



高中通識教育科的電子學習課堂

文可為副校長
樂善堂余近卿中學



目標

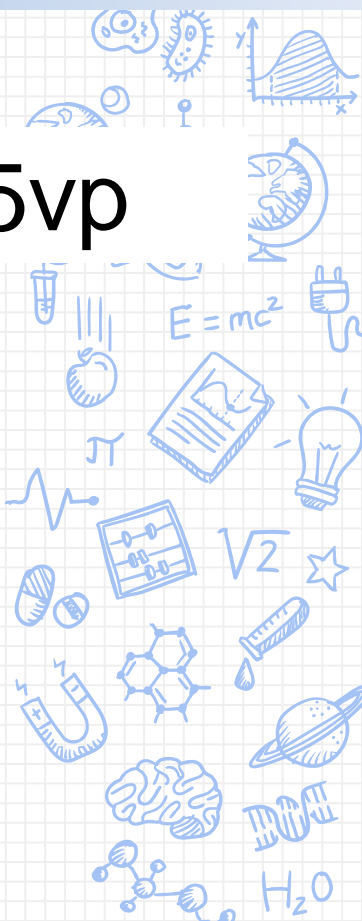
介紹有關有效使用網絡環境及流動學習工具，配合應用程式及學習管理系統運用，提升通識教育科學教效能



