

# Competency-based Education

## New Challenges and New Opportunities

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**PURDUE**  
UNIVERSITY  
LIBRARIES





# What is Competency Based Education?

- Form of education derives from **analysis** of prospective or **actual role in modern society** and attempts to certify student progress on the basis of **demonstrated performance** in some or all aspects of that role...demonstrations are **independent** of time spent in formal educational settings. – *FIPSE (Fund for the Improvement of Post-Secondary Education)*

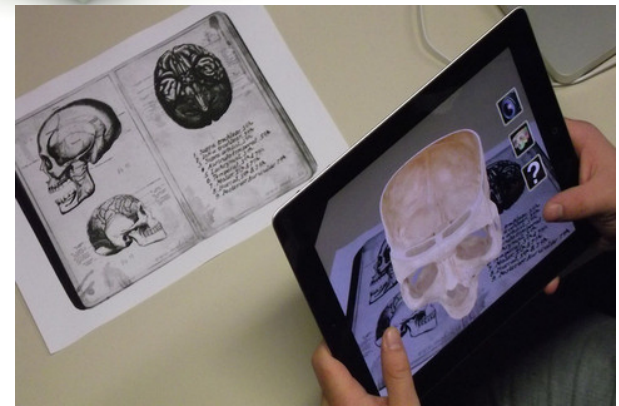
# Why CBE?

- Consistent Standards
- Efficiency
- Customization
- Increased Access



# Why Now?

- Cost of Education
- Accountability Measures
- Information Technology
- Learning Technology





# Courses vs. Competencies

## Courses

- Completion-based
- Macro-level
- Fixed course progression

## Competencies

- Performance-based
- Specific
- Individualized
- Self-paced





# What Does this Mean for Libraries?

## Traditional Approaches to Information Literacy

### Standalone courses

- Lacks context

### Embedded in courses

- Lacks weight/  
accountability

## Competency-based Environment

- Takes best of both approaches
  - Tracks accountability
  - Embedded in context

# Purdue Polytechnic Institute

- May 15 – College of Technology renamed Purdue Polytechnic Institute

## VALUES

- Learning by Doing
- Multidisciplinary/integrative
- Learner-Centered
- Experiential
- Competency-focused



# Transdisciplinary Degree in Technology

- Ultimate embodiment of PPI
- Design Lab and Seminar only required courses (each sem.)
- Work with mentor to create individual program of study
- Non-course requirement is key where students demonstrate competencies



*Our inaugural cohort at work...*



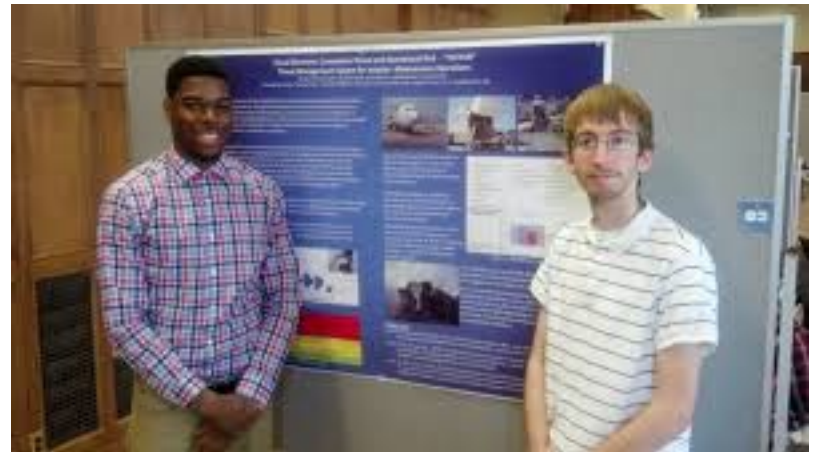
# Trans-D Tech Competencies

- *Use Design Thinking Principles*
- *Communicate Effectively*
- *Envision and Execute Independently*
- *Innovate and Create*
- *Apply Systems Thinking*
- *Work Productively in Teams*
- *Apply Disciplinary Knowledge*
- *Apply Ethical Reasoning*

Includes Information Literacy



Three levels: Developing, Emerging, Proficient



# Information Literacy Sub-competency

## Developing Level

- Analyzes assignments to identify missing information and ambiguities
- Uses simple search strategies to locate information; not all information on open web
- Determines whether sources are scholarly or not
- Assembles information from multiple sources to draw appropriate conclusions
- Cites and references information appropriately



# Implementing the IL competency

- Purdue's OpenPassport badge system ([www.openpassport.org](http://www.openpassport.org))
- InfoSEAD model
- Modular approach to respect learner-centered focus



# Initial Implementation



## Outcomes

- Explore a Topic
- Develop and Refine Research Question
- Compare search engine results
- Refine Searches
- Evaluate Search Results

## Deliverables

Mind Map, Environmental Scan, Refined Research Question, Reflective Search Log



# Initial Implementation

## Outcomes

- Evaluate quality of information source
- Evaluate relevance of information source

## Deliverables

- Source Evaluation worksheet





# Initial Implementation

## Outcomes

- Use information ethically and appropriately to strengthen assertions/arguments

## Deliverable

- Research paper, report, project



# Initial Implementation



## Outcomes

- Appropriately paraphrase, quote, and cite materials/ideas used
- Ethically access information
- Demonstrate basic understanding of intellectual property

## Deliverables

Research paper, project, report



# Results

- Piloted in 1<sup>st</sup> year Seminar Class
- Librarian embedded as co-instructor
  - Several mini-lectures/activities
  - Graded Information Literacy activities
- High incompleteness rate (30% for Use and Documentation challenge)
- Multiple rounds of revision
- High quality bibliographies of those completed
- Challenges of time-management, self-direction, transfer



# Conclusions

- Still trying to fine-tune amount of scaffolding needed for student-centered learning approach
- Competency-based program allows much deeper integration of libraries into all aspects of course development
- Confidence that students who ‘pass’ have demonstrated a proficiency in information literacy -van Epps, Johnson, Fosmire (2015) *Badging your way to information literacy*. ASEE Conference paper.
- CBE provides a high-impact, efficient method for engaging with technology faculty