Forging Information Literacy Skills with ANVIL:

An innovative game-based approach to teaching information literacy

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University of Wisconsin Oshkosh
Outline: What we’ll be discussing

- ANVIL Overview
- Institutional Overview
- Reasons for implementation
- Library goals
- Planning process
- Creation guidelines and process
- Software and hardware discussion
- The back end: Categories and content creation
- The front end: How does ANVIL work?
- University implementation
- Faculty and student feedback, next steps
- The back end: management, importing/exporting content
- The back end: Learning management software integration
- Open Source!
What is ANVIL?

- Active iNstructional Videos on Information Literacy
- Series of videos on IL concepts and corresponding trivia-style game
- Developed for General Education Program
- Open source
- LMS Integration
University of Wisconsin Oshkosh: An Overview

- 13,500 full time students
  - 2,500-3,000 incoming freshman/year

- Recently underwent general education reform
  - Fall 2013
University Studies Program

- Information Literacy: ELO & various stages of program

- 1st year courses
  - designed for HS-College transition

- Participate in variety of HIPs
Library Goals

- Administratively: Integrate into USP, instruction & assessment
- Students: Get in on ground floor of career
  - Importance of library in their education
- Provide non-traditional approaches to IL instruction
Initial planning

- What format?
  - More in-person sessions
    - Limited staff
  - Humorous, themed videos
    - Massive production concerns
  - Standalone tutorials
    - Too static
What about…?

- “Bar trivia”
  - Timeless format
  - Most students already familiar, game-wise
  - Easy to swap themes in and out
What to cover?

● What do 17-18 year olds need to know?
  ○ Library basics

● ACRL Information Literacy Standards
  ○ IL basics

● Topics faculty/instructors note are issues
  ○ Understanding assignments
Subject modules

- Information Cycle
- Understanding your assignment
- Searching for information
- Locating information
- Evaluating information
- Citing and using information
Video creation guidelines

● Try to keep videos around 5 minutes

● Analyze subject content and determine major points

● Plan route through video
Video creation process

- Shoot video
  - Develop script and record
  - Edit video and audio separately
  - Add extras
  - Produce and upload
Production considerations

● Expense: how much could we spend?

● Ease of setup and learning curve

● Recording ability: what does audio sound like during playback?
Recommended software

Camtasia Studio

- No time limit
- Very easy editing interface
- Simple to add in ‘extras’ during editing
- Multiple production options
- Feature for captioning
- Supports multiple audio formats (mp3, wmv)
Recommended microphones

Logitech H390 USB headset

● Pros:
  ○ Affordable (~$30)
  ○ USB plug-in; no drivers needed to run
  ○ Mac and Windows
  ○ Clear recording

● Cons:
  ○ Mike sensitivity
  ○ Headphones can become uncomfortable
Recommended microphones

Blue Microphones Snowball USB Microphone

● Pros:
  ○ Very clear recording quality
  ○ Little to no sensitivity adjustment
  ○ USB plug-in
  ○ Mac & Windows

● Cons:
  ○ Expense: $70-100
  ○ No headset for playback
Why did we host on YouTube?

- Vital role in today’s information discourse
- Easier to upload and host than University options
Categories, Questions and Answers

- Create content with through-the-web interfaces
- Flexible & Customizable
  - Total questions, time limits, allowed wrong attempts, penalties, etc...
- Screenshots
Managing: Information Cycle

Category Name
Information Cycle

Category Introduction
The Information Cycle

The Information Cycle
WEATHER
HURRICANE IRINA
Monday August 28, 2005 - Class 2 Report
Perfect storm hits gulf coast - floods New Orleans
Playable questions
10 questions

Time penalty for answering wrong
15 seconds

How many attempts allowed to answer a question?
2 attempt(s)

Question time limit
30 seconds

Question transition in
Random effect

Question transition out
Random effect
### Assessment Ranges

<table>
<thead>
<tr>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% to 100%</td>
<td>Fantastic! You understand the concepts in this module well.</td>
</tr>
<tr>
<td>80% to 89</td>
<td>Pretty good, although you may want to watch the videos once more.</td>
</tr>
<tr>
<td>70% to 79</td>
<td>Not bad, but it looks like you may not fully understand the concepts in this module.</td>
</tr>
<tr>
<td>0% to 69</td>
<td>We strongly recommend you rewatch the videos and try again.</td>
</tr>
</tbody>
</table>

### Which Groups Can Play?

- Administrators
- Global Editor
- Players
- Test Player

- Administrator and Global Editors can't be removed.
- Anyone SELECTED will immediately be able to play.