分享内容



<https://goo.gl/3wu5vp>



網絡群組：聯校通識專業學習社群

✕ 群組資訊

MOCK
EXAMS

Start

2017 聯校通識專業學習社群



(一)戶外學習：EDUVENTURE



CUHK
香港中文大學

CLST 學習科學
與科技中心
Centre for Learning Sciences and Technologies

EduVenture®

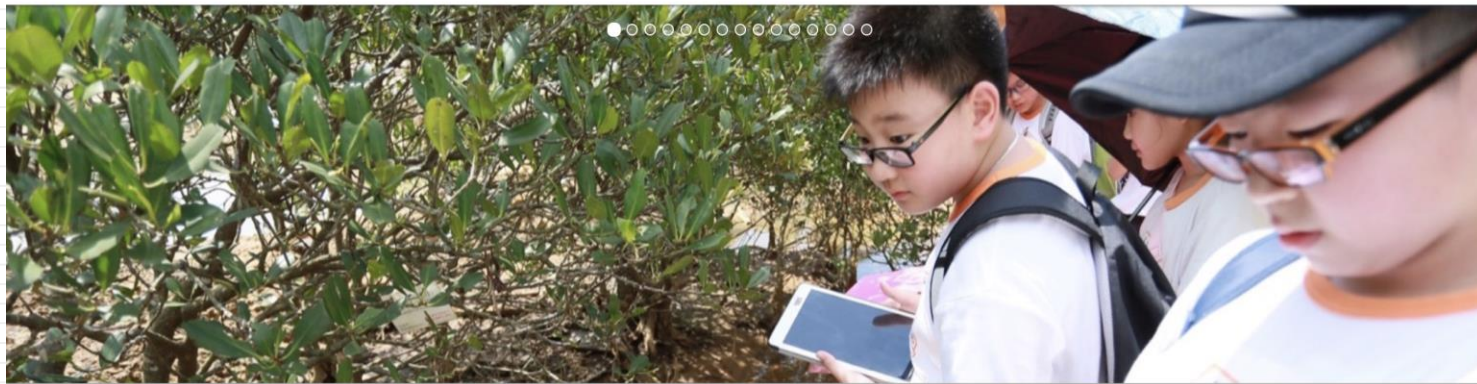
電郵

密碼

登入

忘記密碼

首頁 開發團隊 系統學與教 ▾ EduVenture 網誌 聯絡資料



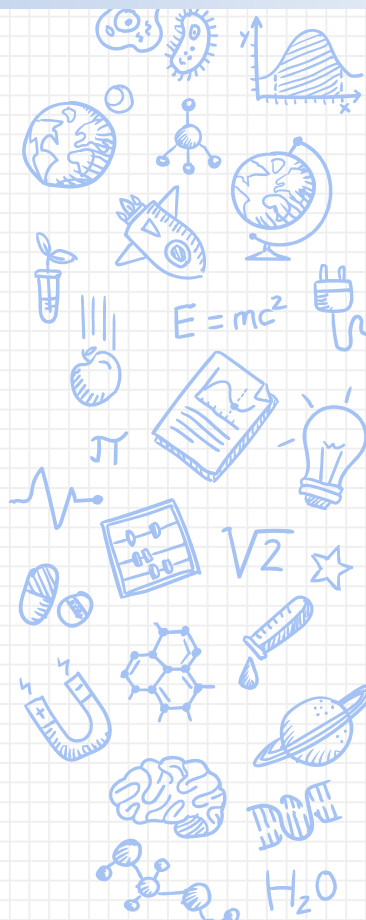
EduVenture® Composer



EduVenture®戶外教材設計比賽 得獎作品

<http://ev-cuhk.net/>

由於網絡技術問題，近日連接到EduVenture伺服器曾出現斷線或無法編輯等問題，我們已盡力及已完成收復工作。EduVenture系統已正常運作。但伺服器早前的問題可能導致2016年11月至12月其間的題目選項出現不完整，而需要重新輸入選項。主要受影響題型為MC裡的選，表格及概念圖的內容；（題目本身不受影響）。在未來會致力更新系統，令服務更穩定可靠；這次為各位帶來不便，我們十分抱歉。若有任何疑問或需要技術支援，請電郵至clst@fed.cuhk.edu.hk



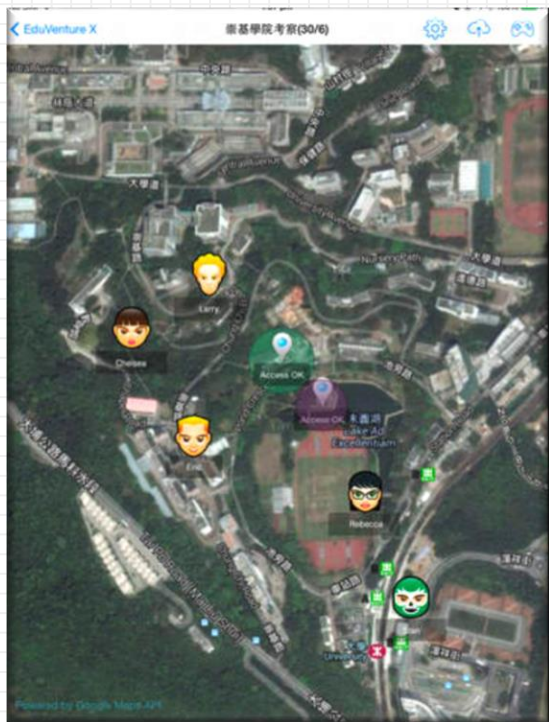
(一)戶外學習：EDUVENTURE

Two years ago, the Centre for Learning Sciences and Technologies (CLST), The Chinese University of Hong Kong (CUHK) launched the **EduVenture®** learning system, which has been well received by students and teachers.

CLST has recently developed **EduVenture® VR (Virtual Reality)**, a sub-system of EduVenture®.

[忘記密碼](#)[首頁](#)[開發團隊](#)[系統學與教 ▾](#)[EduVenture 網誌](#)[聯絡資料](#)

(一)戶外學習：EDUVENTURE



(一)戶外學習：EDUVENTURE

The EduVenture System In 3 parts

EduVenture® Composer



EduVenture® eXplorer



下載 iPad 版

下載 iPhone 版

Student

EduVenture® Retriever



需要登入才能使用這功能

Student + Teacher

(一)戶外學習：EDUVENTURE

The EduVenture X App

iPad



iPhone



(一)戶外學習：EDUVENTURE

No SIM

3:08 pm

100%

EduVenture X



Materials in this device

All Materialso(Internet)

From everyone

From my school

Created date

Updated date

Views

All KLA

All Subject

Cross KLA

Chinese Language

English Language

Local



崇基學院考察(30/6)

EduVenture 共享社群

Eric Luk

Views:42

Local



香港的圍村文化

EduVenture 共享社群

Eric Luk

Views:14

Local



香港百年古蹟探索之旅

EduVenture 共享社群

Jack Ng

Views:86

Local



台南井仔腳瓦盤鹽田

EduVenture 共享社群

Jack Ng

Views:42



(二) 體驗學習：EDUVENTURE VR

This is a user-friendly web-based composer for teachers to produce VR and AR (Augmented Reality)-based immersive fieldtrips.

Through this system, students of limited means or with special needs can also experience real-life fieldtrips which would otherwise be costly, difficult or impractical.



