

# Online Delivery of Pre-captured Lectures via Echo360 for Student Learning



Isabel Hwang  
*WS Chan and Paul Lam*

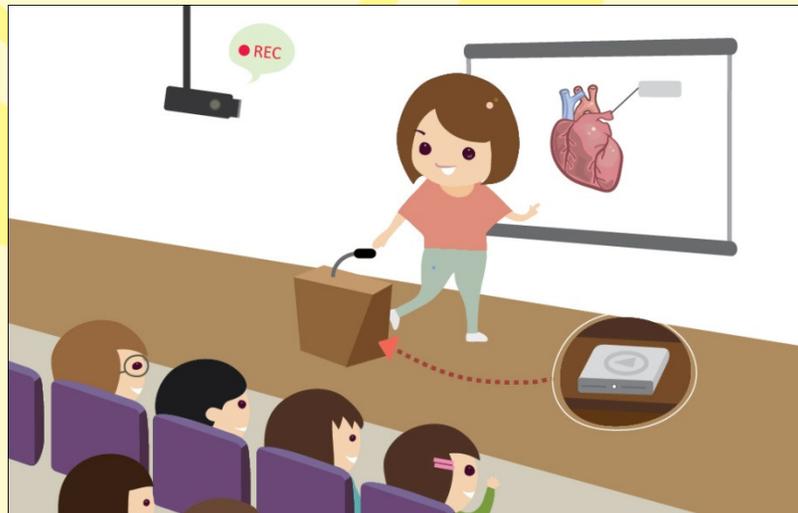


# What is Echo360?

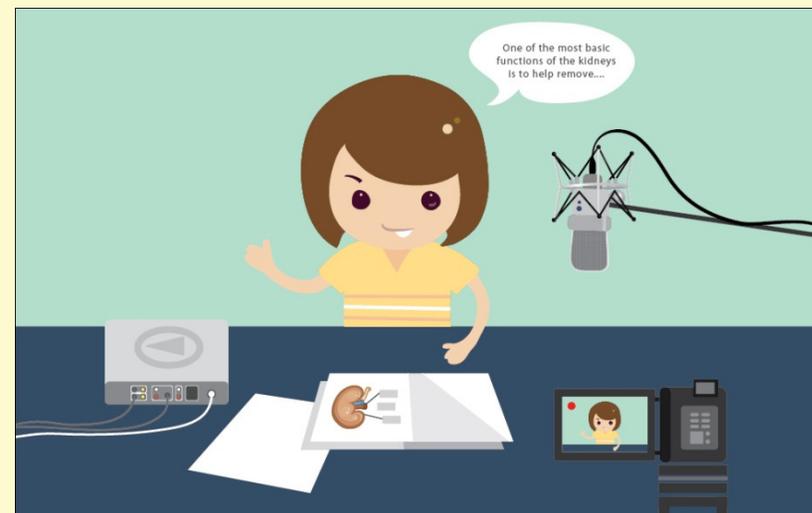
- A “playback” technology
- Making lecture content readily accessible
- Capture whatever is on your computer
- Simultaneously record your screen, your voice and classroom visual
- Publish to *Blackboard Learn* platform