### Which Groups Can Edit?

- Administrators
- Global Editor
- Example Sub-Editor

- Administrator and Global Editors can't be removed.

### Which Groups Can Review?

- Administrators
- Global Editor

- Administrator can't be removed.
1) Question

Variations

- What resource would include information about an event as it happens?
- As an event is taking place, which resource below would provide information about that event?
- Resources providing coverage of an event as it occurs are most likely:

Correct Answer

- News website, blog, or Facebook feed

Wrong Answers

- Encyclopedia
- Books
- Scholarly journal article

Post Question Help

As an event happens, remember that information is still very fluid. Print sources such as encyclopedias or books take months or years to publish, and would not be able to provide up-to-date coverage.

2) Question

Variations

- Who produces the types of sources you’d expect to find as an event is occurring?
- The types of sources producing information about an event as it takes place are often:
- When an event is occurring, which of the following sources are likely to produce information?

Correct Answer

- Eyewitnesses, citizens, or professional journalists

Wrong Answers

- Editors of encyclopedias
- Subject-specific experts
- Book publishers

Post Question Help
Managing: Question Set

Question Variations

What resource would include information about an event as it happens?

Path: p

As an event is taking place, which resource below would provide information about that event?

Path: p

Resources providing coverage of an event as it occurs are most likely:

Path: p

Add another variation
As an event happens, remember that information is still very fluid. Print sources such as encyclopedias or books take months or years to publish, and would not be able to provide up-to-date coverage.
Question Variation & Randomization

● Each question set can have 0 to * variations
● Each question set can have 0 to * wrong answers
● Answers are always randomized
● Example:

```
<table>
<thead>
<tr>
<th>Question Variation: A, B, C, D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st attempt: B (Random)</td>
</tr>
<tr>
<td>2nd attempt: C</td>
</tr>
<tr>
<td>3rd attempt: D</td>
</tr>
<tr>
<td>4th attempt: A</td>
</tr>
<tr>
<td>5th attempt: B (Beginning)</td>
</tr>
</tbody>
</table>
```
Questions and Answers

- Players asked 10 unique questions/module
- Each question has multiple variations
- Answers organized randomly
Playing a module

● Timed format
  ○ Adds challenge element

● Scores posted to leaderboard
  ○ Competition motivation
  ○ Repeat playthroughs reinforce concepts

A consideration to remember when looking for information for an assignment is:

- To check the date the resource was published; currency can be important
- Whether or not the resource says exactly what you're looking for
- Whether the resource agrees with your point of view
- None of the above
## Leaderboard Scores

Scores for **All Modules**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Score</th>
<th>Time</th>
<th>Player</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7372</td>
<td>50 secs</td>
<td>tedsox31</td>
</tr>
<tr>
<td>2</td>
<td>7276</td>
<td>54 secs</td>
<td>Avenger_David</td>
</tr>
<tr>
<td>3</td>
<td>6867</td>
<td>57 secs</td>
<td>Lela</td>
</tr>
<tr>
<td>4</td>
<td>6497</td>
<td>1 min 52 secs</td>
<td>Letha</td>
</tr>
<tr>
<td>5</td>
<td>5513</td>
<td>2 min 18 secs</td>
<td>breanna</td>
</tr>
<tr>
<td>6</td>
<td>5088</td>
<td>2 min 59 secs</td>
<td>ashley</td>
</tr>
<tr>
<td>7</td>
<td>4194</td>
<td>2 min 38 secs</td>
<td>Vader</td>
</tr>
</tbody>
</table>

Showing 1 to 7 of 7 entries
Module feedback

Students receive tips on correct/incorrect answers

Upload to learning management software
Assessing the data

- Report types
  - Average Scores *(over attempts)*
  - Problematic Questions & Answers *(over attempts)*

- More report types will be added in the future
Generating Reports

Managing: Reports - Average Scores

Information Cycle

Average Scores through Attempts

- 1st Attempt: 520 users
- 2nd Attempt: 294 users
- 3rd Attempt: 181 users
- 4th Attempt: 90 users
- 5th Attempt: 55 users
Managing: Reports - Problematic Questions & Answers

Information Cycle

1st, 2nd and 3rd refer to the order questions were randomly assigned. If a user received a secondary question, they've played one of the question variations prior.

