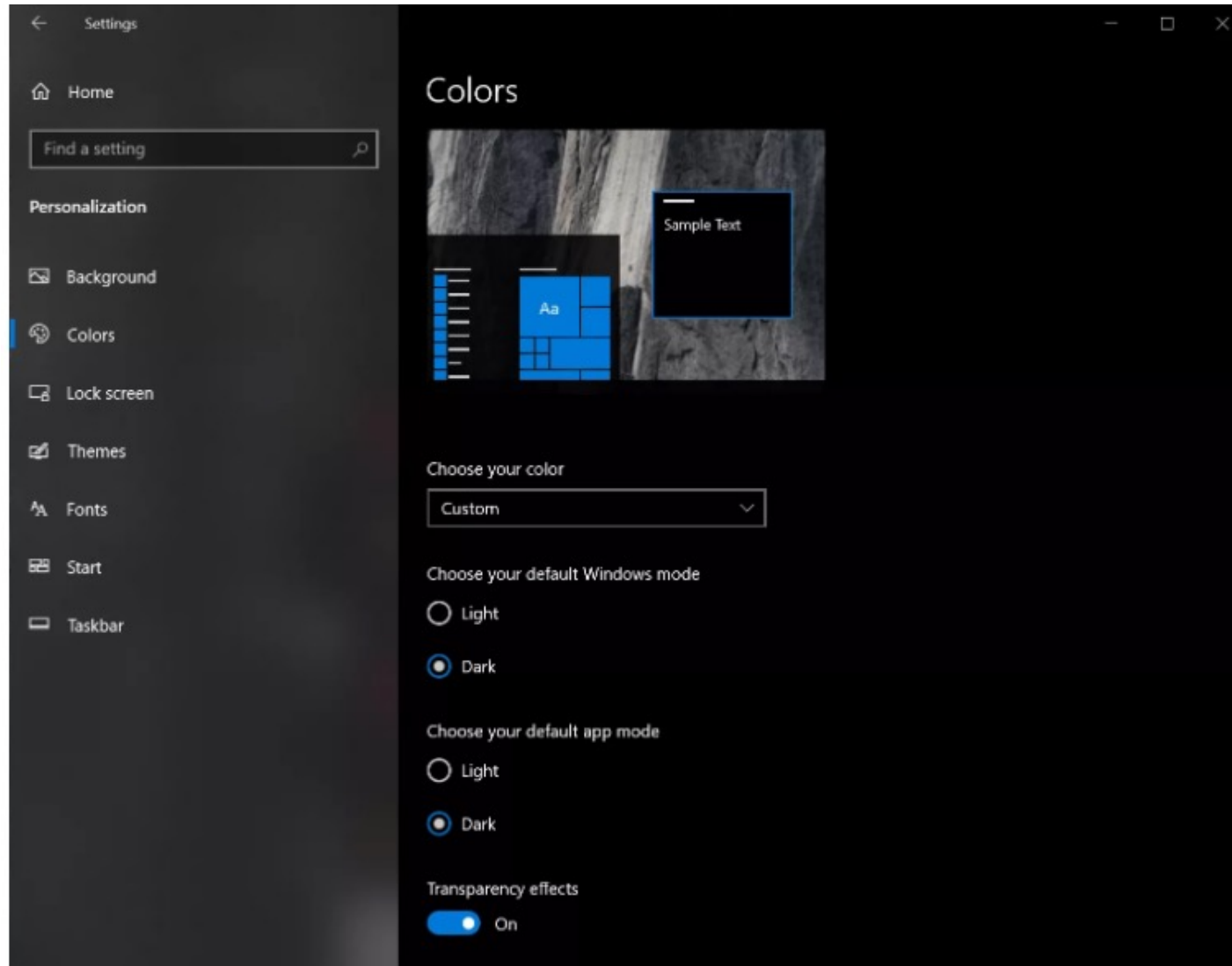
### Turn on Dark Mode

Choose Apple menu > System Preferences, click General, then select one of the Appearance options at the top of the window:

- *Light*: Use the light appearance.
- *Dark*: Use the dark appearance.
- *Auto* (available in macOS Catalina): Automatically use the light appearance during the day, and the dark appearance at night.