# Ways to do Echo360

Live recording at lecture theatre

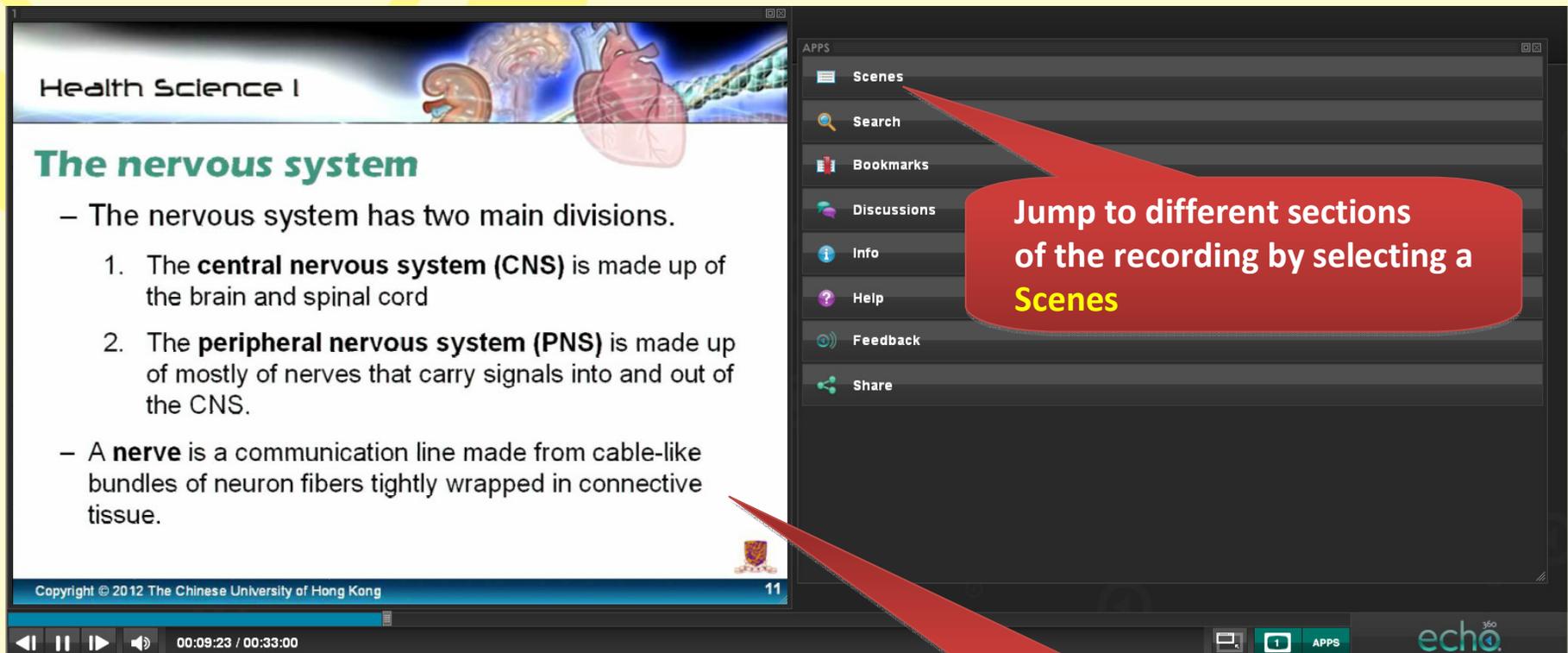


Recording in professional-grade studio



- ***Capture live lectures “or” pre-record in controlled setting***
- Visual and audio recordings viewed via ***rich media*** or ***vodcast files*** (desktop computer, laptop, ipad, android tablets, smart phones etc).
- Viewer can replay, skip, rewind or fast forward

# An example of *streamed* lecture online



The screenshot displays a video player interface. The main content area shows a slide titled "The nervous system" from a "Health Science I" lecture. The slide contains the following text:

- The nervous system has two main divisions.
  1. The **central nervous system (CNS)** is made up of the brain and spinal cord
  2. The **peripheral nervous system (PNS)** is made up of mostly of nerves that carry signals into and out of the CNS.
- A **nerve** is a communication line made from cable-like bundles of neuron fibers tightly wrapped in connective tissue.

The slide footer includes "Copyright © 2012 The Chinese University of Hong Kong" and the number "11".

On the right side, there is an "APPS" sidebar with the following menu items: Scenes, Search, Bookmarks, Discussions, Info, Help, Feedback, and Share. A red callout bubble points to the "Scenes" option with the text: "Jump to different sections of the recording by selecting a **Scenes**".

At the bottom of the video player, there is a control bar with play/pause, stop, and volume icons, and a progress indicator showing "00:09:23 / 00:33:00". A red callout bubble points to this bar with the text: "Tool bar to navigate pause/remind/forward".

At the bottom right of the video player, there is a "1 APPS" button and the "echo 360" logo. A red callout bubble points to this area with the text: "Main window for current Powerpoint slides or PC content".

Tool bar to navigate  
pause/remind/forward

Main window for current  
Powerpoint slides or PC  
content

# Why Echo360?

- Year 1 students from a **Master of Nursing program** (~80 students)
- Students are from **heterogeneous background**.

History  
Social work  
**Biology/ Human physiology**  
Computer Science  
Journalism  
Business

Marketing  
Music  
Physics

Economics  
Accounting



# Pre-recordings of lectures

- All were pre-recorded lectures done at summer time of 2011
- Delivered “*after*” class
- A series of 16 lectures in the area of
  - Electrical signal in human nerve cell
  - Skeletal muscle contraction
  - Structure and function of the human heart

# Extension to other 4 physiology courses

Table 1. Course information and percentage of recorded lectures in 5 first-year biomedical courses (4 undergraduate and 1 master programmes)

Course Name (Course Code)	Student Number	Number of Recorded Lecture Hours	Total Number of Lecture Hours	Percentage (%) of Recorded Lecture
Bachelor of Nursing Science (NURS1601)	202	12	20	60
Bachelor of Pharmacy and Bachelor of Biomedical Engineering (PHAR1431)	88	11	26	42
Bachelor of Science (Human Biology & Food and Nutritional Stream) (MEDN3070)	82	8	32	25
Bachelor of Chinese Medicine (BCME1600)	32	12	20	60
Master of Nursing Science (NURS6209)	77	16	35	46

