TAKING STUDENT-CENTERED PEDAGOGY TO SCALE: HOW ONE UNIVERSITY HAS DONE IT (AND YOU CAN, TOO!)

George Kuh, Chantal Levesque-Bristol, Ben Wiles, Pam Morris, and Pat Hutchings

AAC&U Annual Meeting
January 24, 2019
ASSERTIONS

• Student-centered learning and teaching approaches are key to desired outcomes

• Many faculty members are not well prepared to use engaging, student-centered pedagogical practices

• Rarely do universities sustain large-scale faculty development efforts over the amount of time needed to guide and document improvement in the quality of undergraduate education.
ONE NOTABLE EXCEPTION
IMPACT

INSTRUCTION MATTERS
PURDUE ACADEMIC COURSE TRANSFORMATION
PLEASE WRITE THE FOLLOWING ON A NOTECARD

• What are some of the challenges related to large-scale faculty development?

• What are some ways to evaluate the impact of such faculty development efforts?

• What do you hope to learn from this session?
Chantal Levesque-Bristol
INNOVATION IN EDUCATION

Academically adrift
Limited Learning on College Campuses

Richard Arum and Josipa Roksa

Our Underachieving Colleges

A candid look at how much students learn and why they should be learning more

Derek Bok
IMPACT’s goal is to work with faculty to produce a student-centered, autonomy supportive learning environment.
NATIONAL RECOGNITION:

Chronicle 2018 Innovators:
6 Programs to Change Classroom Culture.
(October 2018)

Change: The Magazine of Higher Learning article.
(January 2019)

NILOA Occasional Paper
(Forthcoming February 2019)
OVERARCHING AIMS OF IMPACT

• Refocus the campus culture on student-centered pedagogy and student success;
• Increase student engagement, competence, and learning gains;
• Focus course transformation on effective research-based pedagogies;
• Reflect, assess, and share IMPACT results to benefit future courses, students, and institutional culture.
WHAT MAKES IMPACT UNIQUE?

- Comprehensive
- Multi-year
- Campus-wide
- Cohort-based faculty development program with Faculty Learning Community (FLC)
OVERVIEW OF THE FLC COURSE REDESIGN

- Motivating learners
- Learning outcomes
- Assessment
- Learning activities
- Drawing it together
SCOPE OF IMPACT
IMPACT FELLOWS AND REDESIGNED COURSES

FELLOWS

CUMMULATIVE COURSES

By End of Academic Year

By End of Academic Year
SCOPE OF IMPACT COUNT AND RATE OF UNDERGRADUATE STUDENTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Students Exposed</th>
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<tbody>
<tr>
<td>2011-2012</td>
<td>5680</td>
</tr>
<tr>
<td>2012-2013</td>
<td>12930</td>
</tr>
<tr>
<td>2013-2014</td>
<td>17036</td>
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<tr>
<td>2014-2015</td>
<td>19649</td>
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<tr>
<td>2015-2016</td>
<td>22164</td>
</tr>
<tr>
<td>2016-2017</td>
<td>23838</td>
</tr>
<tr>
<td>2017-2018</td>
<td>22764</td>
</tr>
</tbody>
</table>

Percentage of Students Exposed:
- 2011-2012: 20.0%
- 2012-2013: 43.4%
- 2013-2014: 57.6%
- 2014-2015: 66.2%
- 2015-2016: 73.1%
- 2016-2017: 76.4%
- 2017-2018: 71.3%
TIMELINE OF IMPACT PROGRAM

- **2011**
  - Program launched

- **2012**
  - Semester-long FLC model adopted

- **2013**
  - Motivational theory guides program
  - Program grows from 25 to 50 redesigns annually

- **2018**
  - 533 courses redesigned through program
THEORETICAL FRAMEWORK GUIDING FACULTY DEVELOPMENT AND COURSE REDESIGN

• Self-Determination Theory (Deci & Ryan, 1985, 2017)
• Basic Psychological Needs
  • Autonomy
  • Competence
  • Relatedness
THEORETICAL FRAMEWORK GUIDING FACULTY DEVELOPMENT AND COURSE REDESIGN

- Support team composition – scaling up
- Insuring autonomy in selecting redesign elements
- IMPACT as professional development
SUPPORT TEAM COMPOSITION – SCALING UP
INSURING AUTONOMY IN SELECTING REDESIGN ELEMENTS
IMPACT AS PROFESSIONAL DEVELOPMENT
DOCUMENTING IMPACT EFFECTIVENESS

• Student Academic Outcomes
• Student Learning Outcomes
• Student Engagement
• Faculty Change and Professional Development
STUDENT ACADEMIC OUTCOMES

