From Mobile Access to Multi-device Learning Ecologies

A Case Study

Paul D Hibbits
LEARNER EXPERIENCE
ADVISORY / DESIGN / EDUCATION

@hibbittsdesign

Session Questions + Discussion
http://padlet.com/paulhibbitts/stlhe2015
Session Overview

- Questions + Discussion
- Redefining Mobile Learning
- Learning Ecology Framework
- Learning + Technology Development Model
- CMPT 363 Canvas LMS Case Study
Mobile Learning Defined

“The ability to learn independently of place and time, facilitated by a range of mobile devices.”
(Ufi/learndirect and Kineo, 2007)
What does mobile mean in 2015?
Redefining Mobile Learning in a Multi-device Connected World

- Ubiquitous (i.e. a family of devices)
- Situational (i.e. at the moment of need)
- Connected (i.e. relational and social learning)
- Personal (i.e. the learner is in control)
Let's now look at the Learning Ecology Framework, but first some background...
Information Ecologies

“We define an information ecology to be a system of people, practices, values, and technologies in a particular local environment. In information ecologies, the spotlight is not on technology, but on human activities that are served by technology.” (Nardi and O'Day, 1999)
Learning Ecologies

“An ecology, for our purposes here, can be viewed as an environment that fosters and supports the formation of communities and networks.” (Siemens, 2008)
And now here is the Learning Ecology Framework...
LEARNING ECOLOGY

INSTRUCTOR CONTROL
- Platform
- LMS, LRS Design
- Courseware
- Static Resources
- Instructor Adjunct Tools

INDIVIDUAL
- Dynamic Resources
- Flipped Classroom
- Point of Need Access
- Informal Learning
- Individual Curation

SOCIAL
- One/Many-to-Many
- Communities of Practice
- Social Network Learning
- Group Curation

RELATIONAL
- One-to-One
- Coaching/Mentoring
- Performance Support (PS)
- PS Analytics

FORMATIVE
SUMMATIVE
Final
Summative Iteration

XAPI
LRS

This work by Myra T. Travin and Paul D. Hibbitts is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
Learning Ecology Framework

“An educational philosophy and self-supporting ecosystem in which individuals and groups are offered a collection of curated resources and tools that will support their growth and learning, and foster participation.” – Travin, 2015

Myra T (Rapin) Travin
Learning & Innovation Specialist
Greater Seattle Area | Education Management

Current: UNIVentures, Collective Changes - Global Mentoring, Microsoft
Previous: Appen Butler Hill, Inc, MetaImpressions, Inc., Accenture
Education: University of Phoenix
Email: myratravin@comcast.net
Twitter: @m_travin
LinkedIn: https://www.linkedin.com/in/myratravin
A Few Key Aspects...

- A highly structured presentation
- Can be used as a diagnostic tool or framework
- Stages also relate to levels of learner autonomy and/or size of learner community
- Items within each stage can be seen as possible tactics
Let's check-in now on the session Padlet wall...
Next up is the Learning + Development Model, but first some background...
The ADDIE Model
The Foundation of Instructional Design
Successive Approximation Model (SAM 2)

And now let's look at the Learning + Technology Development Model...
Learning + Technology Development Model

ASSESS TECHNOLOGY FIT
assess technologies for chosen methods of reaching learning and performance outcomes

DELIVER
deliver the learning and performance solution to the intended audience

DESIGN
design a learning and performance solution using the chosen technologies

ASSESS LEARNER NEEDS
assess current state and determine learning and performance gaps

EVALUATE
evaluate learner experience of the learning and performance solutions

DEFINE
based on gap analysis, define learning and performance outcomes

IMPLEMENT
create the needed components to deliver the chosen learning and performance solution

CONCEPTUALIZE
explore various methods to reach learning and performance outcomes

This work by Paul D. Hibbitts and Myra T. Travin is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
Learning + Technology Model

“An iterative development approach which takes into consideration learner needs, experience, and technology – all working together to support continual improvement and a unified development strategy.” – Hibbitts, 2015
A Few Key Aspects...