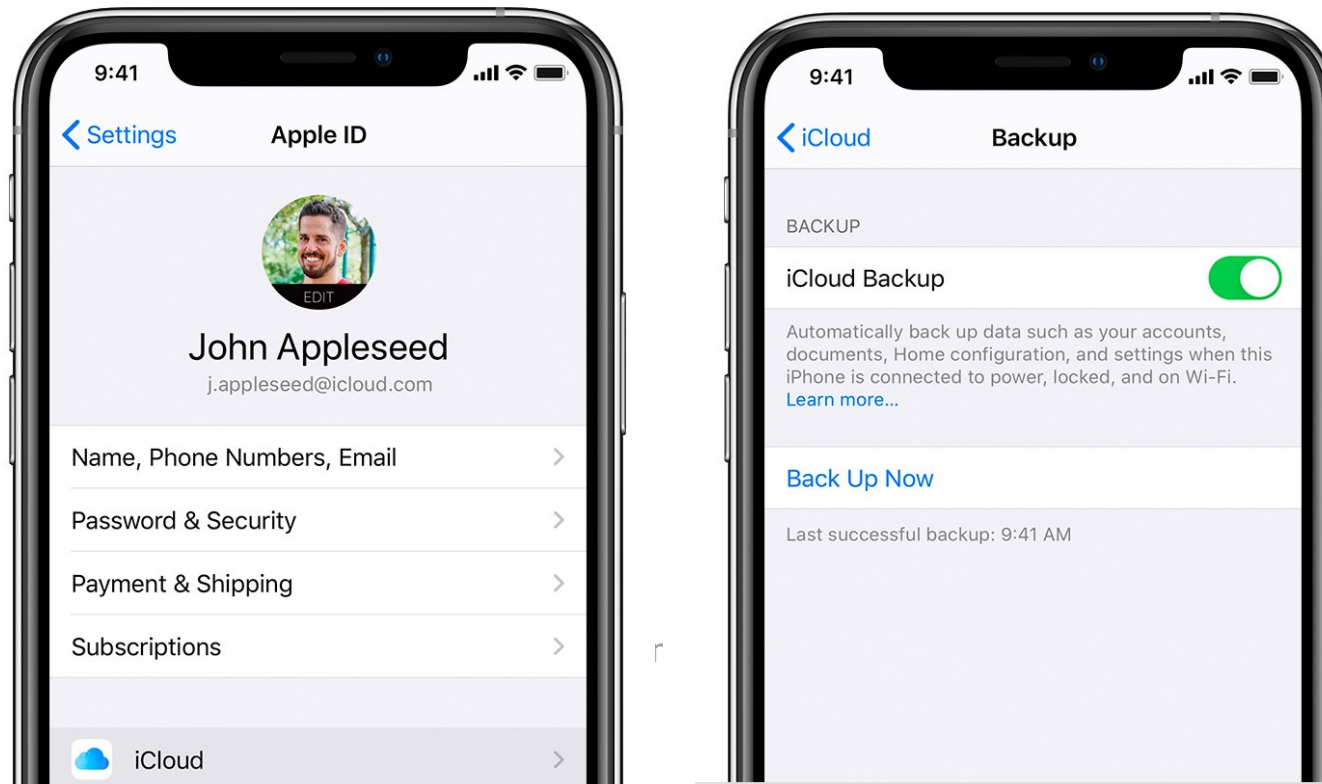
## Use Dark Mode on your Windows





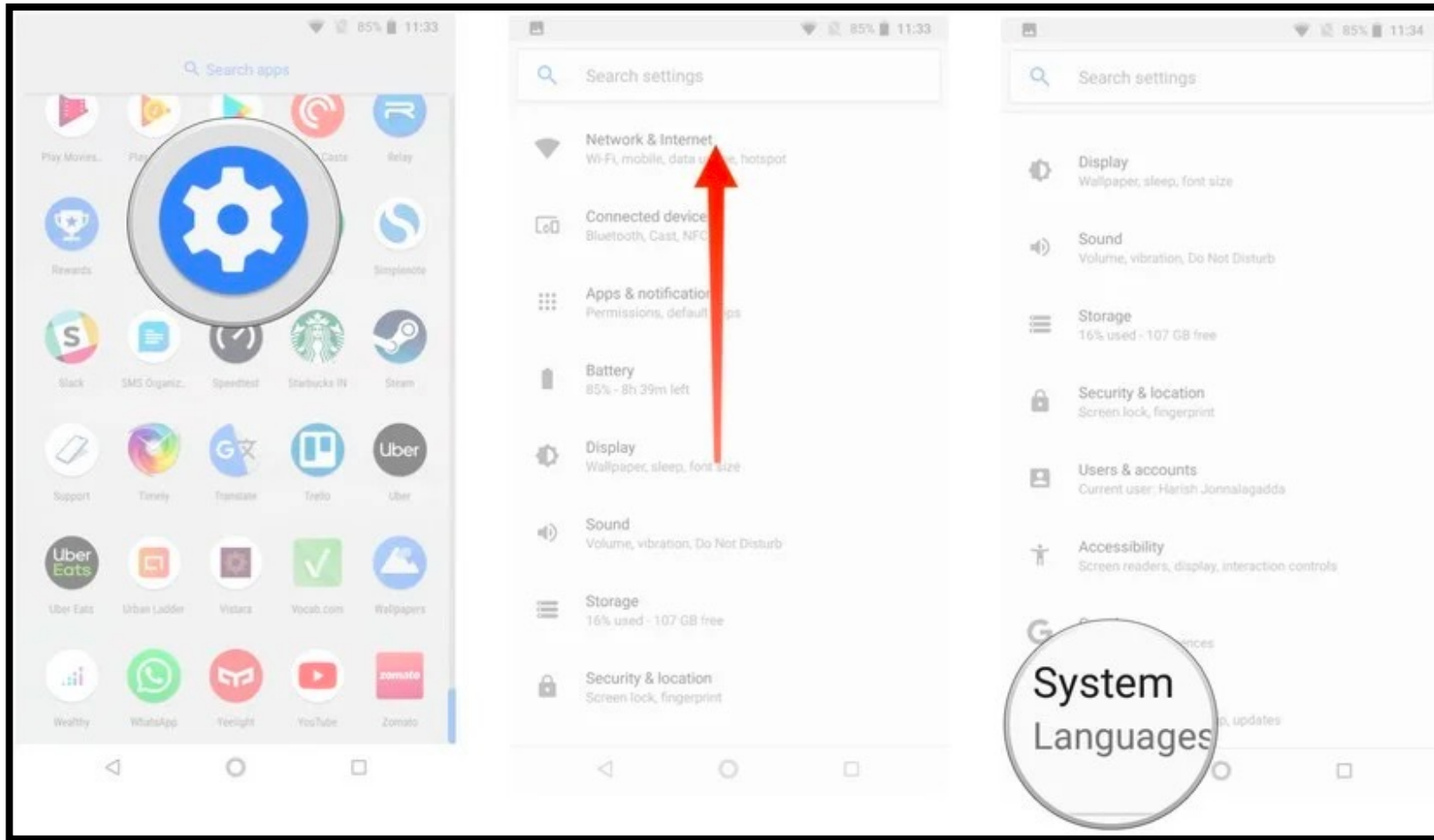
## BACKUP ON CLOUD IOS -- ICLOUD

1. Connect your device to a Wi-Fi network.
2. Go to Settings > [your name] and tap iCloud.
3. Tap iCloud Backup.
4. Tap Back Up Now.
5. Stay connected to your Wi-Fi network until the process completes.



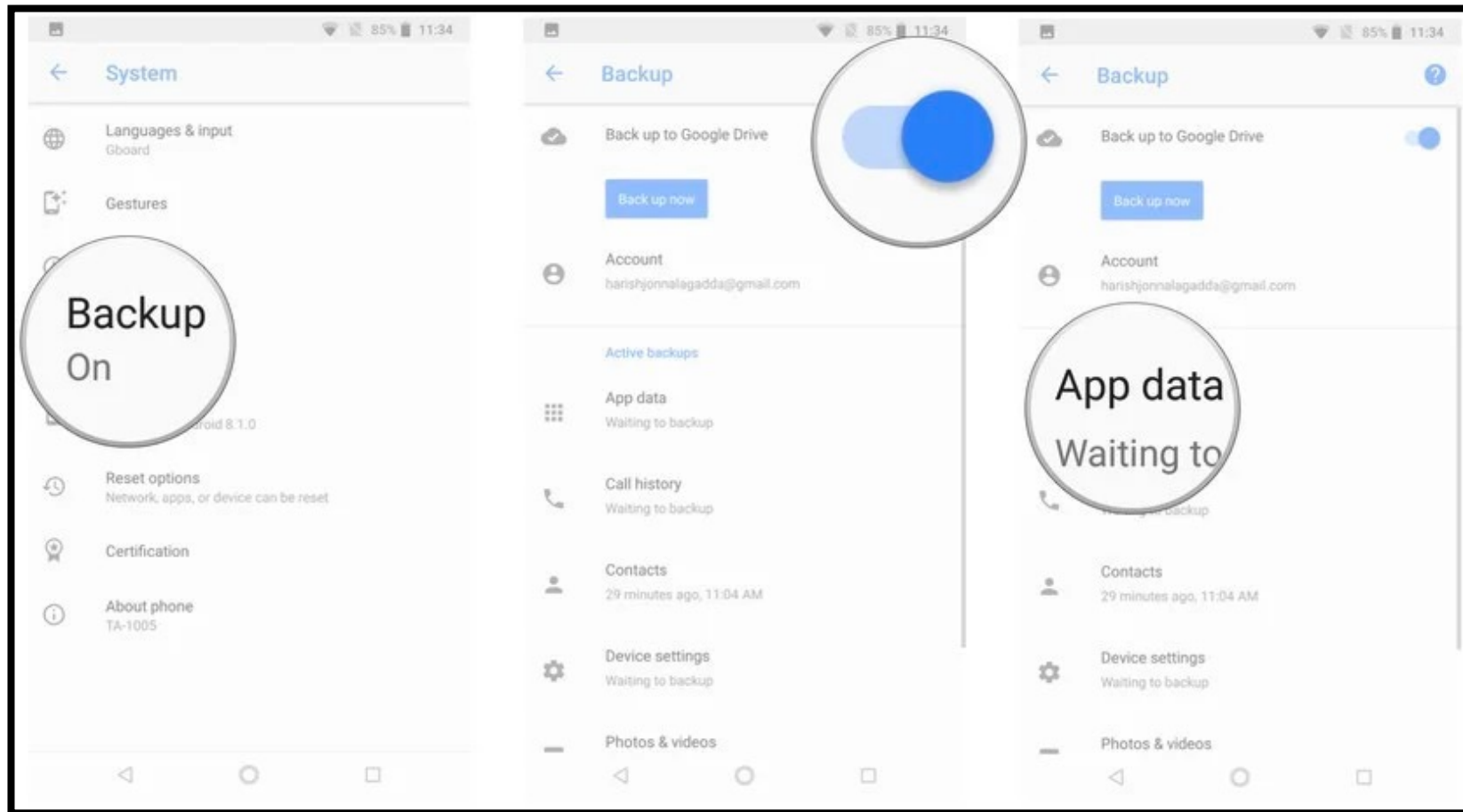
## BACKUP ON ANDROID – GOOGLE CLOUD

1. Open **Settings** from the home screen or app drawer.
2. **Scroll down** to the bottom of the page.
3. Tap **System**.



## BACKUP ON ANDROID – GOOGLE CLOUD

4. Select Backup.
5. Ensure the Back up to Google Drive toggle is selected.
6. You'll be able to see the data that is being backed up.



