教育局資訊科技教育組 教育卓越中心

運用電子工具以促進通識教育科的學與教

教育局資訊科技教育組

李天民 (GCT)

張家麒

CERTIFIED Trainer

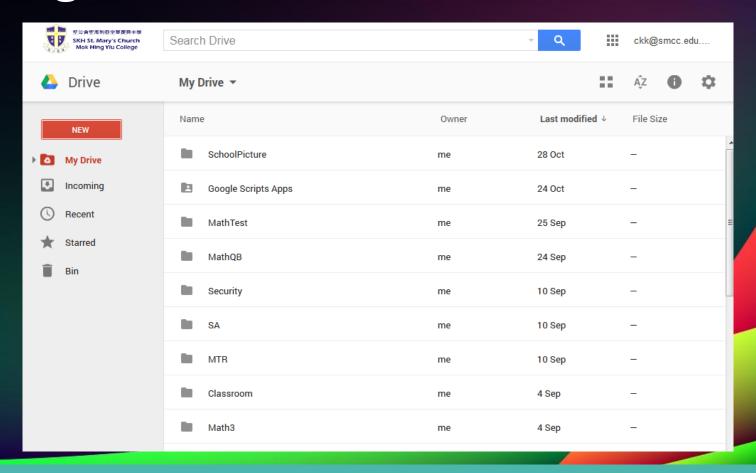
Google for Education

Google Suite for Education 開展通識課堂

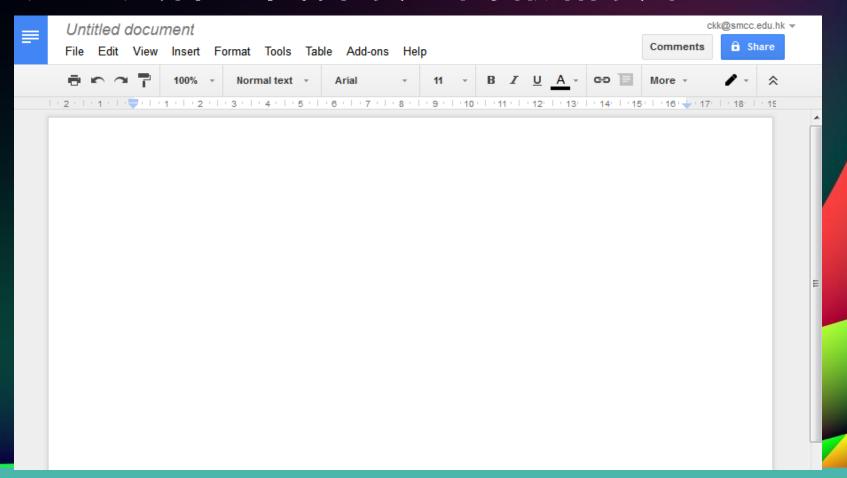
Google

Single-sign On (SSO) 單一登入模式

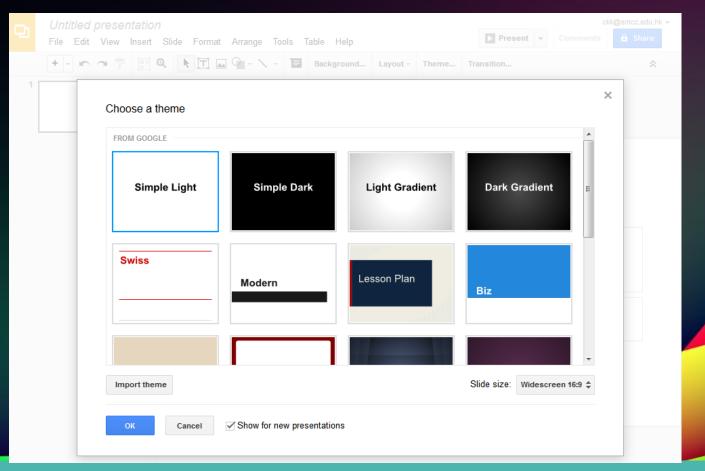
Google Drive 雲端硬碟

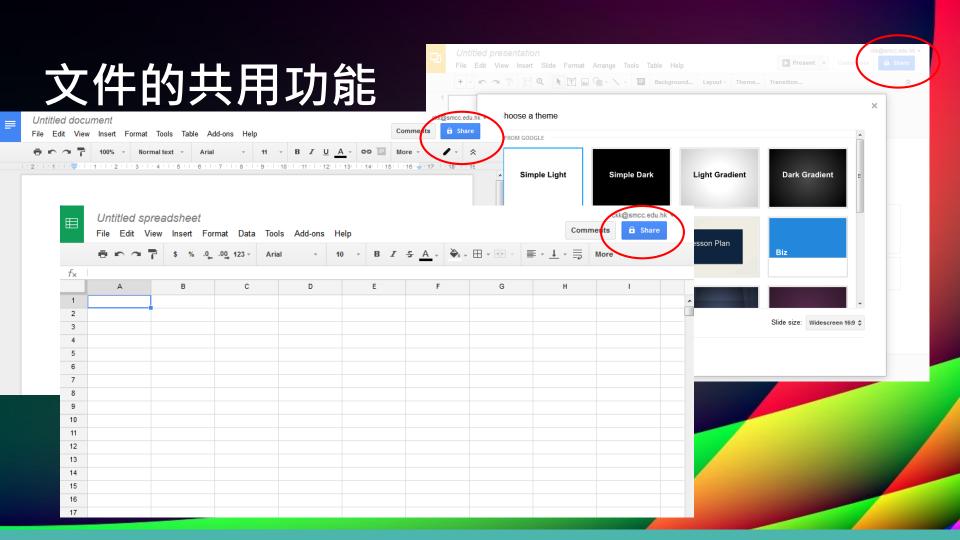


建立文件、試算表、簡報和表單



建立文件、試算表、簡報和表單







Google Photos







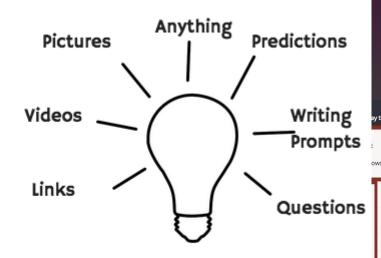


Google Sites

- 雲端應用程式 (任何可上網的裝置皆可登入)
- 集中展示通告、檔案及課業
- 多位學生及教師可同時編輯同一文件
- 每位教師都擁有自己的教學網站
- 免費!

Padlet 討論平台





A Blank Wall for Student Ideas...

because in the book it said some thing like this his hands began to sweat and his heart thumped

and I think that means that he was nervous

hard to do they're usaull thing but he was confident so it was easy for him, but on the other hand when the race began his throat was dry, and his hands were sweating so he was a little nervous.

heart was racing.

i think little willy is felling a bit nervous and brave, i think he felt nervous because he heard about all the races stone fox won and he's probably brave because he really cares about his grandad

I think little willy is nervous because he has never been in a race before and! think Little Willy is also very confident because he thinks he is going to win because he knows the whole route by heart.

I think Little Willy was feeling nervous and confident.

Nervous because if Stone Fox has won around 3 times in a row I think everybody against him should be nervous. Confident because so far in the story he has not been nervous and is sure that he is going to win.

If i were little Willy I would feel nervous but at the same time happy, excited and determined I would feel nervous probably because I would race against stone fox like willy and the rest is probably because of the race

I think Little Willie is very determined but still a tiny bit nervous.

What makes you say this?

I think little Willy was feeling vervExited and nervous and Confident because he wants the money.

He feels nervous because he has to race stone fox and he has never gone up against him.

was: There are som

I think Little Willy the morning befo thought he was no and the other opp were older then hi experience than h

I thought there was

hes fa

are m

I think Li

scared at

am really

Willy feel

Arnay

Nervous: Little Willy feel's nervous because Stone Fox might win.

I think that Little Willy feel's a bit Nervous but he is still determent to win the

Determent: Little Willy really want's to win the race to save the

利用Apps與雲端教導學生解讀通識漫畫題











利用Apps與雲端,教導學生解讀通識 漫畫題

學生已有知識:

青少年成長中可能遇上的挑戰 分析及比較數據的能力

教學目標:

學生能夠 -

辨識議題內與個人成長相關的價值觀,解釋議 題背後的現象

辨識漫畫資料的價值觀,利用資料解釋價值觀 評估建議的成效

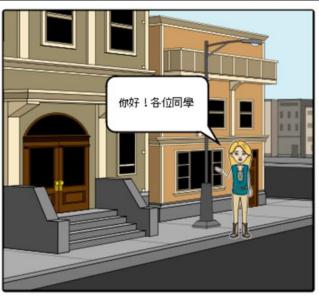
學生能力轉移

議題	相關知識及概念	通識能力		
1. TRAINING TASK:整容	自尊	A	比較數據的能力	
2. 探究題目: 對整容的接受程度如	自我概念	A	利用資料描述/	
何反映青少年的價值觀?	價值觀		解釋現象的能力	
2.TRANSFER TASK :	權利與責任	A	利用資料指出及	
由老師提供若干議題或由學生自	生活技能		解釋價值觀的能	
擬·自行搜證並展示相應的知識、			カ	
概念及通識能力		>	方法建議的成效	
● 過度消費			評估(高階思維)	
● 追星				
● 網上交友				

漫畫工具 - StoryboardThat



漫畫工具 - StoryboardThat







Create your own at Storyboard That

1. 細閱以下資料:

資料A

中國不同類型產業[#]佔國內生產總值(GDP)的百分比(1990-2013)

年份	1990	1995	2000	2005	2010	2013
第一產業(%)	27.1	20.0	15.1	12.1	10.1	10.0
第二產業(%)	41.4	47.1	45.9	47.4	46.7	43.9
第三產業(%)	31.5	32.9	39.0	40.5	43.2	46.1

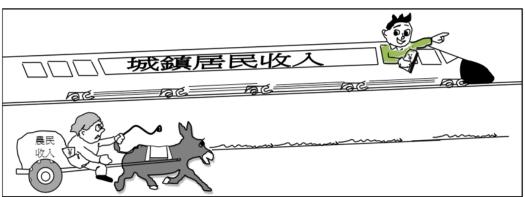
[&]quot;第一產業包括農業、林業等;第二產業包括製造業、建築業等;第三產業則包括零售、金融服務業等。

資料B

中國農村人口佔全國人口百分比(1990-2013)

22 17 77 12 12 12 77 13 (2000 2000)						
年份	1990	1995	2000	2005	2010	2013
農村人口百分比	73.6	71.0	63.8	57.0	50.1	46.3

