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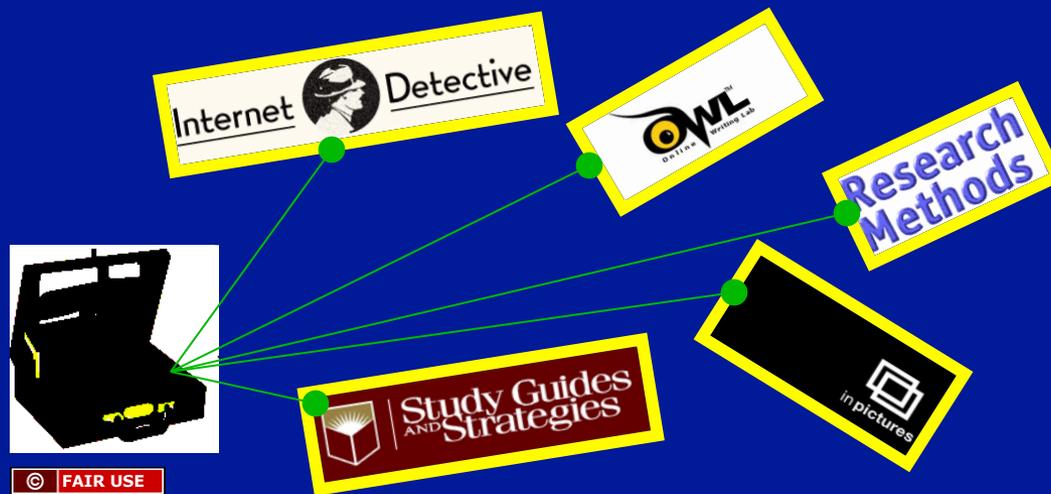


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# Creating an Interdisciplinary Collection of Learning Objects to Address Basic Skills



By Adena Rottenstein, July 2011

# The Challenge



- Undergraduate students enter the University with different levels of academic training
- Success in undergraduate education demands a solid foundation in a variety of basic academic skills

Examples:

Writing skills  
Working in Groups  
Classroom Presentations  
Study skills

- How can we work towards leveling the playing field?

# The Solution



- Players: “Michigan Education through Learning Objects” (MELO)
  - Faculty, Staff, & Graduate Students from **gateway courses**
  - Interdisciplinary (Statistics, Chemistry, Romance Languages, etc.)
- Resource: Online learning materials, or Learning Objects (LOs) accessed through MERLOT.org
- Outcome: Create an interdisciplinary collection of LOs that address basic skills

# Discussion Break!

- Break up into groups by discipline
- Work together to come up with 3 basic/foundational academic skills that
  - Are critical for academic success
  - Students commonly lack
  - Apply across various disciplines

## Math Skills

- Fractions, Basic Algebra, Pre-calculus
- General Statistics concepts
- Graphing, Interpreting Graphs
- Representing data in various forms

## Scientific Method

- Understanding a scientific experiment
- Using different research methods

## Writing Skills

- Complete structured sentences, etc.
- Writing a group report
- References
- In-text Citations

## Study Skills

- How to read & take notes on a chapter
- Exam Preparation

## Communication & Group Work

- Group dynamics
- Communication with-in groups

## Problem Solving Strategies

- Critical Thinking
- Systematic Problem Solving

## Presentation Skills

- Creating an effective presentation
- Delivering an effective presentation
- PowerPoint Skills

# The Process II

## Searching & Posting



- Search (independently) for LOs to address the areas of greatest need
- Create a group website for posting search results and composing LO commentary
- Submit individual LO findings to website with commentary