### 3. 運用Google Classroom促進電子學習



# 運用Google Classroom促進電子學習

<https://support.google.com/edu/classroom/?hl=zh-Hant#topic=9050121>

For Education

為何選擇 Google ▾

產品 ▾

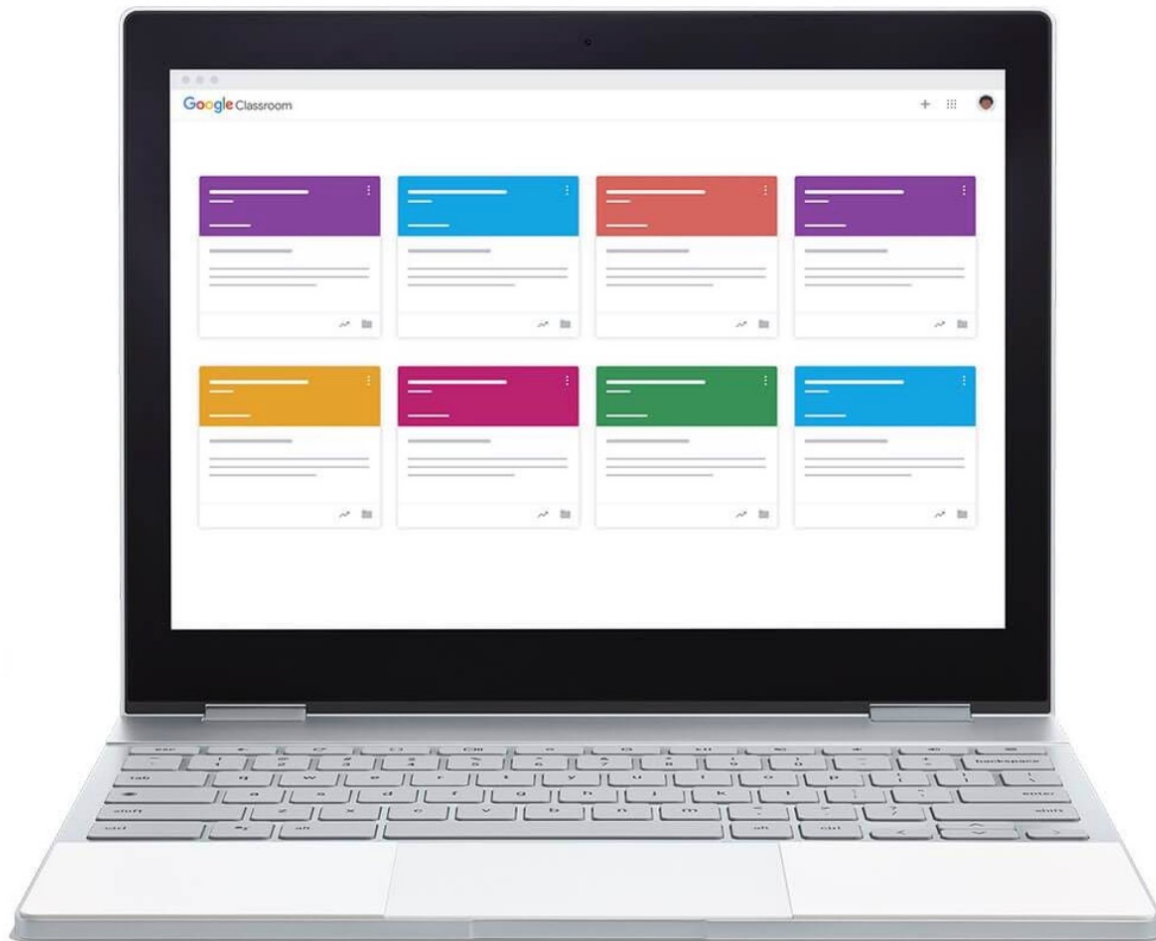
教學資源 ▾

電腦科學

培訓與支援 ▾

最新動態 ▾

登入 ▾



## 讓教學更有意義，過程更密切互動且有效率

Google 與國內的教育工作者協力打造出 Classroom：這項精簡易用的工具能協助老師管理課程作業。透過 Classroom，教育工作者可以在單一平台上建立課程、發布作業、批改作業、提供意見回饋，以及查看所有內容。

### 3. 運用Google Classroom促進電子學習

- Google Drive

<https://www.google.com/drive/>



- Google Docs

<https://www.google.com/docs/about/>



Google Docs

- Google Forms

<https://www.google.com/forms/about/>



### 3. 運用Google Classroom促進電子學習

- Google Advanced Search  
[https://www.google.com.hk/advanced\\_search](https://www.google.com.hk/advanced_search)
- Google Books  
<https://books.google.com.hk/>
- Google Scholar  
<https://scholar.google.com/>



### 3. 運用Google Classroom促進電子學習

- Google Maps  
<https://www.google.com/maps>



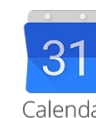
- Google Earth  
<https://www.google.com/intl/zh-HK/earth/>



- Google Street View  
<https://www.google.com/streetview/>



Google™  
Apps for Education



Calendar



Drive



Google+



Hangouts



Photos



Sites





### 3. 運用Google Classroom促進電子學習



- Google Art and Culture

<https://artsandculture.google.com/>

- Experience 3D & augmented reality in Search

<https://support.google.com/websearch/answer/9817187?hl=en&co=GENIE.Platform%3DAndroid>