- Unifies learning, technology, and learner experience
- Works with various development practices (e.g. waterfall, agile, etc.)
- Scales up/down (e.g. individual features, complete learning objects, and even entire courses - more on this next!)
- Supports a continuous improvement culture
Let's check-in now on the session Padlet wall...
CMPT 363 E100 User Interface Design

UPCOMING IMPORTANT DATES
Assignment #1 due via Canvas 5:30pm Nov 27th

Week 13 Preparations (Nov 27)
Required Readings
- None

No regular class (term wrap-up @ SFU Burnaby).

EVALUATE & REFINE

Week 12 Materials (Nov 20 - 27)
Presented Slides
- User Interface Inspections Slides
- Course Wrap-up Slides

View all Week 12 materials

https://canvas.sfu.ca/courses/17482
Supporting a Learning Ecology

- Learning
  - Instructor Control
  - Individual Learning
  - Relational Learning
  - Social Learning
- Evaluation
  - Formative
  - Summative
Relational (aka Partnership)

- One-to-One Coaching/Mentoring (i.e. private and persistent messaging spaces via Kato)
- Performance Support (i.e. task-oriented UX Techniques Guide)
- PS Analytics (not directly supported at this time)
Paul Hibbitts: Following up on our discussion about design for emotion, here is Donald Norman talking about the three ways that good design makes you happy
https://www.youtube.com/watch?v=RIQEOjaLQRA

Don Norman: The three ways that good design makes you happy

Paul Hibbitts:
Welcome!
This is your personal 1-on-1 consultation room with Paul.

It's a real-time messaging room, where you can talk privately and directly with Paul about the course and the field of user experience design. Based on your specific interests, Paul can also make personalized recommendations of additional learning resources.

The contents of this, and all course chat rooms, are persistent during the entire term.

Sample Student 1: Let's set up our first project meeting - how about late afternoon on Burnaby campus next Tuesday?
Sample Student 2: That works for me, anytime after 4:00pm is preferred.
<table>
<thead>
<tr>
<th>How Can I...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit from and apply a user-centered design process?</td>
</tr>
<tr>
<td>Learn more about the needs of my audience?</td>
</tr>
<tr>
<td>Describe and categorize information about my audience?</td>
</tr>
<tr>
<td>Conceptualize possible design solutions?</td>
</tr>
<tr>
<td>Create a usable, useful, and enjoyable user interface?</td>
</tr>
<tr>
<td>Design a user interface for mobile and multi-device usage?</td>
</tr>
<tr>
<td>Visually design and display information more effectively?</td>
</tr>
<tr>
<td>Inspect a user interface to access its quality of design?</td>
</tr>
<tr>
<td>Plan, conduct, and summarize usability tests with my target audience?</td>
</tr>
</tbody>
</table>

Know of a great user experience technique article or resource? Please email Paul about it and upon review he will add it to this page.

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
UX Techniques Guide (CMPT 363)

How Can I...

Benefit from and apply a user-centered design process?

Agile UX

A variation of the Agile methodology, which supports a more collaborative approach to various user experience design methods.

- Agile User Experience Design
- Bringing User Centered Design to the Agile Environment
- Fitting Big-Picture UX Into Agile Development
- UX and Agile: Tying the knot

Activity centered design

A specific form of user-centered design where the focus is on user activities and tasks rather than user characteristics.

- Activity-Centered Design - Bokardo
- Designing Web Applications for Use
- Redefining User-Centered Design, Part 1
And Let’s Not Forget, Multi-device Access is now the Baseline

http://www.pixeden.com/psd-mock-up-templates/samsung-galaxy-s5-psd-mock-up
Thank you!

Further Discussion/Questions?

