Using ADDIE and Systems Thinking as the Framework for Developing a MOOC

A Case Study

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Session Overview

- Project Overview
- Research Questions
- Contemporary Issues Surrounding MOOCs
- User Centered Design & ADDIE
- Methods
- Results
- Q & A
Project Overview

• A mid-sized university in the southeastern US wished to test out the MOOC space.

• Two pilot courses identified by the university:
  ➢ Web Design & Usability
  ➢ The Soul & Search for Meaning

• Web Design & Usability – Developed using ADDIE Framework
Pilot MOOCs

http://moocs.uncg.edu

Web Design and Usability

UNCG's Web Design and Usability MOOC is broken up into five separate units that collectively seek to help you answer one big question: How do I design, develop, and evaluate usable digital environments?

Learn more >>

The Soul and the Search for Meaning - Overview

Humanity: the epic story of our species' quest to understand our very existence. Join renowned historian and educator Dr. Stephan Ruzicka in the Soul and the Search for Meaning, a fascinating journey across time, myth and legend, as we explore the spiritual and philosophical origins of the most powerful species in known existence: ourselves.

Learn more >>
Website Design & Usability MOOC

Designed with a User-Centered Focus
Research Questions

RQ1: What is the process for designing and developing a MOOC?

RQ2: What impact did using the ADDIE model have on MOOC design?

RQ3: What is the relationship between instructional design and MOOCs?
Contemporary Issues

✓ Low completion rates overall (5-16%)

✓ Concerns regarding student engagement

✓ Concerns regarding quality of education MOOCs can offer.

✓ Limited opportunities for instructor connection and student interaction.
User Centered Design – Process of designing a tool from the perspective of how it will be understood and used by the user (Nielsen & Loranger, 2006)
Methods

- Case Study Approach – Instructor & Co-Author of paper – closely followed through MOOC design & development

- MOOC designed to teach web design & usability

- Public, mid-sized regional university in southeastern United States

- Interviews – administrators, design team, user group, and student (course completer)

- Instructor added his own perspectives about project
RQ1: Process for Designing & Developing a MOOC

1. Full design team assembled at onset of project
   - Project Manager
   - Instructional Designer
   - Graphic Designer
   - Video Production Team
   - Faculty Member

2. Lead Faculty Member – Ensured ADDIE was followed throughout

3. Financial Resources – University provided $13,000 for project ($3500 for faculty compensation)
RQ1: Designing & Developing a MOOC with ADDIE

“A” is for Analysis

University leaders, Chancellor, Production Team, & Lead Faculty Member identified goals of MOOC:

1. Teach, free of charge, how to design a website and basic usability concepts & methods

2. Publicize and brand university

3. Serve as test case for instructional strategies

Target Audience: Young, Male, Tech-Savvy Professionals
RQ1: Designing & Developing a MOOC with ADDIE

“D” is for Design

• Identify Course Objectives
• Create Timeline
• Determine Basic Course Architecture
  • 5 asynchronous units (2-5 sections each)
  • Variety of Presentation Modes
    • Video introductions, unit reviews (MC questions, online discussion, hands on activities, readings, video case studies)
RQ1: Designing & Developing a MOOC with ADDIE

“D” is for Design

• Create Outcomes Map

• Determine Acceptable Performance
  ✔ 90% Mastery

Ultimate Goal
The ability to design, develop, and evaluate usable digital environments.

Five Student Learning Outcomes to arrive at the above, students will have the ability to do apply the following:

1. Usability principles
2. User-centered design
3. A-ADDIE systems design process
4. Develop a highly usable website
5. Articulate history and emerging trends in Web design and usability

Develop a basic website that follows information architecture principles and meets standards for ease of use and utility.

1) Usability

Big Question
What problem is your website solving for your web users?

• Who are your users?
• What are their needs?
• How is your site meeting those needs?
• Is it clearly evident from your home page that your site has what they are looking for?
• Are these user needs prioritized and clearly delineated from other information on your site.

What are we looking for in a website? What makes a website great?

Mediating Goals
• Synthesize formal and alternate definitions of usability to align with relevant examples in a student’s experience.
• Apply the usability standards to real life website examples.
RQ1: Designing & Developing a MOOC with ADDIE

“D” is for Development – Usability Review

- Will students learn from course?
- How can it be improved?
RQ1: Designing & Developing a MOOC with ADDIE

“D” is for Development – Usability Review

- Modifications to Course
- Primarily - Changes to Videos
  - Short videos (15-20 sec) combined to 3-4 min (10 min max) videos
  - Transcripts included
  - Closed captioning

Positive feedback gave production team confidence to proceed.
RQ1: Designing & Developing a MOOC with ADDIE

“l” is for Implementation

• Quiet rollout
• Introduction Page w/ Overview
• Each Unit
  • Intro Video (full transcript)
  • Right Side Bar
  • 2-5 Sections
    ➢ Instructional video
    ➢ 5 question review / assessment
    ➢ Applied activity
    ➢ Readings
    ➢ Supplemental resources
RQ1: Designing & Developing a MOOC with ADDIE – “I”
RQ1: Designing & Developing a MOOC with ADDIE – “I”

Unit Review

Applied Activity

Apply & Reflect on Concepts

Readings / Add’l Resources
RQ1: Designing & Developing a MOOC with ADDIE

E” is for Evaluation

• Production team constantly evaluated project.
• Anecdotal evidence – course is successful
• Learners are satisfied

4. Overall I was satisfied with what I have seen of the MOOC.

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RQ2: Impact of ADDIE on MOOC Design

The best thing about a model is that it gives you a process by which to structure what is otherwise a very tiring and complex process (Chow).

ADDIE helped to:
1. Ensure goals are clearly defined
2. Create and timeline and outline needs
3. Keep the team to a timeline
4. Encourage feedback after initial implementation
5. Create environment for periodic feedback and ongoing refinement
RQ3: Relationship between Instructional Design & MOOCs

- Key Factor – Large MOOC enrollment – eliminates instructor’s ability to provide feedback.
- Place learner at center of what needs to be accomplished.
- Designing learning activities in way that is value added and material will be used.
- Clear learning objectives
- Activities include learner engagement, cognitive processing, social interactivity
- Learner experiences include multimedia, readings, assessment, socially interactive context
Final Thoughts

• Systems thinking has provided a theoretical and applicable “guiding” framework

• Ensure alignment between institutional elements and organizational goals (Kaufman, 1988)

• Recommended – Team of Production Specialists & Faculty

• Implement instructional design process such as ADDIE that allows constant feedback cycle
Final Thoughts

Q & A
Thank you!

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Slides:
http://systemicchangewordpress.com/research/aect-conferences/aect-2014/13/