# PearDeck for Google Slide

<https://www.peardeck.com/googleslides>



EFFORTLESSLY BUILD ENGAGING INSTRUCTIONAL CONTENT,  
RIGHT FROM GOOGLE SLIDES

# Pear Deck for Google Slides

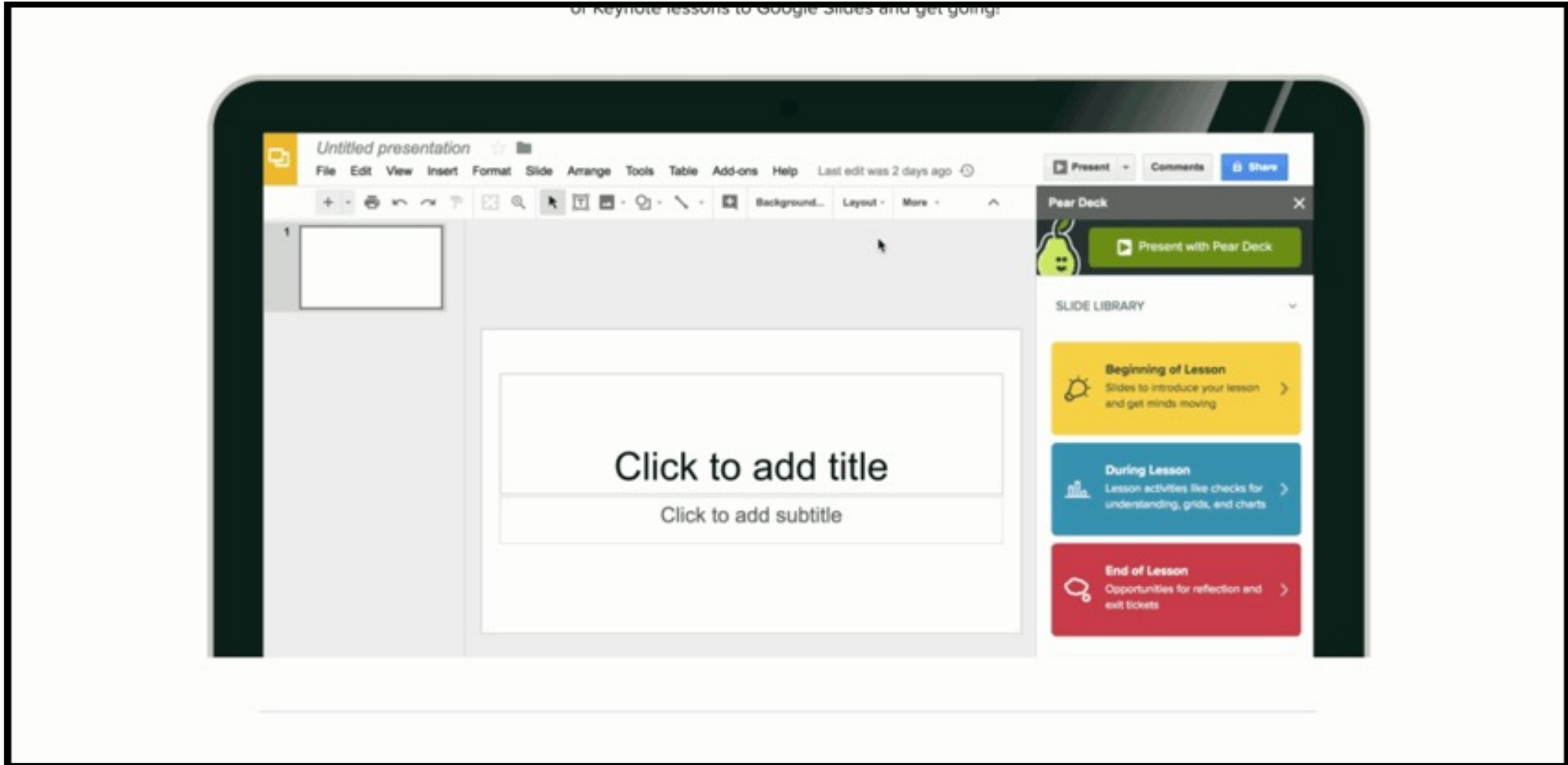
# PearDeck + Google Classroom



<https://help.peardeck.com/google-classroom-integration>

PearDeck for Google Slide: <https://www.peardeck.com/googleslides>

## OPEN UP GOOGLE SLIDES & THE PEAR DECK SIDEBAR

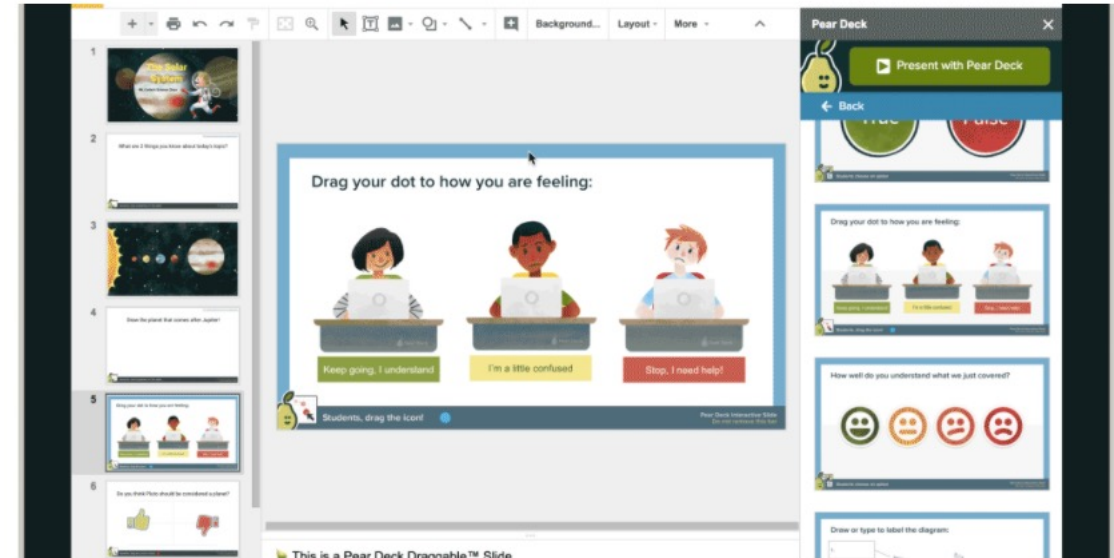


PearDeck for Google Slide: <https://www.peardeck.com/googleslides>

## DROP IN FORMATIVE ASSESSMENTS

- bell ringers
- checks for understanding
- exit tickets

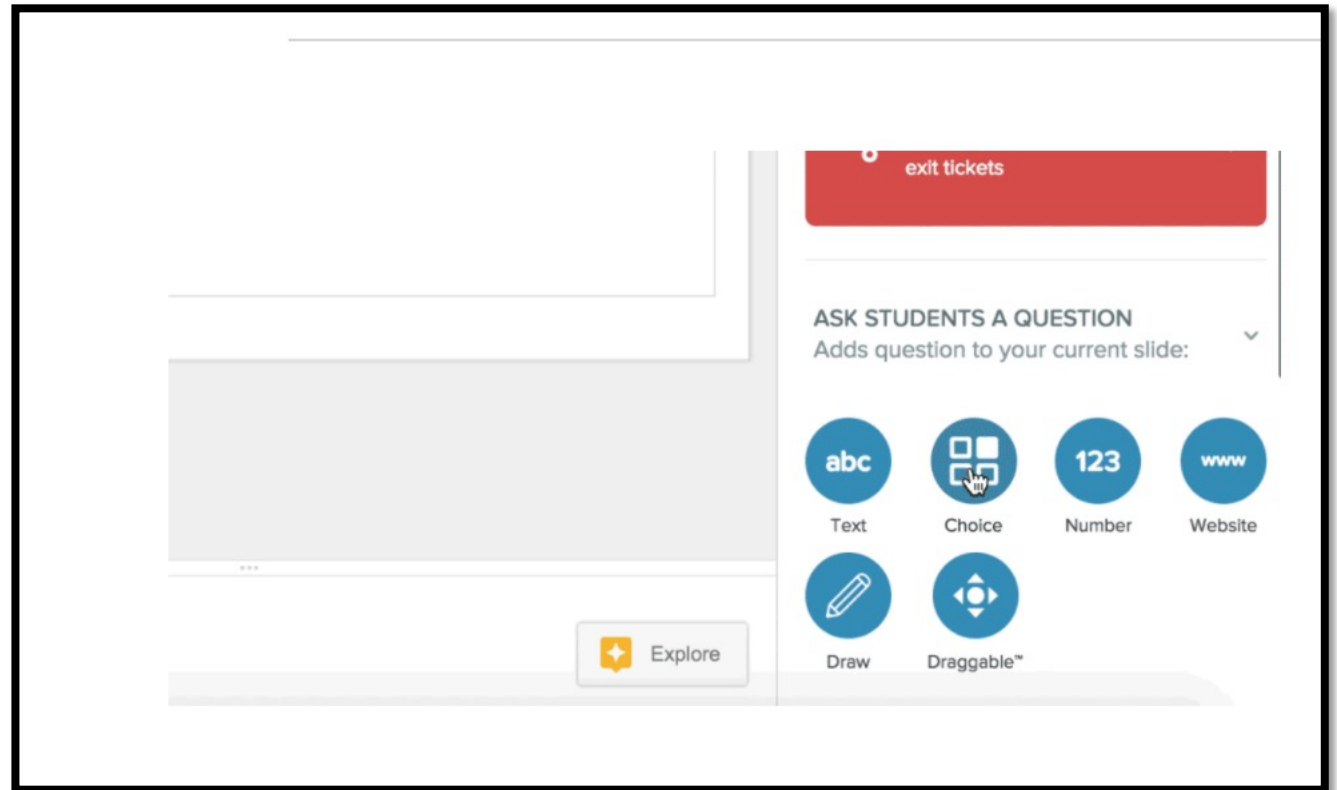
Simply drop in one of these templates for instant engagement and watch your class transform.



PearDeck for Google Slide: <https://www.peardeck.com/googleslides>

## CREATE CUSTOM QUESTIONS

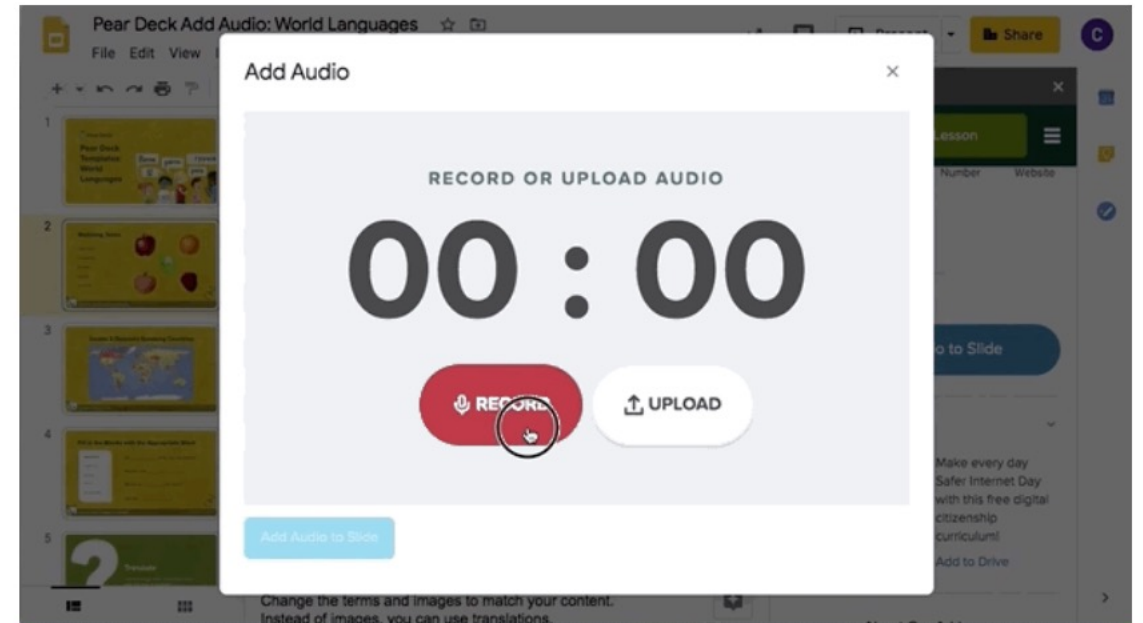
- Text
- Number Response
- Multiple Choice
- Web Slide questions



