MEETING OF THE FACULTY OF THE COLLEGE OF EDUCATION

January 29, 2016, 9:00 – 11:00 a.m., LWSN 1142

1. Welcome

2. Approval of the Minutes of the September 25, 2015 Meeting

3. Corporate Foundation Relations Changes
   - Drew Weintraut, Senior Director of Foundation Relations

4. Dean’s Report to the Faculty
   A. DLRC – Jim Lehman
   B. Strategic Plan Update – Jim Lehman
   C. Announcements – Teresa Doughty
   D. Web Update – Jennifer Jeffries
   E. Dean’s Fellow Report – Bill Watson

5. Updates
   A. Diversity Committee – Kathy Obenchain

6. Adjournment
Corporate Foundation Relations Changes

Drew Weintraut

Senior Director of Foundation Relations
Dean’s Report

Maryann Santos
Dean
Jim Lehman
Associate Dean for Faculty Development
Discovery Learning Research Center

Advancing education in STEM and related disciplines through interdisciplinary research and innovation in teaching and learning
History of the DLRC

- The DLRC is one of the original centers established as part of Purdue’s Discovery Park with funding from the Lilly Endowment.

- The center officially launched in 2003 under the co-direction of Peggy Rowe and Jon Harbor. Gabriela Weaver served as director from 2008-2014.

- The Hall for Discovery and Learning Research, with 80,000 square feet of space, opened in 2009. The DLRC occupies most of the first two floors of the building.
DLRC Mission and Goals

- **Mission:** Discovery with delivery for teaching and learning
  
  *The DLRC advances education in STEM and related disciplines through interdisciplinary research and innovation in teaching and learning.*

- **Goal 1: STEM educational research**
  
  *The DLRC conducts breakthrough research that advances the scholarship of STEM education.*

- **Goal 2: STEM educational practice**
  
  *The DLRC promotes novel educational practices that enhance STEM literacy, learning impact, and student success.*

- **Goal 3: STEM educational communication**
  
  *The DLRC communicates scholarship and practice to influence policies that advance STEM education.*
Fostering Interdisciplinary Collaboration

College/Center of Origin of DLRC Collaborators on Grant Awards (last 3 years)

- Engineering 33%
- Science 19%
- Liberal Arts 3%
- Health and Human Sciences 7%
- Other 8%
- Agriculture 6%
- Education 9%
- Technology 9%
- Vet Med 6%
- Other 8%
Undergraduate Research

- The DLRC developed and manages multiple undergraduate research programs in Discovery Park.
  - Discovery Park Undergraduate Research Internship (DURI)
  - Cancer Prevention Internship Program (CPIP)
  - Transdisciplinary Obesity Prevention Research Sciences (TOPRS)

- 1800+ students to date have participated in undergraduate research experiences (UREs), and DLRC research has contributed to our understanding of the value and characteristics of effective UREs.
Undergraduate STEM Transformation

- The DLRC has stimulated dialog on the transformation of undergraduate STEM education by hosting two national conferences (2011 and 2014) on the topic.

- An edited volume produced as a result of the two conferences was published by Purdue University Press in late fall ©2016.
STEM Education Research and Practice

- Leveraging the DLRC’s position in Discovery Park, the Research Goes to School (RGS) project brings grand challenge science, such as alternative energy and nanotechnology, from DP to secondary schools.

- RGS adopts a problem-based learning approach to introduce both teachers and students to scientific processes within the context of real-world problems.
The DLRC is a partner on interdisciplinary projects in STEM teaching and learning, such as the Science Learning through Engineering Design (SLED) project. DLRC facilities have hosted SLED’s professional development experiences for teachers, housed project staff and researchers, and supported the project’s electronic infrastructure needs.
Assessment and Evaluation

- The DLRC employs an assessment and evaluation staff including two full-time assessment/evaluation specialists, a post-doc, and graduate students.

- The unit provides assessment and evaluation services for both internal and external stakeholders including:
  - Purdue’s IMPACT program
  - Integrating Spatial Educational Experiences project
  - Community Health Network
  - Lyophilization Technology Consortium
STEMEdhub

- An interactive website and content repository, built on Purdue’s HUBzero platform, STEMEdhub supports multiple STEM education projects and nearly 30,000 users.