EduVenture®VR

主頁

開發及簡介

先導學校

聯絡我們

EduVenture®VR

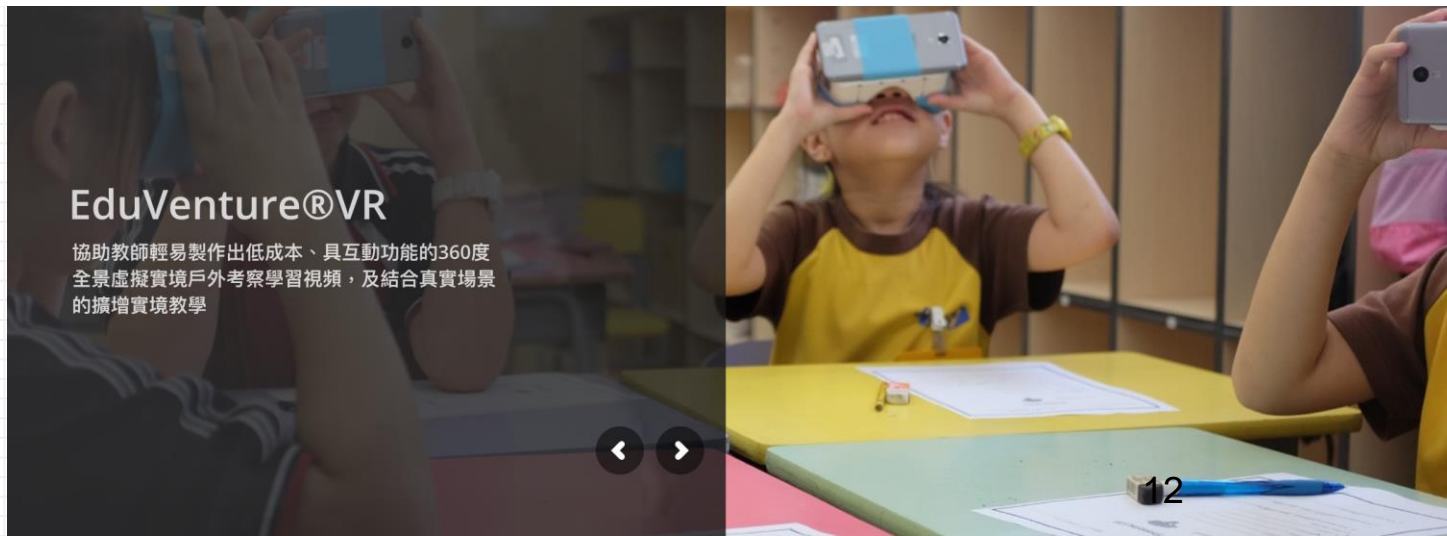
協助教師輕易製作出低成本、具互動功能的360度全景虛擬實境戶外考察學習視頻，及結合真實場景的擴增實境教學



<http://vr.ev-cuhk.net/>

(二) 體驗學習：EDUVENTURE VR

EduVenture® VR adopts affordable interactive 360° spherical VR and AR technologies for teachers to **produce VR-based immersive** fieldtrip learning videos that capture real-world environments layered with **AR-based pedagogic** scaffolds.



(二) 體驗學習：EDUVENTURE VR



(二) 體驗學習：EDUVENTURE VR

Capture 拍攝

Cloud 儲存

View 觀看



(三) 體驗學習：Augmented Reality (AR)

- **Aurasma** is Autonomy's augmented reality platform. It is available as a software development kit or as a free app for iOS- and Android-based mobile devices.
- Aurasma's **image recognition** technology uses a smartphone's or tablet's camera to recognize real world images and then overlay media on top of them in the form of animations, videos, 3D models and web pages.