PearDeck for Google Slide: <https://www.peardeck.com/googleslides>

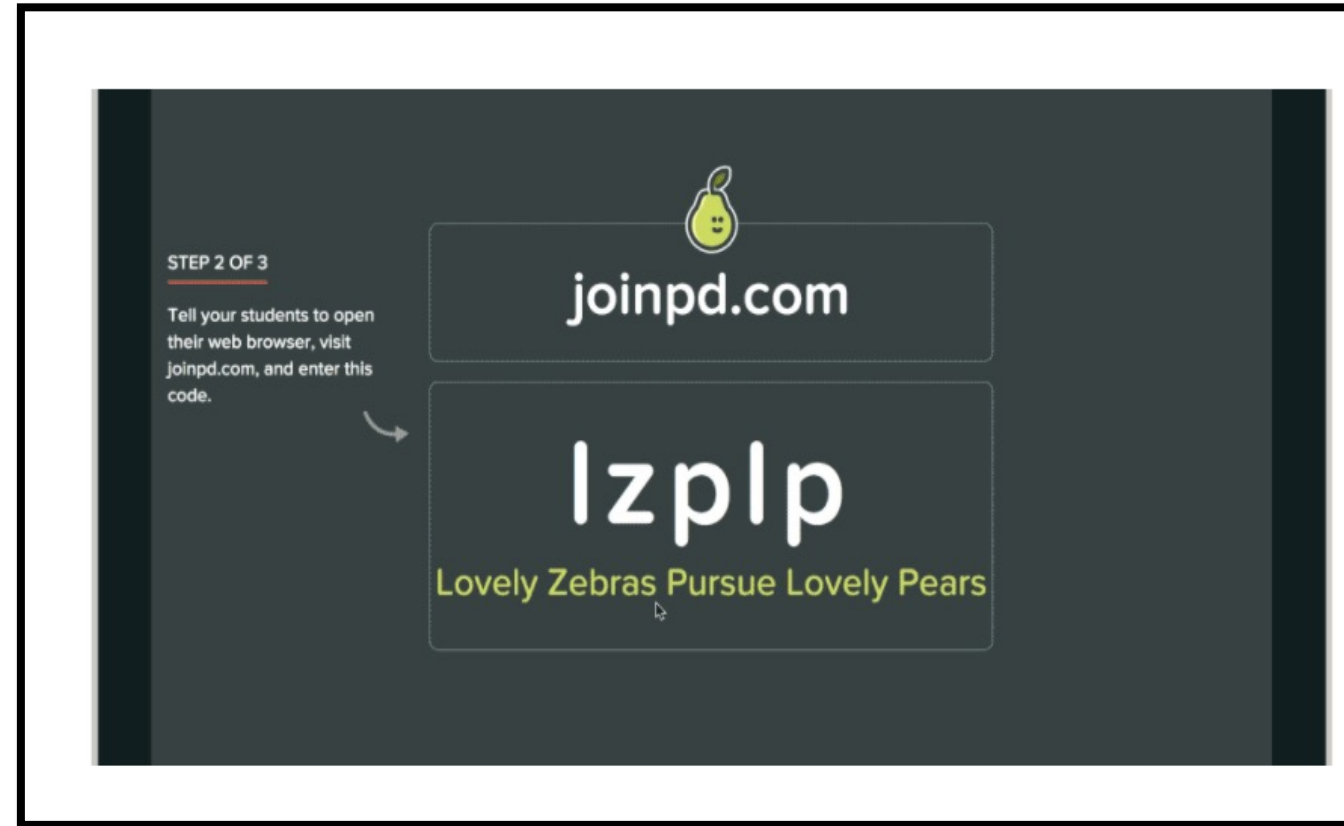
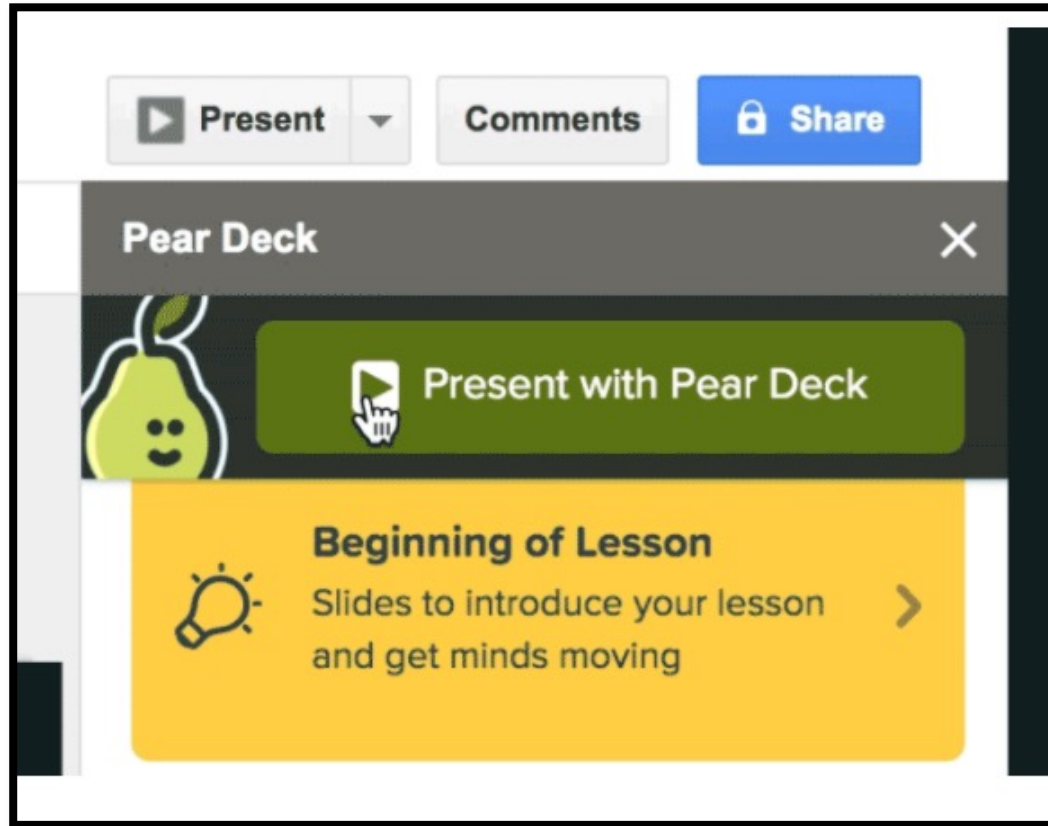
## ADD AUDIO TO ANY SLIDE TYPE

Leave audio instructions, descriptions, or examples for your students to hear while they read the prompts and respond to Interactive Questions in your Pear Deck Slides presentations