資料 C: 一幅關於中國城鎮與農村收入的漫畫







準備課堂

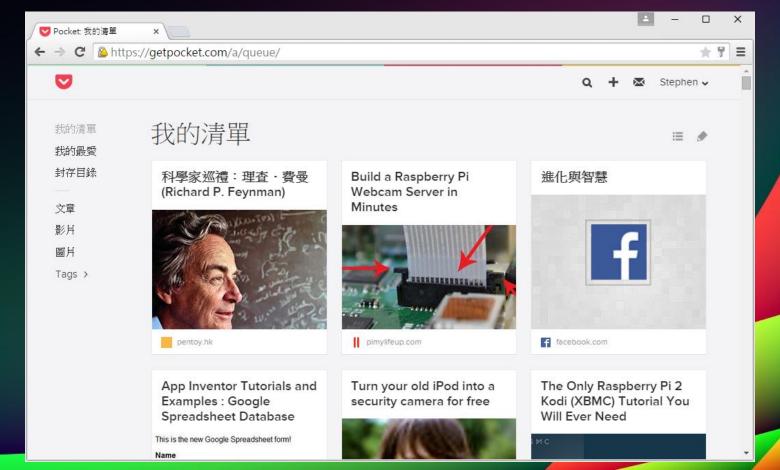
準備課堂

- 1. 文章分享 Pocket
- 2. 影片播放清單 Player FM Podcasts Youtube
- 3. 課前預習 Google Form

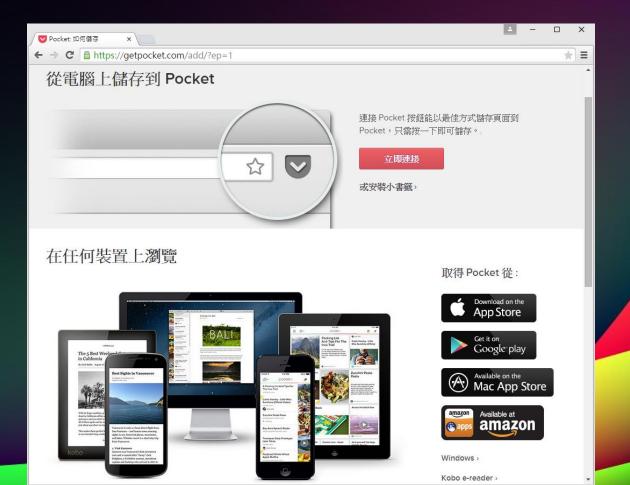
準備課堂 - 有系統地記錄文章、影片、網址



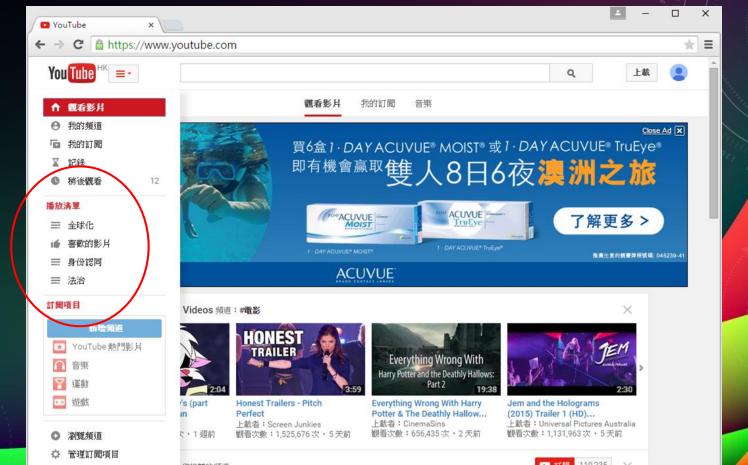
Pocket - 有系統地記錄文章、影片、網址



Pocket - 有系統地記錄文章、影片、網址



準備課堂 - 當我在Youtube發現適合教學的影片



Google sites



Google Sites

- 雲端應用程式 (任何可上網的裝置皆可登入)
- 集中展示公告、檔案及課業
- 每位教師都擁有自己的教學網站
- 多位學生及教師可同時編輯同一文件
- 免費!(教育機構限定)