(三) 體驗學習：Augmented Reality (AR)



<https://youtu.be/GBKy-hSedg8>

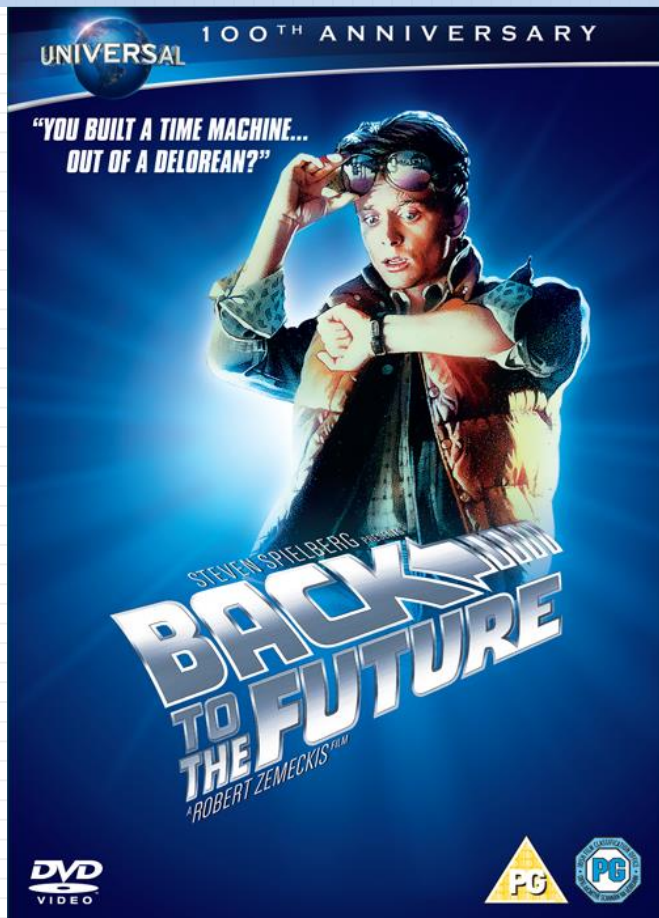
(三) 體驗學習：Augmented Reality (AR)



(三) 體驗學習：Augmented Reality (AR)



(三) 體驗學習 : Augmented Reality (AR)



(四) 學習管理系統 LMS

G Suite Learning Center

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Switching from Microsoft



(四) 學習管理系統 LMS

Overview



Quick Start Guide



Mobile

Communicate



Gmail



Inbox



Cloud Search



Hangouts



Calendar



Groups



Google+

Store



Drive

Collaborate



Docs



Sheets



Slides



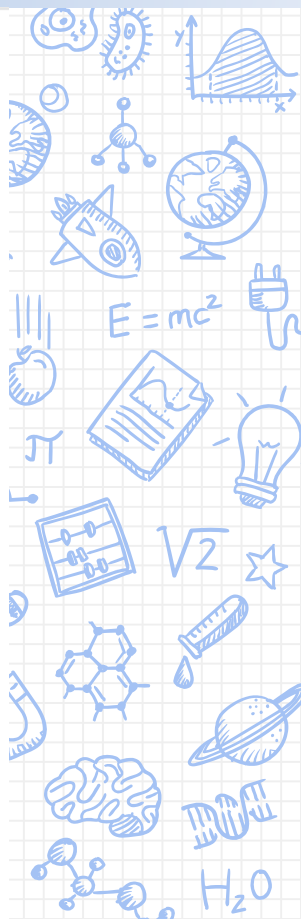
Forms



Sites



Keep



(四) 學習管理系統 LMS



Cloud ▾

Mobility ▾

Productivity ▾

Search Office



🛒 1

Sign in

Office

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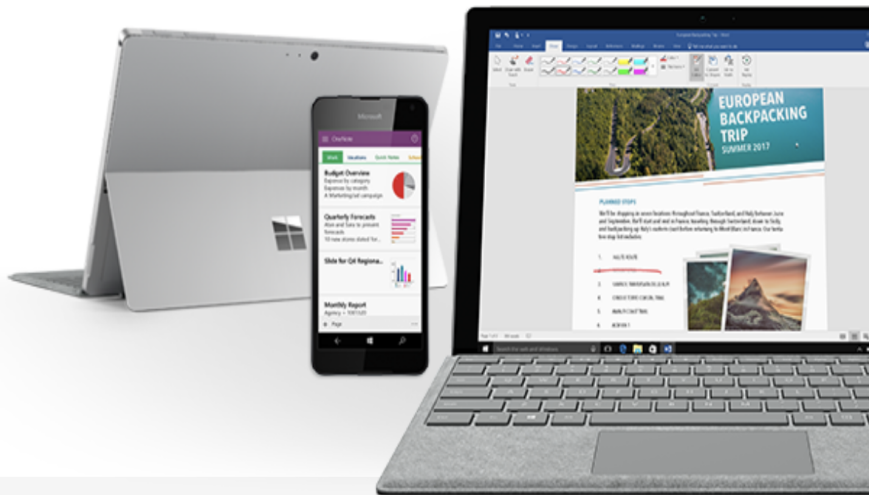
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(四) 學習管理系統 LMS