PearDeck for Google Slide: <https://www.peardeck.com/googleslides>

## PRESENT WITH PEAR DECK

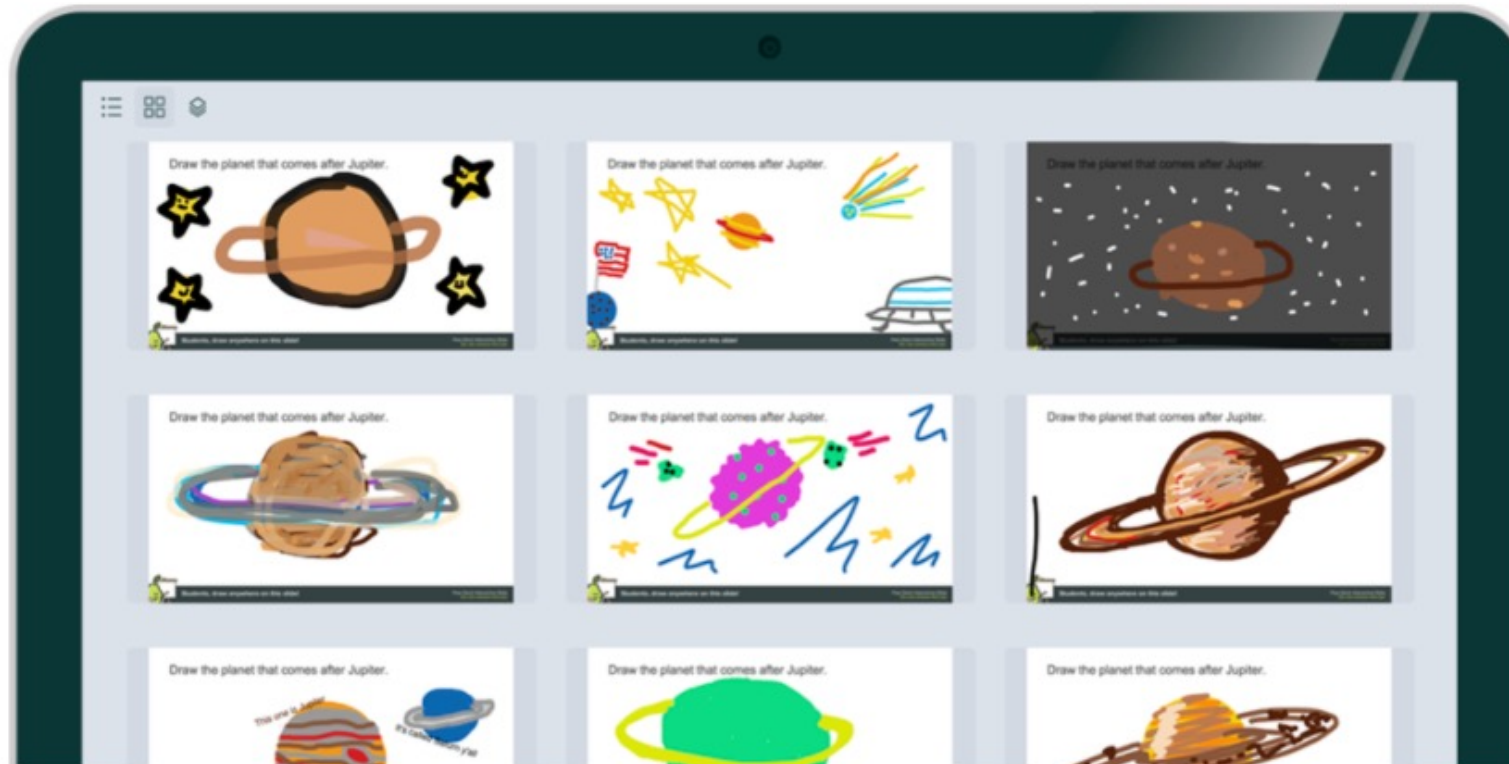




PearDeck for Google Slide: <https://www.peardeck.com/googleslides>

## GO DEEPER WITH THE TEACHER DASHBOARD

Quickly see what each individual thinks on the Teacher Dashboard



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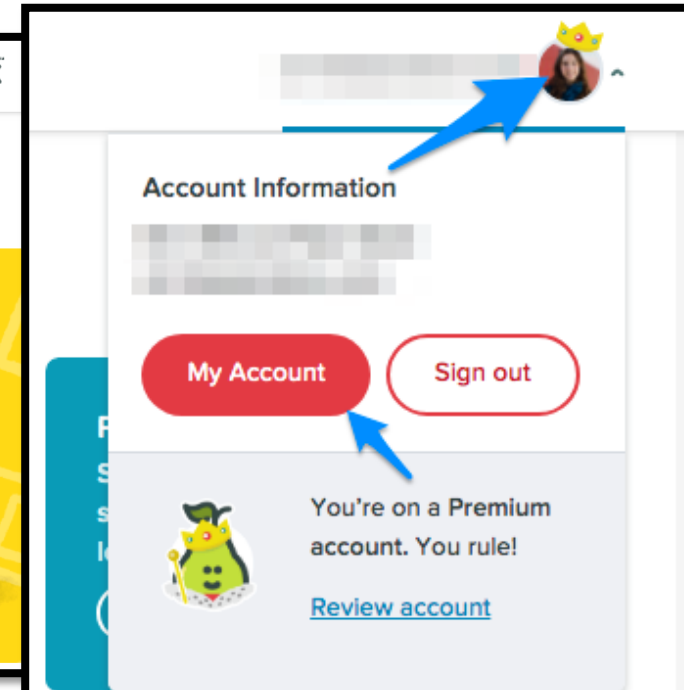
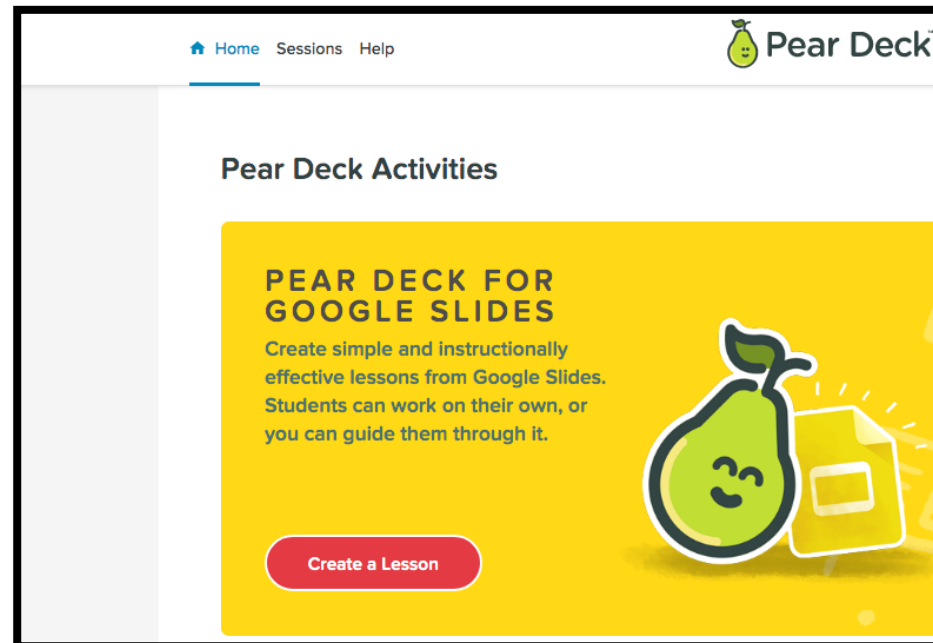


# PearDeck + Google Classroom

## Enable Google Classroom

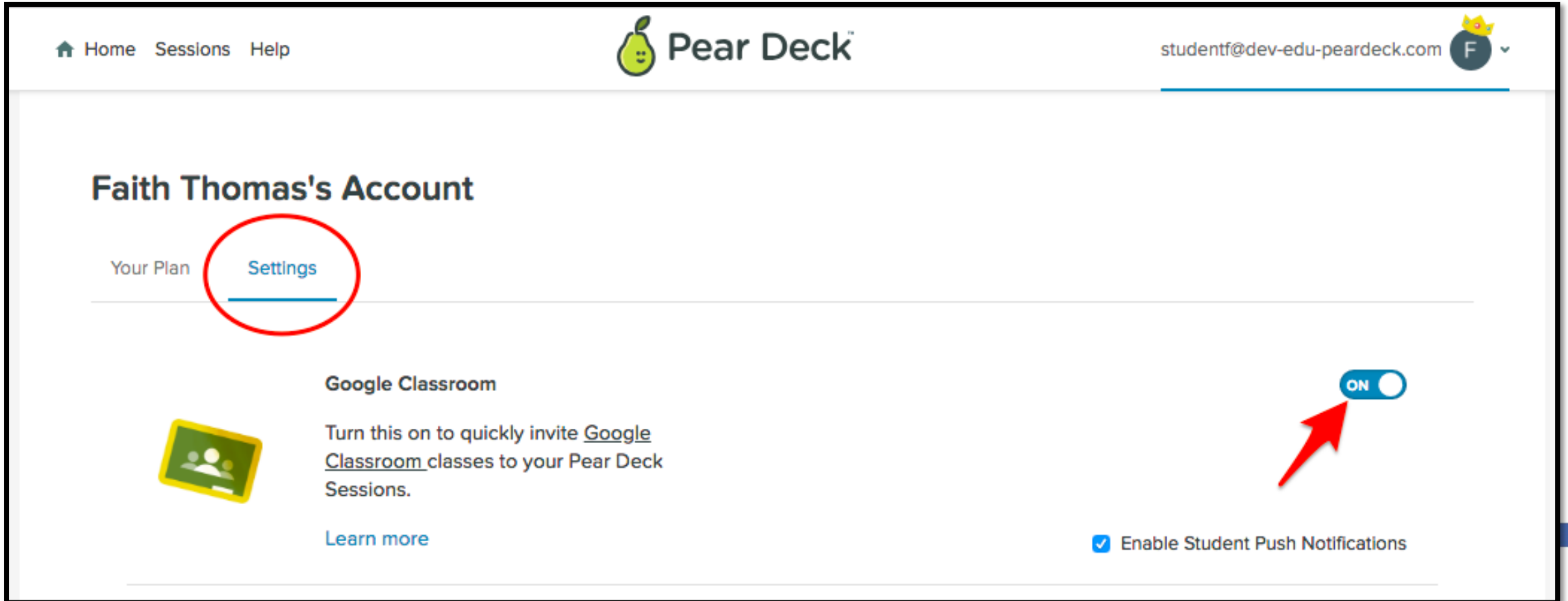
Before you can invite students from Google Classroom or post Takeaways there, we need to make sure Google Classroom integration is enabled in your Account Settings. Once you enable it, Google Classroom integration tools appear automatically in your Pear Deck Sessions.