- Contact Info
  - Web: paulhibbitts.com
  - Email: paul@paulhibbitts.com
  - Twitter: @hibbittsdesign
  - LinkedIn: linkedin.com/in/paulhibbitts

- Accompanying Resources, via OneDrive: 1drv.ms/1lonzbs
  - Learning + Technology Development Model image files (CC)
  - Learning Ecology Framework image files (CC)
  - Original case study article (published on LinkedIn)
  - These slides, as a downloadable PDF file
  - Example course companion URLs (Fall 2014 & 2015 prototype)
Bonus Worksheet: Positive Learner Experience Qualities
Course Companion

Learner Experience Goals

- Engaging
- Convenient
- Organized
- Relevant
- Enjoyable
Learning + Technology Development Model

ASSESS TECHNOLOGY FIT
- assess technologies for chosen methods of reaching learning and performance outcomes

DELIVER
- deliver the learning and performance solution to the intended audience

ASSESS LEARNER NEEDS
- assess current state and determine learning and performance gaps

DEFINE
- based on gap analysis, define learning and performance outcomes

IMPLEMENT
- create the needed components to deliver the chosen learning and performance solution

CONCEPTUALIZE
- explore various methods to reach learning and performance outcomes

DESIGN
- design a learning and performance solution using the chosen technologies

EVALUATE
- evaluate learner experience of the learning and performance solutions

Technology

Assess Technology Fit

Deliver

Assess Learner Needs

Define

Implement

Conceptualize

Evaluate

Design

Learning

This work by Paul D. Hibbitts and Myra T. Travin is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
Bonus Feature:
Fall 2015 CMPT 363
Course Companion Prototype
My most recent approach
(your mileage may vary)

- Use an open platform to create an alternative LMS front-end (i.e. a new “front door”)
  - To provide *a significantly better* student experience
  - To enable faster/easier instructor updates
- A modern flat-file CMS is a *good* great platform for this approach
- As simple (i.e. deep links to LMS) or as complex (i.e. LTI - Learning Tools Interoperability) as you want
Course Companion
Design Process/Toolset

- Learning + Technology Development Process
  - Learner needs, experience, and technology
- Learning Ecology Framework
  - Instructor, individual, relational, and social
- Positive Learner Experience (LX) Qualities
  - Thinking beyond instructional outcomes
- User Experience (UX) Design Techniques
  - For example, empathy maps, customer journey maps, jobs to be done (JTBD), iterative prototyping, etc.
- ... and let's not forget on-going student input and feedback!
CMPT 363 E100 User Interface Design

UPCOMING IMPORTANT DATES
Assignment #1 due via Canvas 5:30pm Nov 27th

Week 13 Preparations (Nov 27)

Required Readings
- None

No regular class (term wrap-up @ SFU Burnaby).

EVALUATE & REFINE

Week 12 Materials (Nov 20 - 27)

Presented Slides
- User Interface Inspections Slides
- Course Wrap-up Slides

View all Week 12 materials

https://canvas.sfu.ca/courses/17482
A Canvas LMS only approach presents challenges for students and instructors

- Less than optimal multi-device experience
- Site responsiveness can be sluggish at times
- Messaging/discussion forums experience is mediocre
- Lacks a streamlined method to integrate and present third-party functionality
- Pages are single (and often large) “blobs” of content, and do not support use of modular/reusable content
- No real support for page/site layout modifications
Upcoming Important Dates
Week 5 reading quiz due by 10am Oct 2nd
Assignment #2 due by 5:30pm Sep 18th

Week 5 Preparations

Required Reading
Conceptual models: begin by designing what to design

READING QUIZ FOR WEEK 5

In-progress Slides
Conceptual Models Slides

Conceptual Models
CMPT 363

"Genius is the ability to reduce the complicated to the simple."
Upcoming Important Dates
Week 5 reading quiz due by 10am Oct 2nd
Assignment #2 due by 5:30pm Sep 18th

Week 5 Preparations

Required Readings
Conceptual models: begin by designing what to design

READING QUIZ FOR WEEK 5

In-progress Slides
Conceptual Models Slides

http://hibbittsdesign.com/courses/canvas-prototype/