Redesigning Curricula: Evidence-Based Approaches

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WHAT IS IMPACT?

Instruction Matters: Purdue Academic Course Transformation

“BETTER ENGAGEMENT, BETTER LIVES”
IMPACT’s goal is to work with faculty to produce a student-centered, autonomy supportive learning environment.
By Faculty and Courses

- Focused first on foundational courses
- 234 Purdue faculty
- 225 unique courses
- Large second order cultural effect
- 73 faculty redesigned an additional 113 courses

All Purdue Colleges represented
College Representation

Engineering
Technology (Purdue Polytechnic)
By Students

- 72.6% of the students enrolled in academic year 2015-16 registered for at least one IMPACT course.
- Between FA11 and SP16, 43,909 distinct students were exposed to IMPACT, which represents 68.2% of students registered for at least one course during these terms.
WHAT MAKES IMPACT UNIQUE?

Large collaborative initiative

Semester long FLC

• Provost Office
• President’s Office
• Center for Instructional Excellence (CIE)
• Instructional Technology at Purdue (ITaP)
• Digital Education
• Evaluation Learning Research Center (ELRC)
• Libraries
Faculty Learning Community (FLC)

1. Identifying and writing clear learning outcomes
2. Mapping assessment and activities to learning outcomes
3. Creating an engaging, motivating, student-centered learning environment
FLC Curriculum

Week 1: Kick-Off
Week 2: Break
Week 3: Teaching goals and student characteristics
Week 4: Motivation and cognition theories of learning
Week 5: Learning outcomes and objectives
Week 6: Assess student performance part 1
Week 7: Assess student performance part 2
Week 8: Learning Activities part 1
Week 9: Learning Activities part 2
Week 10: Break
Week 11: Mapping the gap – Assessment mapping – Connect dots
Week 12: Redesign Decisions
Week 13: Redesign Presentations
Week 14: Scholarly and reflective practitioner
Week 15: Closing the loop/Focus groups
FLC Structure

Each session last 75 minutes
Faculty work in teams of 3 or 4
With a support team composed of 3 staff members from
  • Center for Instructional Excellence
  • Information Technology
  • Library
Additional meetings outside of the FLC
High Level of Faculty Satisfaction with FLC

Greater ability to create clearer learning objectives (89%)

Greater ability to identify appropriate instructional technology for the course (70%)

Greater satisfaction with the support obtained from teaching assistants (64%)
High Level of Faculty Satisfaction with FLC

Opportunity to reflect on their teaching

Opportunity to interact with colleagues and discuss teaching

They believe the program adds value to their teaching
Faculty Perceptions of Students

Significant Improvement in ...

- Engagement
- Active Learning
- Critical Thinking Skills
- Good Study Habits
Autonomy Supportive – Engaging Learning Environments
Self-Determination Theory

Person Centered Motivational Theory
Deci & Ryan (1985, 2000)
Ryan & Deci (2017)

www.psych.rochester.edu/SDT

Has been empirically validated for the past 40 years, in different countries
Self-Determination Theory

Proposes the existence of three basic psychological needs, which when met, foster growth and development

Autonomy
Competence
Relatedness
Basic Psychological Needs (Summary)

**Autonomy**
- Choices/Options
- Appreciation of students’ strengths and weaknesses
- Take the students’ perspective
- Provision of a compelling rationale
- Importance of the tone

**Competence**
- Mastering skills
- Building knowledge
- Meeting expectations

**Relatedness**
- Connections with students and instructors
Autonomy Support as a key component of engaging and motivating learning environment

- Get students attention; arouse curiosity
- Present intriguing, important, or authentic problems
- Offer choices
- Encourage reflections
- Allow ways for students to find answers to their own questions
- Allow students to find their own path through their own efforts
- Convey a sense of trust in students
- Take the students’ perspective
- Appreciation of students’ strengths and weaknesses
Autonomy Support as a key component of engaging and motivating learning environment

Power of a compelling rationale for the activity and for difficult or necessary tasks
Autonomy Support as a key component of engaging and motivating learning environment

Importance of the TONE
What does Autonomy Support sounds like?

This questionnaire contains items that are related to your experience with your instructor in this class [course]. Instructors have different styles in dealing with students, and we would like to know more about how you have felt about your encounters with your instructor. Your responses are confidential. Please be honest and candid.

Example of items:

- I feel that my instructor provides me with choices and options
- I feel understood by my instructor
- My instructor conveys confidence in my ability to do well in this course
- My instructor encourages me to ask questions
- My instructor listens to how I would like to do things
- My instructor tries to understand how I see things before suggesting a new way to do things
DIFFERENCES IN STUDENT PERCEPTIONS BASED ON STUDENT-CENTERED ENVIRONMENTS

4.4

4.8

Competence

Autonomy

Relatedness

knowledge Transfer

All differences are significant at \( p < .01 \)
Differences in GPA based on student-centeredness

Low Student-Centered | High Student-Centered
Differences in course and instructor rating based on student-centeredness

<table>
<thead>
<tr>
<th>Course Rating</th>
<th>Instructor Rating</th>
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<tbody>
<tr>
<td>Low Student-Centered</td>
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</tr>
<tr>
<td>High Student-Centered</td>
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College Algebra Case Study

Student Perceptions (FA14 – FA16)
Instructor cared about me”

DFW rates (FA14 – FA16)