1. Go to [peardeck.com](https://peardeck.com) and click Teacher Login, or go directly to your [Pear Deck Home](#).
2. Click on your person icon.
3. Click on *My Account*.



# PearDeck + Google Classroom

4. Go to the Settings tab.
5. Turn Google Classroom ON.




Home Sessions Help

Pear Deck

studentf@dev-edu-peardeck.com F

## Faith Thomas's Account

Your Plan **Settings**



### Google Classroom

Turn this on to quickly invite [Google Classroom](#) classes to your Pear Deck Sessions.

[Learn more](#)

Enable Student Push Notifications

ON

# PearDeck + Google Classroom

On your settings page, you can also choose to enable **Student Push Notifications** in Google Classroom.

The fastest way to get students into your Pear Deck Session is to let them receive these notifications. Students have the opportunity to accept or decline, but by checking the box in your [Classroom Settings](#), you give them the choice.

If you don't enable notifications, students can still sign into your Session at [joinpd.com](https://joinpd.com) and see the invitation there.



# PearDeck + Google Classroom

## Invite Students from the Teacher Dashboard

Now that Google Classroom Integration is enabled, you can invite students to join your Session from the Teacher Dashboard. Here's how:

1. [Start your Pear Deck Lesson.](#)
2. Open the [Dashboard View](#).
3. In the Dashboard, click on the blue *Roster* button, located in the top right corner of the screen.



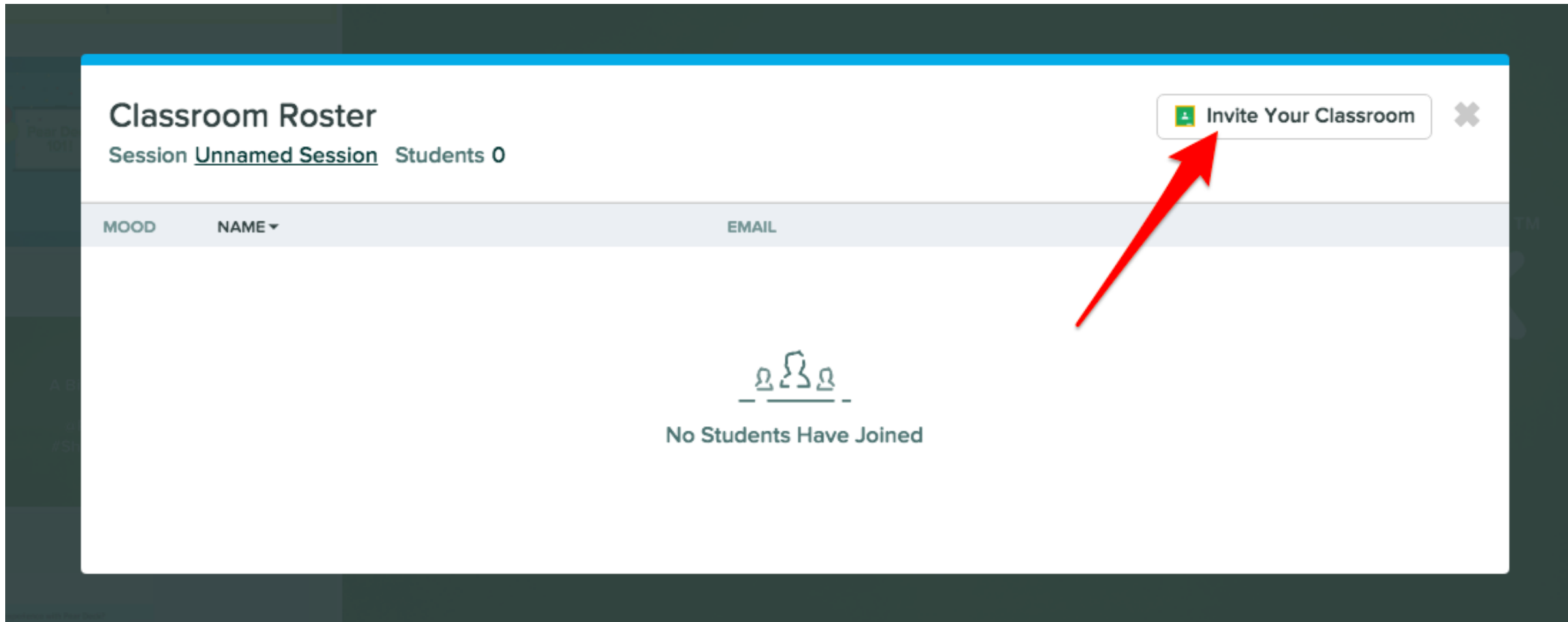
The screenshot displays the Pear Deck Teacher Dashboard interface. On the left, a Pear Deck lesson slide is visible, titled "What is the missing word in this passage?" with a progress indicator of 2. On the right, the Roster section shows a list of students. The top right corner of the Roster section features a blue button labeled "12 Students" and a "Session Roster" label. A red arrow points to the "12 Students" button.

Session	Count
A: Castles	3
B: Windmills	6

# PearDeck + Google Classroom

## Invite Students from the Teacher Dashboard

4. In the Roster, click Invite Your Classroom.

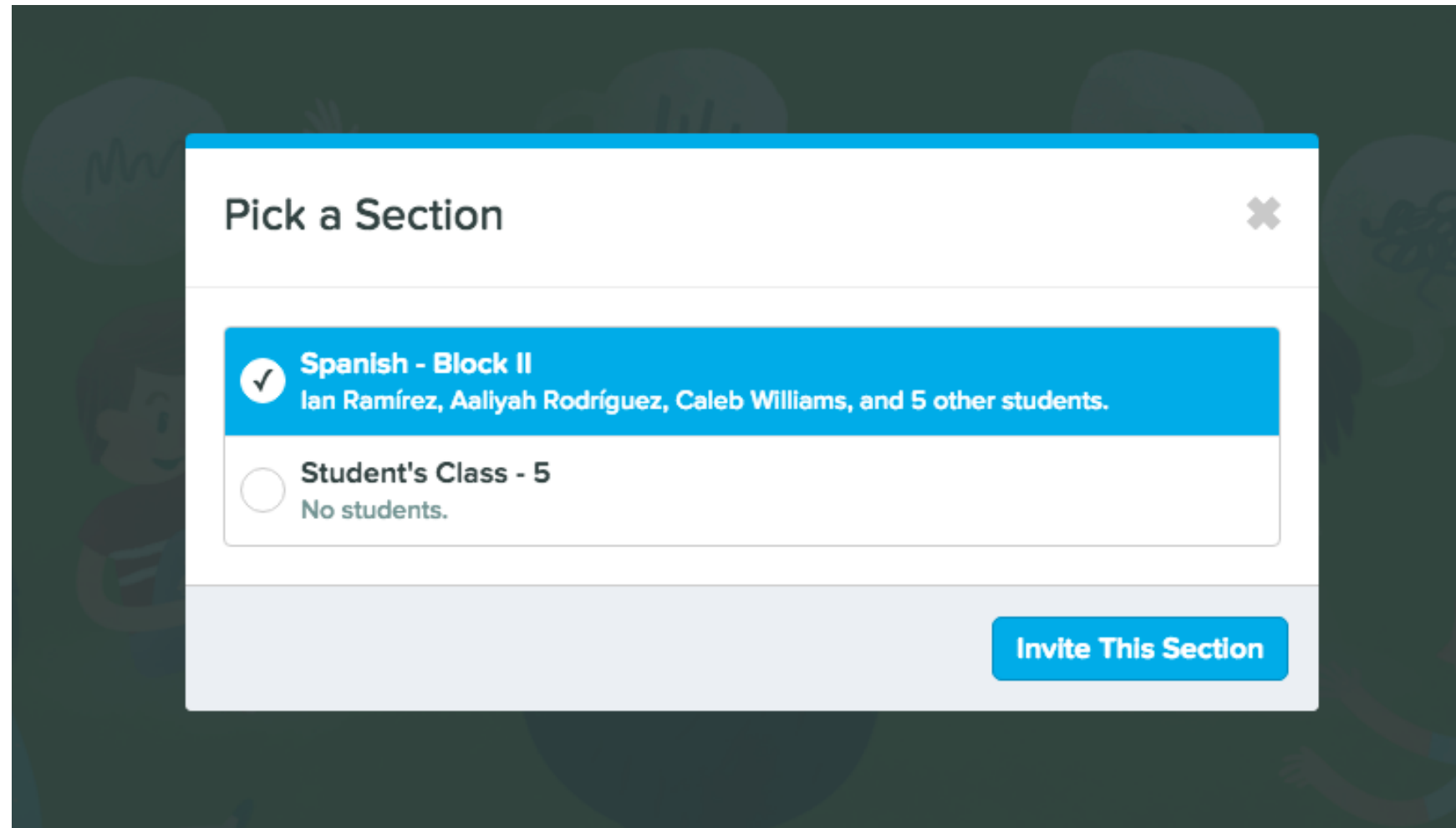


The screenshot displays the 'Classroom Roster' interface. At the top left, the title 'Classroom Roster' is shown, followed by 'Session Unnamed Session Students 0'. In the top right corner, there is a button labeled 'Invite Your Classroom' with a green plus icon and a close (X) icon. A red arrow points to this button. Below the header, there is a table with columns for 'MOOD', 'NAME', and 'EMAIL'. The table is currently empty. In the center of the page, there is an icon of three people and the text 'No Students Have Joined'.