- The Association of American Universities (AAU) Undergraduate STEM Education Initiative is housed on STEMEdhub, along with sites for participating member institutions.
Opportunities: *Facilities*

- Flexible learning spaces
  - Large learning studio
  - Smaller learning studios
  - Atrium collaboration space
  - Science wet lab
  - Engineering project lab
  - Conference rooms

- Assignable pod space for research teams involved in DLRC-related projects.
Opportunities: *Research Equipment*

- **Tobii Pro TX300 Eye Tracker**
  - Captures data for analyzing information about individuals’ gaze patterns when interacting with a screen display

- **Studiocode Video Analysis Software**
  - Supports customized coding and the ability to tag specific sequences of video for analysis

- **Video Capture Equipment**
  - Allows video capture of teaching and learning activities in building learning spaces for subsequent analysis
Opportunities: *Grant Support*
Discovery Learning Research Center

- Web: http://www.purdue.edu/discoverypark/learningcenter/
- E-mail: learningcenter@purdue.edu
- Phone: 765.494.4555
• Strategic Plan Refresh
Teresa Doughty
Associate Dean for Learning
Dean’s Report

• AGSERS Research Symposium

• TE Program Revision
Jennifer Jeffries
Senior Director of Strategic Communication and Programs
Dean’s Report

• COE Web Update
Dean’s Report

• Dean’s Fellow Report
  – Bill Watson
Digital Badges: Passport for implementing new assessment approaches in your course, program, department, or....

Bill Watson
Learning Design & Technology
Dean’s Fellowship Goals

❖ Integrate digital badges into LDT online masters program.
❖ Produce guide for other COE faculty and programs interested in utilizing digital badges.
Passport is a digital badges, competency-based assessment platform developed using Mozilla’s open badges project.

Designed in collaboration with Information Technology at Purdue (ITaP) learning software developers.

Passport was specifically created as a version of the assessment function of a new paradigm learning management system.
Purdue’s Unique Position

- ITaP has a division devoted to developing innovative learning technologies - Studio
- Purdue was first university to fully implement a digital badges platform.
  - Since Passport was launched in Fall 2012, it has been licensed by five external institutions, utilized by nearly 15,000 individual users, and awarded nearly 33,000 digital badges.
- Implementation is piecemeal to this point, but has been implemented across two academic programs which both utilize within student e-portfolios
- Has been utilized outside of classroom for professional development and extracurricular activities
- ITaP developers currently expanding Passport’s functionality to support customized learning paths
Digital Badges

Competency/Mastery-based

Already used by some tech companies to recognize users’ demonstrated skills and for hiring these users (stack overflow).

Learner-owned, evidence-based and meta-data supported.

Supports assessment/credentialing of “soft” skills
Digital Badges can serve as

- An extrinsic motivator.
- A way to structure and debundle instructional content.
- A platform for delivering instructional content.
- Recognition of achievement.
- Credential for completion, competency, or participation.
- A way to communicate the structure of a learning path, breaking down a student’s degree program into more transparent, specific, and understandable components.
- A way for students to earn micro-credentials as they work on their degree that can be shared with employers, rather than waiting for years before they have earned their “piece of paper.”
Digital Badges vs. Grades

- Transparency of learner attainments
- Learner-control over presentation and “ownership”
- Specific evidence for learner attainments

- A-F grading system focuses on extrinsic, opaque, and sorting-based assessment
- Grades are not reliable indicators of actual skills/knowledge
- Does not address informal learning
Passport
You are challenged to design and develop playable educational games.

**Challenges**

- Individual Educational Game Prototype
- Educational Game Prototype Test Report
- Group Educational Video Game Prototype
- Educational Game Design Documents
- Game Design Reflection

**Issuer:** Passport by Purdue

**Organization:** Purdue University

**Created by:** Bill Watson, Jan 29 2013
Passport applied to advanced ID course

**ID Case Facilitator**
Give your developing ID skills the ultimate test by leading your peers in a case study facilitation.
The case study method is integral to this apprenticeship-style class. In this assignment, you will be called to facilitate a case analysis for your peers. The purpose of this is twofold. First, by

**ID Case Facilitator WITH DISTINCTION**
Practice and prove increasing mastery of case facilitation skills through completing this capstone challenge. Completion of the 'with distinction' challenges is meant to help you synthesize and take ownership of your mastery of the associated course goals and ID skills, but will not affect your course score and is not required.

**Reflective ID Practitioner**
An effective instructional designer is self-reflective and always improving, in light of self-reflection. In this capstone task, you will reflect on your increasing mastery of expert ID skills to earn the "Reflective ID Practitioner" badge.