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Outlook



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Excel



PowerPoint



OneNote

Services



Exchange



OneDrive



Sharepoint



Skype for
Business



Microsoft
Teams



Sway



Forms



Stream



Flow



PowerApps



School Data
Sync



(四) 學習管理系統 LMS



關於計劃

利用雲端、開放式標準的虛擬學習環境（Virtual Learning Environment, VLE），學校可融合並整全地管理教學、學習、評估、協作、回饋以至學習數據分析，深化電子學習。

開放式標準學習管理系統

- 專為學界設計的網上系統，助學校融合並整全地管理教學、學習、評估
- 學校可於系統建構課程和內容，系統化於全校推展電子學習
- 長遠而言，開放式VLE系統使教師不受平台限制，可靈活匯入／出多方教學資源（如校內外教師資源、第三方應用程式及教材）作教學用途
- 學生於系統內完成課業、評估、協作等學習活動並取得回饋，所有學習歷程和數據由系統完整記錄，供學校分析及參考



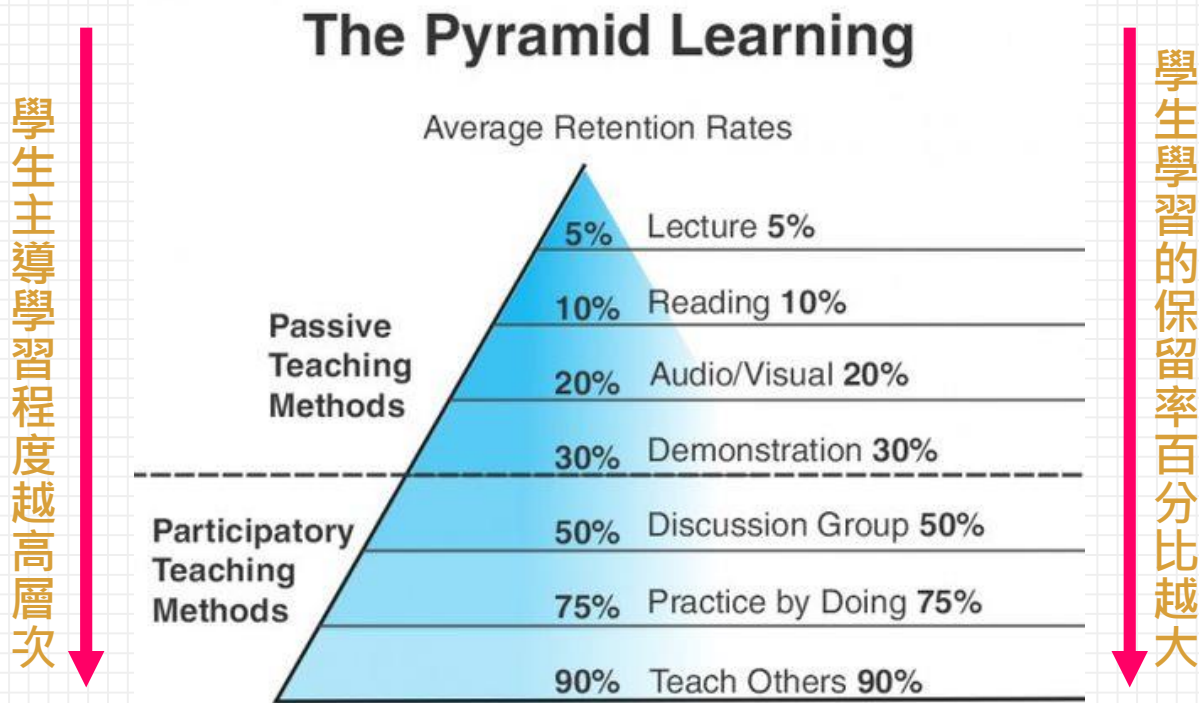
(五) 自主學習：Flipped Learning

票 齣 轉 陳



(五) 自主學習：Flipped Learning

自主學習的內容及步驟



Adapted from National Training Laboratories. Bethel, Maine

(五) 自主學習：Flipped Learning

Reboot

SALMAN KHAN'S YOUTUBE LESSONS HAVE ALREADY MADE HIM A GEEK CELEBRITY. NOW HE WANTS TO REINVENT HOMEWORK, BANISH CLASSROOM LECTURES—AND MAYBE SAVE EDUCATION