# PearDeck + Google Classroom

## Invite Students from the Teacher Dashboard

5. Choose the Google Classroom section you want to invite.



# PearDeck + Google Classroom

## Invite Students from the Teacher Dashboard

6. As students join, their names light up.

The screenshot shows the 'Classroom Roster' interface for an 'Unnamed Session' with 5/8 students. The roster is a table with columns for MOOD, NAME, and EMAIL. Each row includes a mood icon, the student's name and status, and their email address. A 'Invite Your Classroom' button is visible in the top right corner.

MOOD	NAME	EMAIL
☹️	Aaliyah Rodríguez OFFLINE	studenta@dev-edu-peardeck.com
😊	Bailey Jackson JOINED	studentb@dev-edu-peardeck.com
😊	Caleb Williams JOINED	studentc@dev-edu-peardeck.com
☹️	Daniel Lee OFFLINE	studentd@dev-edu-peardeck.com
😊	Elizabeth Cruz JOINED	studente@dev-edu-peardeck.com
😊	Gabriel Hernández JOINED	studentg@dev-edu-peardeck.com
☹️	Henry Green JOINED	studenth@dev-edu-peardeck.com
☹️	Ian Ramírez OFFLINE	studenti@dev-edu-peardeck.com



# PearDeck + Google Classroom

## Invite Students from the Projector View

You can also invite students directly from the Join Instructions screen on the Projector View of your Session.

1. [Start presenting](#) your Session.
2. In the Join Instructions screen, click *Invite Class*.



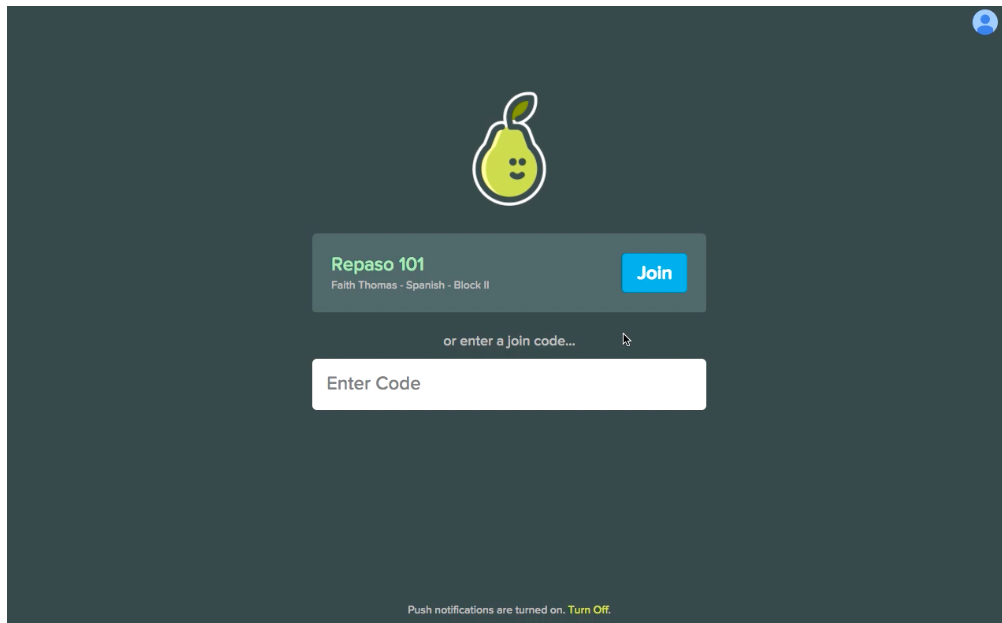
This will allow you to pick a Google Classroom section to invite.

To see the real-time Session roster, open the Teacher Dashboard (see the previous section).

# PearDeck + Google Classroom

## What Students See

When students go to the Pear Deck join URL ([joinpd.com](https://joinpd.com)), they will see a list of any presentations they've been invited to recently. They can click the *Join* button, and they're in the Session.



If your Google Classroom Roster is out of date, or some students are not on it, no worries! Students can still go to [joinpd.com](https://joinpd.com) and enter the 5-letter Session Join Code.

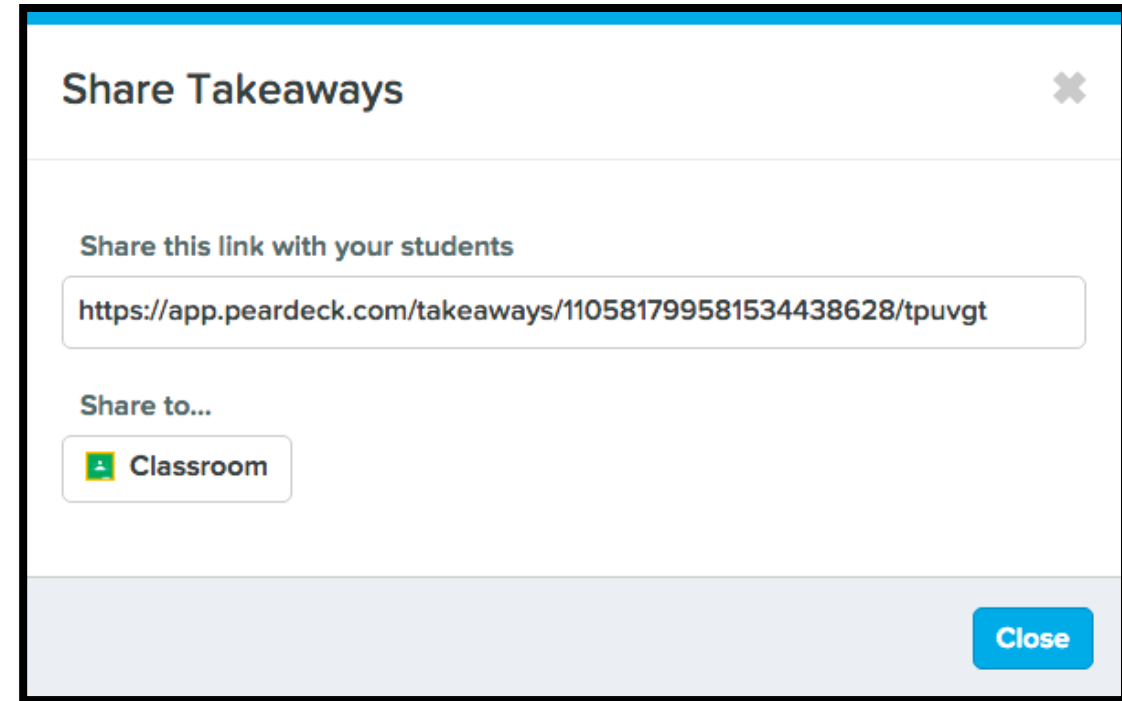
# PearDeck + Google Classroom

## Publish Takeaways to Google Classroom

When you enable the Classroom Integration, you automatically have the option share the Takeaways link to your Google Classroom after you publish Takeaways.

Just click Classroom on the publish window (below). The link will be shared to Announcements.

When a student clicks the Takeaways share link, it automatically recognizes who is logged in with Google gives them access to their own Takeaway Doc only. The teacher will be able to access all of the Docs from the Session. [Learn more about Takeaways.](#)



## 4. 課業簡介



# 課程習作

試用 Google Applications, 去設計一個有效的教學設計，及說明如何提升教學成效

輸入

<https://forms.gle/VbGbTn8fK2XUwioM7>



查看

<https://docs.google.com/spreadsheets/d/1PQJ42Rd3PEjrtGce3fbqRkYe6a8ZhCEIQLkxBYhJEhU/edit?usp=sharing>



# 聯絡



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