**Reflective ID Practitioner WITH DISTINCTION**
Practice and prove your commitment to reflective practice and continual improvement as an ID practitioner, through completing this capstone challenge. Completion of the 'with distinction' challenges is meant to help you synthesize and take ownership of your mastery of the associated course goals and ID skills, but will not affect your course score and is not required.
Sharing/Storing Badges

- Badge earner may alter evidence privacy.
- Badge earner may collect earned badges and store in Mozilla Backpack.
- Badge earner may share earned badge to Facebook, LinkedIn, and to other Web pages.
LDT’s Process

❖ Identify competencies for instructional design: review other programs, professional organizations, and research (primarily IBSTPI).

❖ Identified and modified competencies. Supra and sub-badges align with targeted competencies.

❖ Originally planned to have badges earned within courses, settled on a series of badge courses where students can submit course work or external work to meet badge requirements.

❖ Badge course ensures reflection and evaluation throughout program. Helps prevent students from slipping through cracks with quality check.

❖ Students must have peer approval prior to final submission to reduce evaluator workload. Final portfolio incorporates badges.
Successes and Challenges

- Built on open platform (Mozilla)
- Badges gaining momentum - college student aid now awarded for competencies
- Pressures pushing towards customized education
- Change the system or will the system change it?
- Grades function as poor implementation of badges
- How to manage/understand validity of badges awarded by different organizations within system
- How to make badges useful to employers and hr systems
Lessons Learned

❖ Aligning to competencies is a long and complicated process.
❖ Concerns will arise and faculty must work through specific details to determine how best to integrate at the program level.
❖ At the course level, there is only so much you can do to get around the time-driven system we must adhere to.
❖ There is great value in revisiting what is actually taught in your courses, and how that aligns with your intended outcomes.
❖ Assessing submissions is a lot of work and must be planned for.
❖ Identifying competencies supported by research can improve the value of your degree and guide curriculum.
A different vision: Micro-courses

- Badge marketplace - giving the learner what they want, when they want.
- Bundled micro-courses for certificates
- Bundled certificates for degrees
- Variable cost for credit vs. non credit
- Can MOOCs play a role?
MOOC: Technology for STEM Education

MOOC will focus on 3 areas:
1. Basics of STEM education and what it entails
2. Overview of technology and the potential role it plays in STEM education
3. Use of digital badges as a means to teach STEM content.

Micro Course: Design Literacy: Designing effective lessons using technology in the STEM disciplines

Micro Course: Info Literacy: Accessing and utilizing information relevant to STEM disciplines

Micro Course: Tool Literacy: Tech tools for teaching in the STEM disciplines
Badges and Micro-courses

- Badges support debundling education:
  - Why should students have to wait until the conclusion of their degree program to have their skills and knowledge certified?
  - Breaking instructional content and learning objectives into smaller pieces supports customization
  - Evidence-based assessment, reduces barriers to enrollment, align with life long learning
- Micro-courses - groups of badges align related content and guide students towards certificates and eventually degrees while retaining flexibility.
- Increase pathways to higher education
PurdueNext has a funding structure to encourage the offering of professional online development courses.

- On revenue generated from the micro courses, the faculty member earns 10%, Wiley earns 20%, and then PurdueNext recovers their costs.
- Once PurdueNext’s costs have been recovered, Wiley takes 20% and the faculty members AND the Dept/Dean split the remaining 80%.
- Once more than $500k has been earned in a year, then the funds are split three ways between faculty, Dept/Dean, and university.

I will be offering a MOOC in Summer 2016 which feeds into micro-courses.

Micro-courses are free to Purdue students, and with the MOOC, we will have some control over what we charge to non-Purdue learners.
• Diversity Committee
  – Kathy Obenchain
Diversity Committee - Update

• Subcommittees & Opportunities to Engage
  – Gathering Space
  – On-going Climate Survey
  – Reporting Protocol
  – Long-term Planning
  – Flash Panels/Brown Bags
  – Speaker Series
  – Graduate Certificate
  – Undergraduate Minor
  – URM Recruiting
  – Webpage Development
• Contents under development
• Thank you all for indicating your diversity and social justice work on our survey!
• (If you haven't done so, you needn't miss out on this opportunity to share your work. Open this hyperlink [Survey: Publicize your DSJ work](#) (right click and select “open hyperlink”))