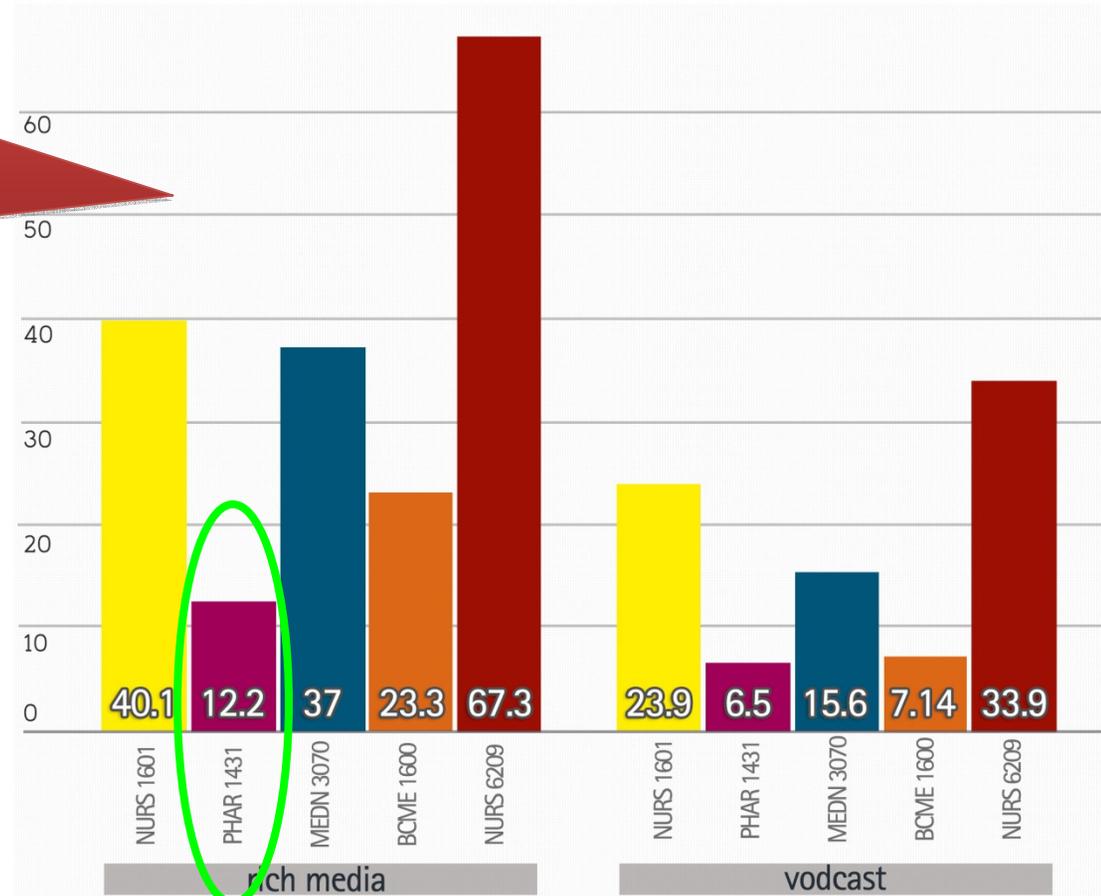


# Access rate

More students were using rich media links than vodcast links in the same course.

## Study Findings

Figure 2. Average access rates from students of the 5 Biomedical Courses



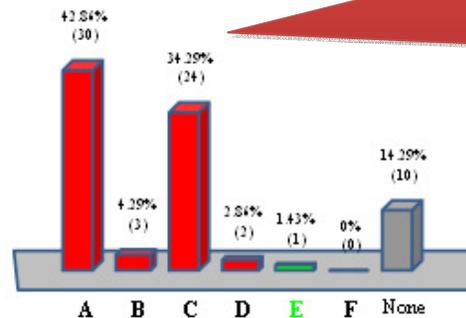
# Clicker survey: Pharmacy 2012

Human Physiology



Do you find *Echo360 recorded lectures* useful for your revision?

- A Yes
- B No
- C I have not listened yet and cannot decide
- D I don't think it is necessary



**50%** responded agreed *Echo360 recorded lecture* is useful for self revision.



# Benefits to *Students*

- To revisit lecture recordings for
  - Missing class
  - Self revision
  - Complex concepts and ideas
  - Picking up things missed in class
  - Taking comprehensive notes after lectures
- Simple output formats allows easy viewing
- Flexible and convenient
- Students need not struggle between looking at the slides and taking notes



# Benefits to *Teachers*

- Help *reinforce* learning objectives and highlight key concepts of a topic
- Provide self-evaluation
- Help improve teaching skills



# Difficulties and suggestions?

- Uncommon amongst teachers (system's ease of use?)
- Reservation about recording their own lecture materials (copyright issues?)
- Cost issues (for pre-recording only)
- Possible effects on student attendance

# Students' attendance



- Did not show a significant decrease in student attendance rate
- **Compulsory attendance** in some courses
- **Live lecture** still confers a number of educational **benefits:**
  - Interaction between classmates and teachers
  - Firsthand information
  - Live discussions
  - Be able to ask questions
  - Meet with others

# Other applications

- Prelab talks
- Welcome videos (course introduction)
- Screen capture (demonstrate animations with a step-by-step explanation.)
- Case studies
- Distance learning course

# Acknowledgements

## School of Biomedical Sciences

- One-line budget for Echo360 recording

## People

- Dr WS Chan (Office of Educational Services, Faculty of Medicine)
- Prof Paul Lam (CLEAR)
- Mr Edman Chan (ITSC)
- Miss Prinporn Lau (ITSC)



***Thank you.***