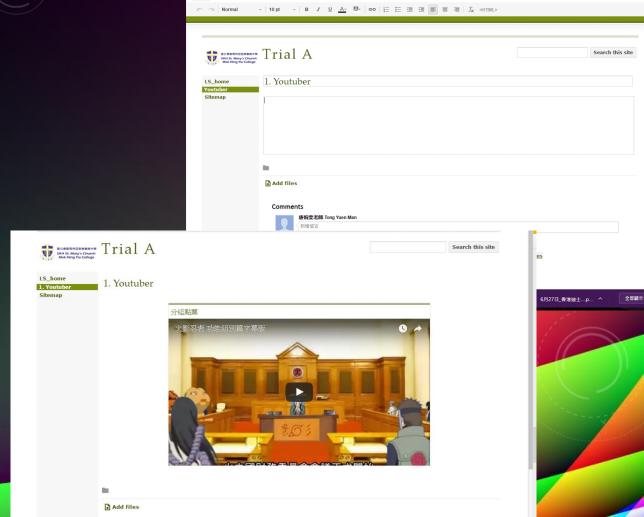
可嵌入不同Apps





嵌入Youtube

- 1. 選取Youtube
- 2. "插入"所選取的網址

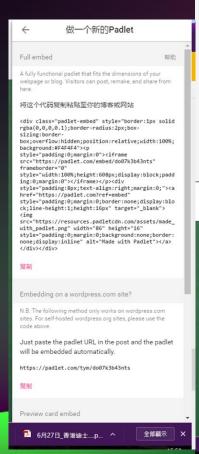


Youtuber

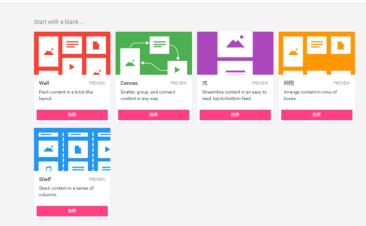
Insert Format Table Layout Help

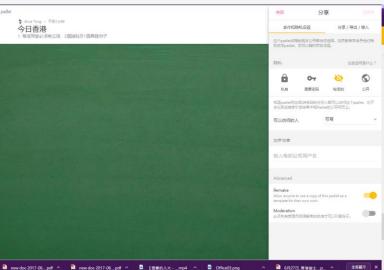
嵌入Padlet

- 1. 新增Padlet
- 2. 和同學分享



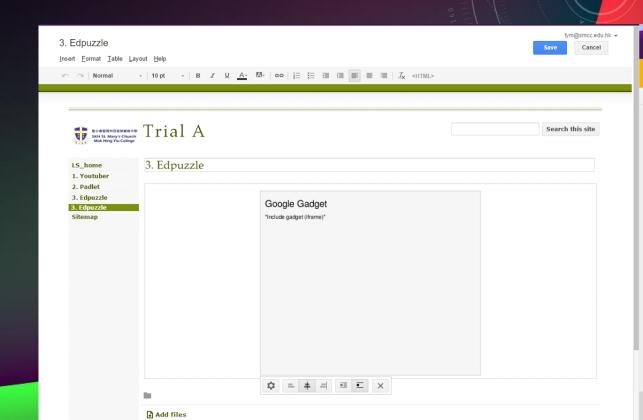
Make something new





嵌入edpuzzle

- 1. 新增片段
- 2. 利用html









減少技術障礙,提升教學成 效

Classroom 關放所有 Google Apps for Education 使用者使用;除了 Classroom 之外,Google Apps for Education 這套免費的生產力工具還提供 Gmail、Google 套端硬碟和 Google 文件等服務。

Classroom 可讓老師直接在線上建立及收回作業,完全不浪費紙張,而且提供多項省時省力的功能,比方自動為每位學生建立 Google 文件副本。此外, Classroom 也會自動為每位學生建立各項作業專屬的套端硬碎資料夾,讓每個人 的資料都并并有序。

學生可隨時在「作業」頁面查看各項作業的繳交期限,只要點選作業就能開始動

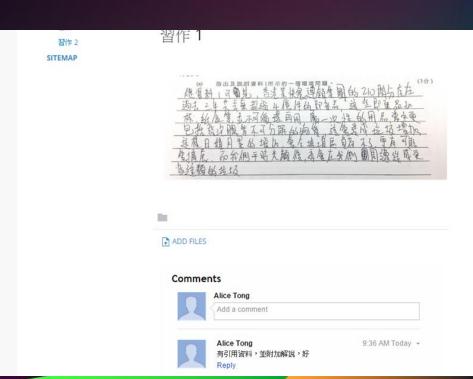


From Google Classroom Flipped Classroom

資訊科技促進評估「生生互評」

學生作品平台

互相觀摩



虛擬環境 真實學習

When technology becomes invisible in a school, learning becomes the focus. That should always be our goal, regardless of the tools we use to get there.

Chris Lehmann, Zac Chase

(Building School 2.0: How to create the school we need)

甚麼是虛擬實境(VR)?

虚擬實境(Virtual Reality,縮寫為VR),是利用電腦模擬產生一個三維空間的虛擬世界,讓使用者感覺仿佛身歷其境可以及時、沒有限制地觀察三維空間內的事物。使用者進行位置移動時,電腦可以立即進行運算,將精確的三維影像傳回產生臨場感。

CARDBOARD

虚擬實境的主要構成

虚擬實境的構成要素主要分為三個要素,又稱為虛擬實境的 3i。

- 1. 互動性 (interaction)
- 2.融入 / 沉浸程度 (immersion)
- 3.想像力 (imagination)

Burdea (1993)



CONE OF LEARNING Edgar Dale

After 2 Weeks we tend to remember

Nature of Involment

10% of what we READ	Reading	Verbal Receiving	
20% of what we HEAR	Hearing Words		
30% of what we SEE	Looking at Pictures		PA
50% of what we HEAR & SEE	Watching a movie Looking at an Exhibit Watching a Demonstration Seeing it Done on Location	Visual Receiving	PASSIVE
70% of what we SAY	Participating in a discussion Giving a Talk	Receiving/ Participating	AC
90% of what we SAY & DO	Doing a Dramatic Presentation Simulating the Real Experience Doing the Real Thing	Doing	ACTIVE

虚擬實境技術比較

應用技術	優點	
影像式虛擬實境	製作需時較短 器材成本較低	
電腦立體模型式虛擬實境	提供更佳的互動性 可以創造虛擬場境	

為甚麼將虛擬實境引入課室?

- 實地考察的時間及人力成本限制,透過VR可增加體驗式學習的機會
- 教師清楚學生及課題需要,他們能夠自行預備教材帶入課室
- 學生能在虛擬的環境內自行探索,促進自主學習
- 將課本的文字和圖片實境化,並提高互動性