# The Process III

## Selecting

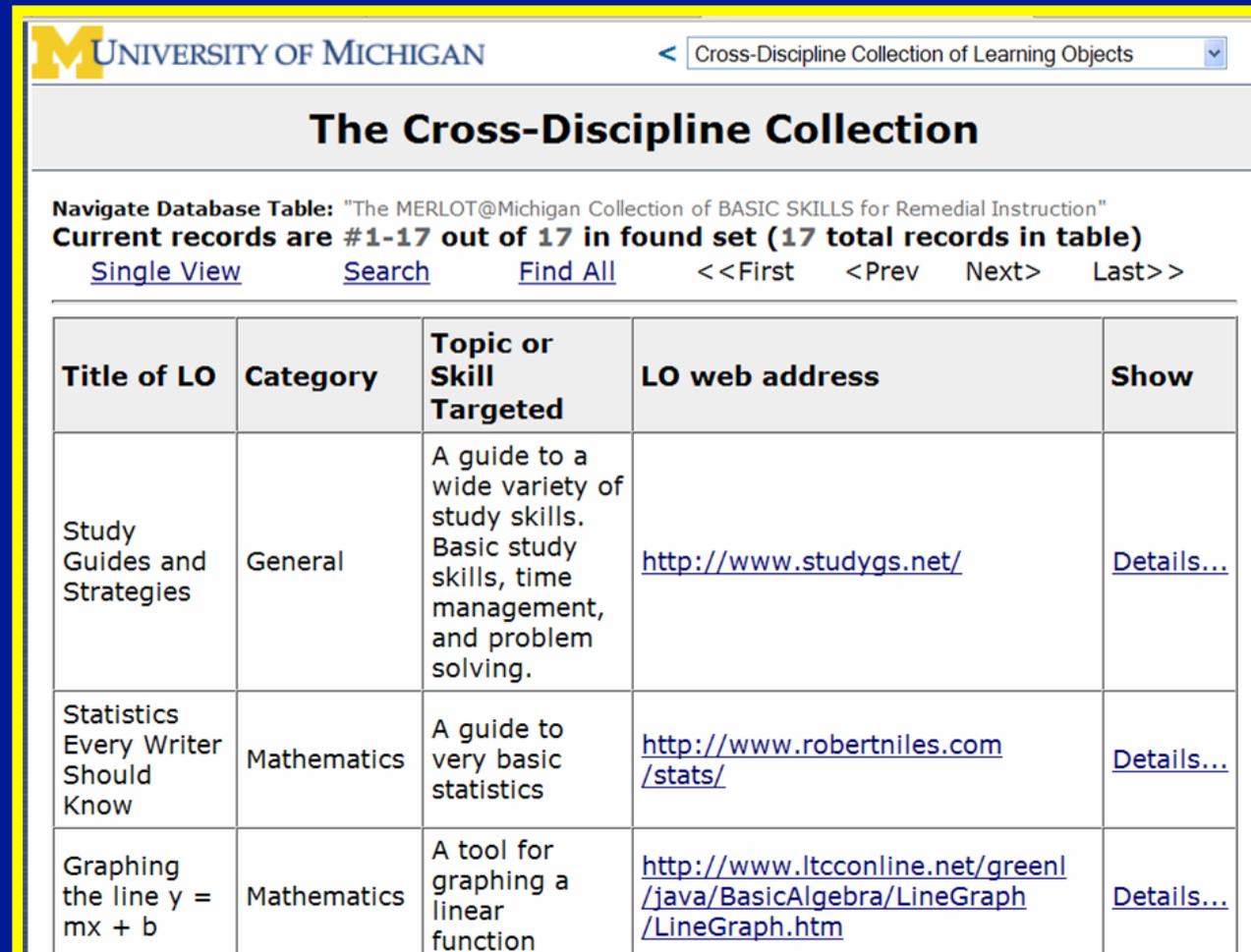


- Collaborate in Selection
  1. Review preliminary collection
  2. Establish inter-rater reliability with reviewer scorings
  3. Select best LOs for the final collection
  
- Which LOs were selected for the final collection?
  - 4.25 star rated LOs and above
  - Overlapping LOs (found & posted by multiple reviewers)
  - LOs applicable to at least three academic disciplines

# The Outcome

## An Interdisciplinary Collection of LOs to Address Basic Skills

- 17 LOs
- 6 Categories
  - Mathematics
  - Sciences
  - Technology
  - Writing
  - Interactive
  - General



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< Cross-Discipline Collection of Learning Objects >