BY KAYLA WEBLEY

the

School

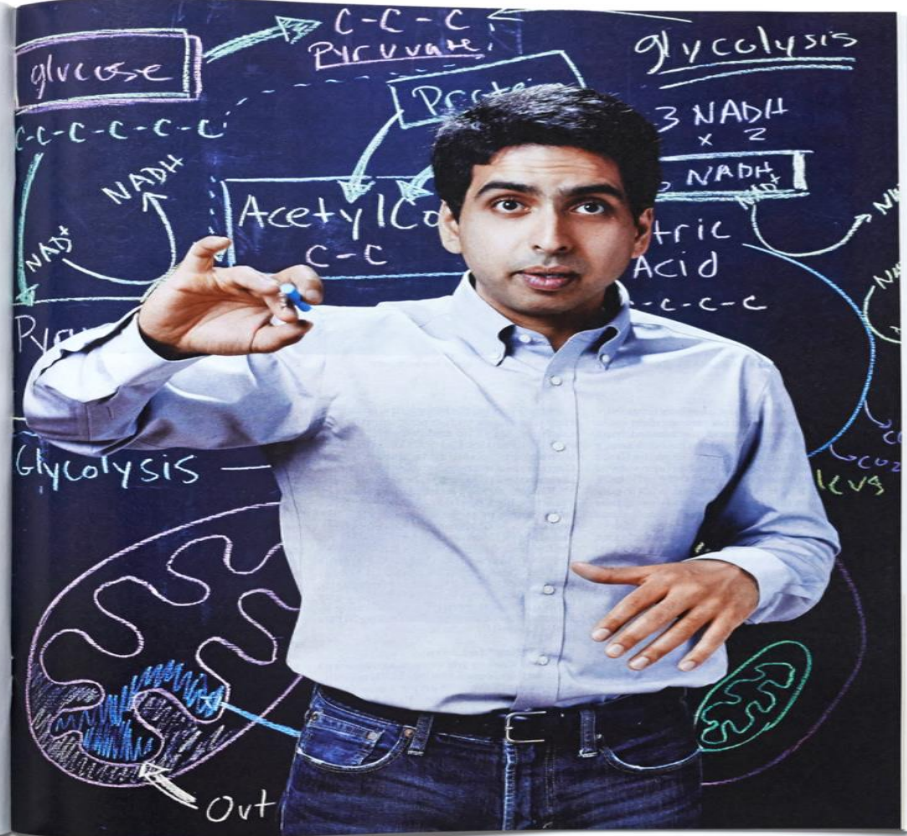
FIFTH-GRADERS AT EASTSIDE College Preparatory School in East Palo Alto, Calif., sit at their desks with netbooks. They're in the middle of a math lesson, listening as a teacher explains how to convert percentages to decimals. "If we get rid of the percent sign, we just have to move the decimal sign two places to the left," the instructor says. Pens scribble across notebooks.

Seven thousand miles away in Accra, Ghana, students at the African School for Excellence are studying logarithms. Their teacher is the same one firing off math tips in California—both groups

of kids are learning by watching online videos. While the screen shows a march of equations and diagrams, the students never actually see the face of the lecturer. There's just a voice, deep, patient and unrehearsed—think NPR host crossed with Mister Rogers. His inflection rises at times to underscore a point or when he gets really excited. "Math is not just random things to memorize and regurgitate on a test next week," he says. "It's the purest way of describing the universe."

The voice belongs to Salman Khan, a 35-year-old hedge-fund manager turned YouTube professor to millions around the world. Thanks to his Khan Academy,

Photograph by Jamie Chung for TIME



"Nice to meet you."

"Let's Do Something Together."

"Will you be my...?"

Before Class

- Watching videos and reading
 - Getting familiar with terms and phrases
 - Introduction to concepts
-
- Formative assessment
 - Check for understanding



During Class

- Projects, problems, small groups, discussions, labs, creating things, analyzing things
-
- Formative assessment
 - Check for understanding



After Class

- Projects, papers, creating things, reviewing key concepts
-
- Formative assessment
 - Check for understanding




Salman Khan:

Let's use video to reinvent education

TED2011 · 20:27 · Filmed Mar 2011

Subtitles available in 42 languages

 View interactive transcript



Watch later



Favorite



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this idea



3,377,859 Total
views



Share this talk and
track your influence!

