

For Online Participants

- Keep camera on and mic off (unless you talk all the time)
- Test the connection: audio, video
- Participate as in the classroom (ask, answer questions, chat with peers, do activities)
- Join group activities when needed
- Indicate your engagement

 Poll Everywhere



NIE
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Mobile Learning

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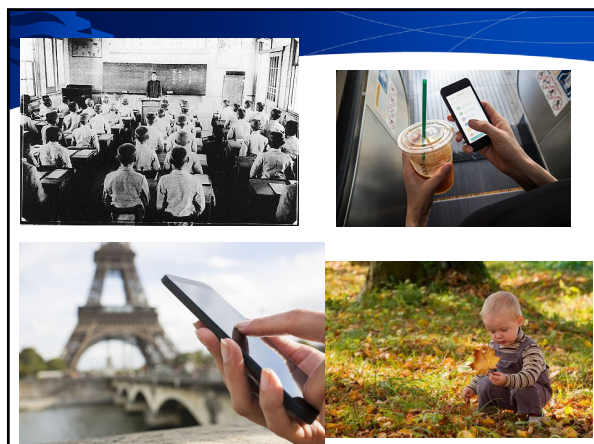
www.nie.edu.sg

Recap

- CSCL

Contents

- What is mobile learning?
- Development of mobile-learning
- Benefits and challenges
- Some cases
- How can mobile learning support cognition?



Definitions of m-learning

“... e-learning through mobile computational devices.” (Quinn, 2002)

“... any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies.” (O'Malley et al., 2003)

Definitions of m-learning

- ‘anywhere, anytime’ learning that is not fixed in time (by schedule) or space (by location) and that is supported by mobile devices

Mobile devices

Mobile devices

Mobile devices

- School-supplied
- BYOD (bring-your-own-device)
 - Navigate devices they are familiar with
 - Lack of admin/technical support

QR code

QR code

■ <http://www.qrstuff.com>

Seamless Learning

- Ubiquitous learning
- Continuity of the learning experiences across different contexts/spaces (Chan et al., 2006)
 - Formal + informal
 - Individual + social
 - Physical + digital ...
- Mediated by: 1:1, 24x7 access to mobile devices

Chan, T.-W., et al. (2006). One-to-one technology-enhanced learning: An opportunity for global research collaboration. *Research and Practice in Technology-Enhanced Learning*, 1(1), 3-29.

M-learning is NOT just about easy access of resources

- Portability
- Social interactivity
- Individuality
- Context sensitivity
- Connectivity
- Bridging physical & digital worlds

Chan, Roschelle, Hsi, Kunshuk, Sharples, Brown, et al. (2006)

3 generations of mobile learning (Yu,2007)

- 1st gen: transfer of information
- 2nd gen: instructional design-centric
- 3rd gen: 1:1 & context-aware

1st Gen

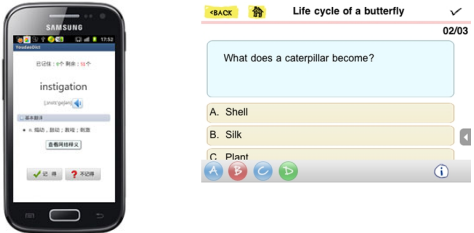
- Examples of transfer of information
- Anytime, anywhere reading/listening/watching
- One-way

2nd Gen: interactive e-books

18 <http://www.iflashbook.com.sg/>

2nd Gen Quizzes & games

- Instructional design-centric
- Two-way: more interactive



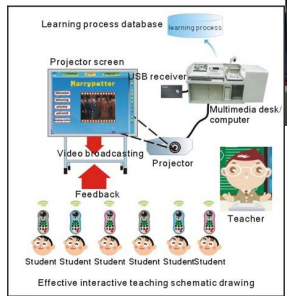
Life cycle of a butterfly ✓ 02/03

What does a caterpillar become?