<table>
<thead>
<tr>
<th>Question</th>
<th>Set</th>
<th>Users who received this question 1st</th>
<th>Users who received this question 2nd</th>
<th>Users who received this question 3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>When you just want to read about a general overview on your topic, you'd want to look in:</td>
<td>15</td>
<td>57.61% users answer incorrect</td>
<td>68.85% users answer incorrect</td>
<td>39.29% users answer incorrect</td>
</tr>
<tr>
<td>Answers chosen wrong</td>
<td></td>
<td>53 (x2) answered wrong</td>
<td>42 (x2) answered wrong</td>
<td>11 (x2) answered wrong</td>
</tr>
<tr>
<td>53 : Newspapers</td>
<td></td>
<td>19 answered partially correct</td>
<td>7 answered partially correct</td>
<td>2 answered partially correct</td>
</tr>
<tr>
<td>43 : News magazines</td>
<td></td>
<td>39 answered correct</td>
<td>19 answered correct</td>
<td>17 answered correct</td>
</tr>
<tr>
<td>17 : Scholarly journal articles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Answers chosen wrong</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When a reader is looking to find additional information on a topic or theme, they</td>
<td>14</td>
<td>52.56% users answer incorrect</td>
<td>28.21% users answer incorrect</td>
<td>30.77% users answer incorrect</td>
</tr>
<tr>
<td>Answers chosen wrong</td>
<td></td>
<td>41 (x2) answered wrong</td>
<td>11 (x2) answered wrong</td>
<td>8 (x2) answered wrong</td>
</tr>
<tr>
<td>43 : News magazines</td>
<td></td>
<td>39 answered partially</td>
<td>19 answered partially</td>
<td>10 answered partially</td>
</tr>
<tr>
<td>17 : Scholarly journal articles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
University Implementation

● Presentations
  ○ Freshman writing courses
  ○ University Studies Program committees and workshops
  ○ University assessment committees

● Office of Institutional Research
Marketing

- Student newspaper
- Library newsletter
- Official University news items and interviews
- Items on library homepage
- New faculty events
How are faculty using it?

- For grades
- Optional
- As supplement to traditional IL instruction
How do students like it?

- “Very simple but yet a complex way of studying. It helped me out a lot even though it was only a 10 question little game. Very Helpful!”

- “I played this game until I crushed it!”
Next steps

● Work with upper level courses
  ○ Advanced IL modules

● Integrate into University curriculum

● Student focus groups
Managing content
Exporting Content

- Exports as a zipped JSON file
Importing Content

- Imports and resolves all Primary/Foreign keys
Export/Import Case

- Export e.g. “Citing Sources-v1.0.0.zip”
  - Exported from application using version 1.0.0

- What if you’re running version 1.1.0?
  - Import will halt, give you a warning and a solution
  - Rename the zip to v1.1.0
    - Importer will attempt to bring in the content
    - Certain fields may not be included
    - Use with caution!
Managing Users & Groups

Managing: Groups

**Users**
Find User By Email

Find User (No user found)

**Groups**

Add Another Group

Administrators

Edit Group Delete Group
Managing Users & Groups
Managing Users & Groups

**Managing: Groups**

**Users**

Find User By Email
mrbean@example.com

Find User (Found User)

Add To Group

Administrators
Add To Group

User Currently In

Administrators
Remove From Group

**Groups**

Add Another Group

Administrators

Edit Group
Delete Group
Managing Themes

**Managing: Theme**

Current Theme: **ANVIL**

Choose a theme: ANVIL  ➔  Change Theme

Download a theme: AdminPanel  ➔  Download Theme

Add theme: Browse... No file selected. Themes with the same name will be overwritten  ➔  Upload Theme