Salman Khan talks about how and why he created the remarkable Khan Academy, a carefully structured series of educational videos offering complete curricula in math and, now, other subjects. He shows the power of interactive exercises, and calls for teachers to consider flipping the traditional classroom script — give students video lectures to watch at home, and do "homework" in the classroom with the teacher available to help.



This talk was presented at an official TED conference, and was featured by our editors on the home page.

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South America!





Student
watch video
to
pre-learn

20 mins



Teacher
follow-up
responses


10 mins

Active learning / e-Learning /
Higher order activity

30 mins

Flipping Classroom
Framework

(五) 自主學習：Flipped Learning

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(五) 自主學習：Flipped Learning

Pre-Learn with Scaffolding

Additional information:
Rocket thrust equation

ROCKET BODY
FUEL
OXIDIZER
NO₂2LE
 m
 V_e
 P_e
 P_0
 A_e

m = mass flow rate
 p = pressure
 V = Velocity
 A = Area

$$\text{Thrust} = F = mV_e + (p_e - p_0) A_e$$

Slide 5 of 5

(五) 自主學習：Flipped Learning



Why Schoolology

K-12

Higher Ed

www.schoolology.com

The Top CODiE Award Winner of 2014

Schoolology won three CODiE awards this year, including Best Overall Education Solution.

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Course Management



Mobile Learning



Communication Hub



Integration Platform



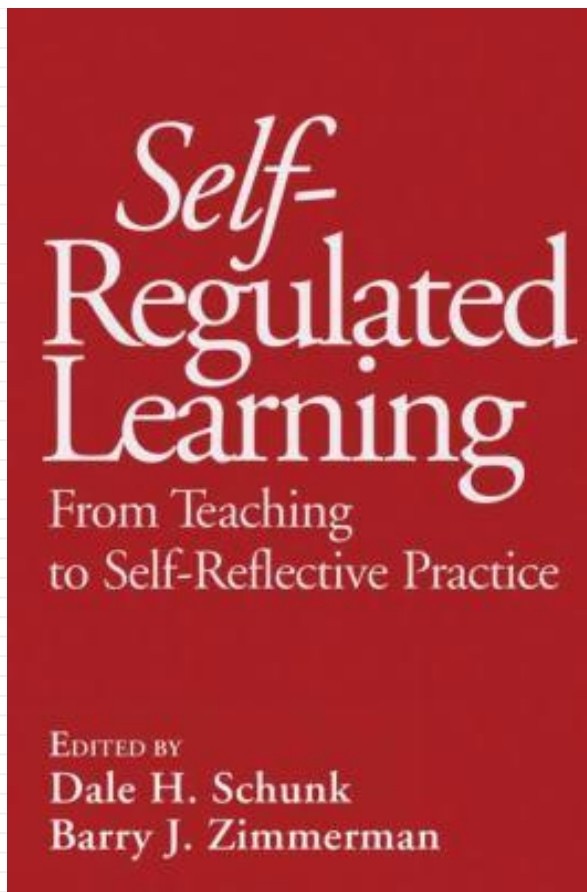
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齊莫曼：自主學習專家