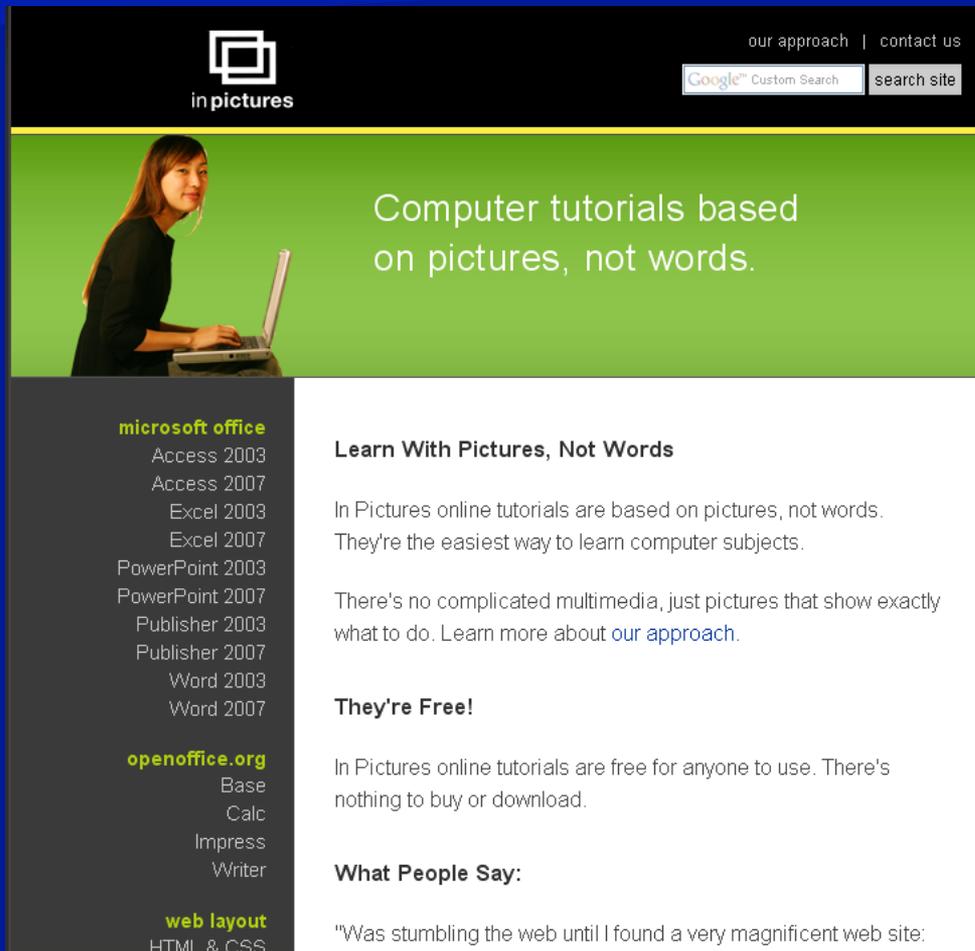
### The Cross-Discipline Collection

Navigate Database Table: "The MERLOT@Michigan Collection of BASIC SKILLS for Remedial Instruction"  
Current records are #1-17 out of 17 in found set (17 total records in table)

[Single View](#)   [Search](#)   [Find All](#)   <<First   <Prev   Next>   Last>>

Title of LO	Category	Topic or Skill Targeted	LO web address	Show
Study Guides and Strategies	General	A guide to a wide variety of study skills. Basic study skills, time management, and problem solving.	<a href="http://www.studygs.net/">http://www.studygs.net/</a>	<a href="#">Details...</a>
Statistics Every Writer Should Know	Mathematics	A guide to very basic statistics	<a href="http://www.robertniles.com/stats/">http://www.robertniles.com/stats/</a>	<a href="#">Details...</a>
Graphing the line $y = mx + b$	Mathematics	A tool for graphing a linear function	<a href="http://www.ltcconline.net/green/java/BasicAlgebra/LineGraph/LineGraph.htm">http://www.ltcconline.net/green/java/BasicAlgebra/LineGraph/LineGraph.htm</a>	<a href="#">Details...</a>

# Example LO from the Collection



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Computer tutorials based on pictures, not words.

**microsoft office**

- Access 2003
- Access 2007
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- Excel 2007
- PowerPoint 2003
- PowerPoint 2007
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- Publisher 2007
- Word 2003
- Word 2007

**openoffice.org**

- Base
- Calc
- Impress
- Writer

**web layout**

- HTML & CSS

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**What People Say:**

"Was stumbling the web until I found a very magnificent web site:

# Pros/Cons of X-Disc Project

## Strengths

- Allowed for inter-departmental collaboration
- Found strong inter-rater reliability for evaluating LO usefulness
- Created a resource for faculty/GSIs

## Weaknesses

- Deployment
  - Were people aware of the resource?
  - Did they have easy access to the resource?
- Evaluation
  - Did people find the resource useful?
  - Was there a mechanism for providing feedback or evaluating usefulness?

# In the Future...

- Create a new interdisciplinary collection
- Build on strengths from previous collections
  - E.g. peer-review
- Address weaknesses from previous collections
  - E.g. create better deployment & evaluation mechanisms

# Next Steps

- As you work on your discipline-specific collections, keep an eye out for resources that you feel may be useful across disciplines
- Brainstorm ideas for how this created resource could best be used by the people in your discipline
- Buy Adena beer and/or chocolate

**Thank You!**

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