Remove theme:  ➔  You will not be able to remove the current active theme or Original.  ➔  Remove Theme

**Theming Help**

- Uploading and Replacing old themes will require a browser refresh to pick up changed images and possible other files (css and js).
- When zipping up a theme for upload, the zip filename will become the name of the theme.
- When zipping up a theme for upload, make sure the files immediately under the zip.
  - Correct Example:  `MyTheme.zip` ➔  `your_theme_files`
  - Incorrect Example:  `MyTheme.zip` ➔  `MyTheme` ➔  `your_theme_files`
Managing Themes

- Current Theme: **ANVIL**
- Choose a theme: ANVIL
- Change Theme
- Download a theme: AdminPanel
- Download Theme
- Add theme: Browse... No file selected. Themes with the same name will be overwritten
- Upload Theme
- Remove theme: You will not be able to remove the current active theme or Original
- Remove Theme

**Theming Help**
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Managing Themes

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Current Theme: **ANVIL**

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Managing Themes

Managing: Theme

Current Theme: **ANVIL**

Choose a theme: ANVIL  

Download a theme: AdminPanel  

Add theme: Browse... No file selected.  Themes with the same name will be overwritten

Remove theme: You will not be able to remove the current active theme or Original

The theming help includes:

- Uploading and replacing old themes will require a browser refresh to pick up changed images and possible other files (css and js).
- When zipping up a theme for upload, the zip filename will become the name of the theme.
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Managing Themes

Managing: Theme

Current Theme: **ANVIL**

Choose a theme: ANVIL ▼

Download a theme: AdminPanel ▼

Add theme: Browse... No file selected.

Remove theme: ▼ You will not be able to remove the current active theme or Original

Theming Help
- Uploading and Replacing old themes will require a browser refresh to pick up changed images and possible other files (css and js)
- When zipping up a theme for upload, the zip filename will become the name of the theme.
- When zipping up a theme for upload, make sure the files immediately under the zip.
  - Correct Example: MyTheme.zip > your_theme_files
  - Incorrect Example: MyTheme.zip > MyTheme > your_theme_files

Upload New or Modified Theme
Managing Themes

Managing: Theme

Current Theme: ANVIL

Choose a theme: ANVIL

Download a theme: AdminPanel

Add theme: Browse... No file selected. Themes with the same name will be overwritten

Remove theme: Your current active theme or Original

Theming Help

- Uploading and replacing old themes will require a browser refresh to pick up changed images and possible other files (css and js).
- When zipping up a theme for upload, the zip filename will become the name of the theme.
- When zipping up a theme for upload, make sure the files immediately under the zip.
  - Correct Example: MyTheme.zip > your_theme_files
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Other Management Interfaces

- Data Scaffold, Leaderboard, Mailer, Site Info
D2L Integration

- ANVIL D2L integration
  - Authentication
  - Dropbox
  - Class listings

- D2L Valence API
QuizSmith

● QuizSmith
  ○ Previously known as ANVIL
  ○ Open Source Version
    ■ Ships with two themes and D2L addon

● QuizSmith Community
  ○ Content
  ○ Themes
  ○ Addons (e.g. D2L Integration)
QuizSmith

- Requirements
  - Unix-like Server Environment
  - Python 2.7.* (installs standalone with application)
  - MySQL

- Frameworks & Libraries
  - Pyramid (1.3.3)
  - SQLAlchemy (0.7.2)
  - JQuery (1.9.1)
  - TAL Templating (Chameleon 2.11)
QuizSmith - Addons

- Available addons
  - D2L Integration

- Creating new addons
  - Drop a new folder into the addons directory inside the application
  - There will be documentation online soon
QuizSmith - Addons

- In addons/MyAddon/ create a __init__.py file with the following.

```python
from trivia.app.utilities import add_route
from trivia.setup import Addons

def addon(config):
    add_route(config, 'my_login_method', '/mypass/login')
    add_route(config, 'my_dropbox_method', '/mypass/dropbox/{id}')

    Addons.register('MyAddon Name','1.0.0')
    config.scan()
    return config
```
QuizSmith

- Demo, Download, Support and Information
  - [http://www.uwosh.edu/library/quizsmith](http://www.uwosh.edu/library/quizsmith)

Questions?

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