A. Shell

B. Silk

C. Plant



Learning process database

Projector screen

USB receiver

Multimedia desk computer

Video broadcasting

Projector

Feedback


Teacher

Student Student Student Student Student Student

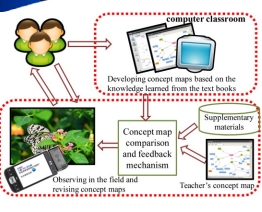
Effective interactive teaching schematic drawing

Plickers

- Kahoot
- Mentimeter
- Plickers



3rd Gen: Context-Aware Learning



computer classrooms


Developing concept maps based on the knowledge learned from the textbooks

Supplementary materials

Teacher's concept map

Observing in the field and revising concept maps

Concept map comparison and feedback mechanism




Microclimate	Weather	Cloud	Sea Outlook
Mon	Partly Cloudy	25-30	69
Tue	Partly Cloudy	25-30	66
Wed	Partly Cloudy	25-30	70
Thu	Partly Cloudy	25-30	69
Fri	Partly Cloudy	25-30	66
Sat	Partly Cloudy	25-30	66
Sun	Partly Cloudy	25-30	57
Mon	Partly Cloudy	25-30	60
Tue	Partly Cloudy	25-30	52
Wed	Partly Cloudy	25-30	51
Thu	Partly Cloudy	25-30	52
Fri	Partly Cloudy	25-30	53
Sat	Partly Cloudy	25-30	52
Sun	Partly Cloudy	25-30	50
Mon	Partly Cloudy	25-30	46

TOP STORES FINANCE ENTERTAINMENT SPORTS

- 1 dead, 12 injured in accident on PIE
- YOUR VIEW: 'Baby incentives only tackle short-term costs'
- \$170 million to be spent to boost work-life harmony
- New salary rules for hiring foreign workers: MOM
- Unwed parents to get childcare, infant care leave benefits
- Singapore's Catholics welcome new Pope with hope, optimism
- YOUR VIEW: 'What right do I have to complain?'
- COMMENT: Xenophobia and the Jollibee backlash

3rd gen

- The context-awareness is the device's ability to detect, sense, interpret, and respond to aspects of the user environment
- Authentic learning
- Personalized



Launch of interactive learning trail to teach Chinese language & culture

By Channel NewsAsia | Posted: 27 February 2010 19:55 hrs

SINGAPORE: A new interactive learning trail in Chinatown aims to offer students a fun way to learn about Chinese language and culture.

Using specially-programmed mobile phones, students can participate in Chinese language games at seven locations.

They assume roles such as the samurai woman and rickshaw puller to get a sense of what Chinatown was like in the 1900s.

The Interactive Learning Trail at Chinatown was developed by the Ministry of Education, Informatics Development Authority of Singapore and operated by Cell Network.

Click to enlarge Photos: 1 of 1, 2, 3, 4, 5, 6, 7

Launch of the interactive learning trail

Benefits of m-learning

Use one word or phrase to describe the benefits of m-learning

Start the presentation to see live content. Set no live content? install the app or get help at Plickers.com/app

Challenges with m-learning

- E.g. Distraction
- Lack of Internet connection (mobile data)
- Short battery
- ...

Use one word or phrase to describe the challenges with m-learning

Use of Mobile devices

↓

Mobility of devices

↓

Mobility of learners

Cases



“Move, Idioms!”

Idioms	Artifact created within the school	Artifact created at home	Artifact created in other locations
东倒西歪 Rickety	 <i>(The student manipulated the chair and the ball to create the context for the artifact)</i>	 <i>(The student manipulated the standing fan at home)</i>	 <i>(A tree at the neighborhood, the twisted camera angle further highlights the meaning of the idiom)</i>
争先恐后 Striving to be the first	 <i>(students enacting a scenario)</i>	 <i>(Singapore dollar notes on the floor)</i>	 <i>(a standee in a cinema)</i>
指手画脚 Gesticulating	 <i>(a visiting educator from Kuwait pointing his finger at the students)</i>	 <i>(a student's nagging father)</i>	 <i>(street performers outside a museum)</i>



Mobile learning and cognition

- Humans are intrinsic sense makers, looking to organise new information so as to find meanings, significance, or patterns in it ...
- Apart from the formal curriculum, any experience or encounter in a learner's daily life is a potential source for sense making (or learning). (Wong & Looi, 2011)

Mobile learning and cognition

- Using smart devices
- Apps
- Reduce cognitive burden

Summary

- Mobile learning:
 - From mobility of tools to mobility of learners
 - Types: context-aware; mCSCL;
- Seamless learning

- Group assignment