總結

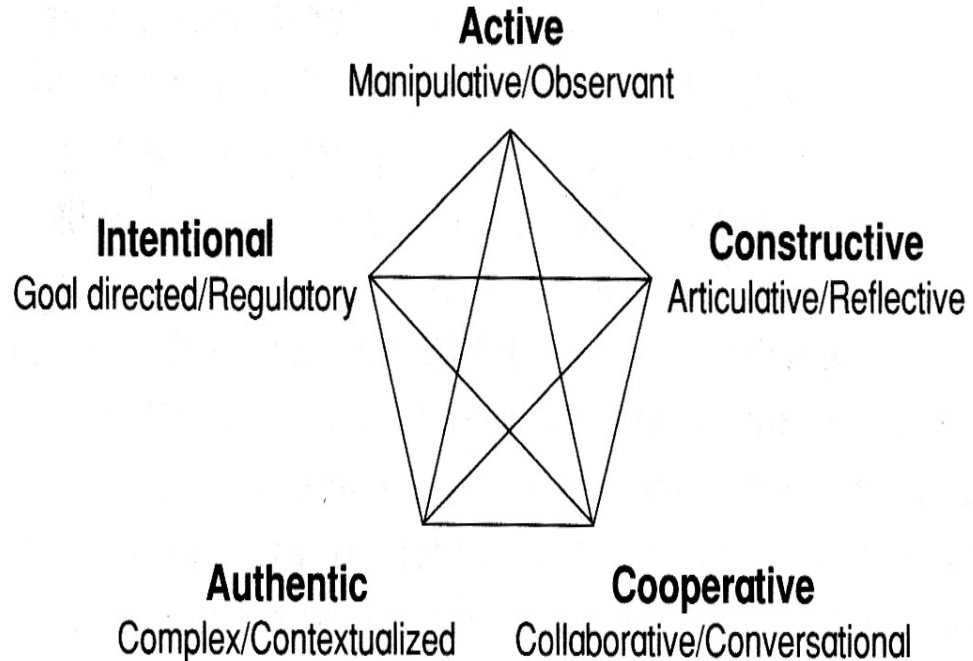
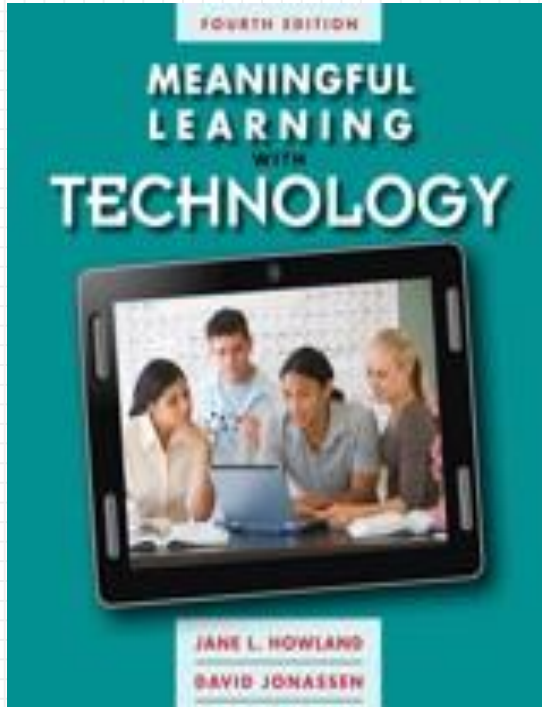
WHAT IS MEANINGFUL LEARNING? (Jonassen, D, et al, 2008)

『有意義的學習』

- 以學生為中心的『主動』、『建構』、『合作』、『真實』、『意圖』精神
- 探討在『探究』、『實驗』、『設計』、『溝通』、『建立社群與協作』、『寫作』、『建模』、『視覺化』等學習型態與活動上，**科技的導入與應用、評量學習等實例**，同時也提醒教師思考相關問題。

Meaningful Learning with Technology

By Jane L. Howland, David H. Jonassen, Rose M. Marra



<https://edpt200.wikispaces.com/home>

資訊科技教育組：www.edb.gov.hk/ited



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The Government of the Hong Kong Special Administrative Region



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What's New

Date	Title
20/09/2017	"Wise NET" School Recognition Scheme (Application form)
05/09/2017	Cyber Security Competition 2017 - Cyber Security Starts From YOUth (Website)
29 & 30/08/2017	Presentation Slides for the Briefing Seminar on "Information Technology Staffing Support Grant"
16/08/2017	Build a Secure Cyberspace 2017
	"Smart Home, Safe Living" Seminar cum 1-Page Comic Drawing Contest Award Presentation Ceremony
20/07/2017	Information Technology Staffing Support Grant [EDBC No.11/2017]
28/06/2017	Message from the HKCERT: Beware of Petwrap / NotPetya Ransomware Spreading
17/05/2017	Presentation Slides and Notes for the Seminar on Tackling Ransomware for Schools on 17 May 2017
15/05/2017	Tackling Ransomware and the Seminar on Tackling Ransomware for Schools 17 May 2017
05/05/2017	Parent Education "Unite for a Better Internet" Information Kit on e-learning
27/04/2017	e-Learning Fun Fair
11/04/2017	Build a Secure Cyberspace 2017 "Smart Home, Safe Living" - 1-Page Comic Drawing Contest (Website)



聯絡

Email: wallace_mhw@alumni.cuhk.net

Mobile: 6112 2400