- Improvement in grades
- Reduction in DFW rate

Overall, the DFW rates decreased an average of almost 5% when compared to the pre-IMPACT DFW rate.
STUDENT LEARNING OUTCOMES
STUDENT ENGAGEMENT

- **Online Only**
  - Low Student-Centered: 35%
  - High Student-Centered: 65%

- **Replacement**
  - Low Student-Centered: 17%

- **Supplemental**
  - Low Student-Centered: 19%

- **All**
  - Low Student-Centered: 19%
  - High Student-Centered: 81%
FACULTY CHANGE AND PROFESSIONAL DEVELOPMENT
CURRICULAR AND COURSE TRANSFORMATION IN FIRST-YEAR MATHEMATICS

Ben Wiles
WHAT IS THE PROBLEM?
CURRICULAR TRANSFORMATION

COURSE TRANSFORMATIONS

8 IMPACT Fellows
25 courses --> 12 courses
N pathways --> 4 pathways
Sequential curriculum alignment

5 online versions
6 hybrid versions
4,200 students/semester on OER
1 new pathway
$250,000 investment over 3 years
4 COURSE APPLIED CALCULUS PIPELINE

Churn Ratio = DFW/New Beginners

**Fall 2008**

- **Enrollment:** 6,400
- **DFW Rate:** 29%
- **Churn Ratio:** 43%

**DFW**

- **Enrollment:** 1,860
- **DFW Rate:** 42%
- **Churn Ratio:** 79%

**Fall 2016**

- **Enrollment:** 3,992
- **DFW Rate:** 22%
- **Churn Ratio:** 20%

**DFW**

- **Enrollment:** 876
- **DFW Rate:** 26%
- **Churn Ratio:** 32%
## RETURN ON INVESTMENT FOR APPLIED CALCULUS SEQUENCE

<table>
<thead>
<tr>
<th>Applied Calculus Sequence</th>
<th>Fall 2008</th>
<th>Fall 2016</th>
<th>Difference</th>
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<tbody>
<tr>
<td>Sequence Enrollment</td>
<td>6400</td>
<td>3992</td>
<td>2408</td>
</tr>
<tr>
<td>Number of Sections (estimate)</td>
<td>178</td>
<td>111</td>
<td>67</td>
</tr>
<tr>
<td>Instructional Salary (estimate)</td>
<td>$1,244,444</td>
<td>$776,222</td>
<td>$468,222</td>
</tr>
<tr>
<td>Classrooms Needed (estimate)</td>
<td>12.7</td>
<td>7.9</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Re-invest savings in smaller classes?

Student success programs?

Lower tuition?
INTERNAL ADMINISTRATIVE COMPLEXITY AND CHANGE MANAGEMENT IN ENGINEERING CALCULUS
AN AGRICULTURE DIVERSITY AND SOCIAL JUSTICE COURSE

Pamala V. Morris
In the early 2000s, at Purdue University, a Multicultural Awareness Requirement (MAR) was instituted in the College of Agriculture requiring all undergraduate students to complete a minimum of three credits of multicultural awareness electives before graduation.

The objective of the multicultural awareness component of the core curriculum was to stimulate students to become aware of self and others as cultural beings, in order to be better prepared for the workplace and participatory citizenship.
INTRODUCTION AND BACKGROUND

One such course, *Communicating Across Cultures* (CaC), presents an academic overview of diversity and social justice issues as they have evolved to the present and provides a basic review of race/ethnicity, gender identity, age, social class, ability/disability, learning styles, religion/spiritual orientation.
THEORIES RELATED TO COURSE DESIGN

Social Identity Theory

• Identity development evolves through sequential shifts or stages of consciousness and development toward greater complexity, inclusiveness, and differentiation.

• Individual interactions within and between groups are affected not only by different world views but also by students’ consciousness of those world views.
THEORIES RELATED TO COURSE DESIGN

Cognitive Development Theory

• College students slowly develop skills in complex thinking, self-reflection, tolerance for uncertainty, and ambiguity and ability to take on multiple and divergent perspectives.

• Development of these cognitive skills are a necessary conduit to assist students in understanding the importance of social justice and diversity education.

Based on Vygotsky, 2007
CAC STRUCTURE

• IMPACT course with a flipped-design integrating student-centered instruction

• Two 50 minute lectures weekly
  • Enrolled per semester (120 students)
  • Blending of mini-lectures & guest presenters along with T-P-S, Hotseat, etc.,
  • Flipped days: Use of short video lectures posted on BB-Learn for viewing prior to class, then instructor and TAs function as coaches to encourage individual and collaborative inquiry during class activities and discussions
  • Incorporation of experiential intentionality and praxis through Socratic questioning, community-based service engagement, demonstrations, simulations, case studies, and more.
CAC STRUCTURE

• One 2 hour lab weekly
  • TA/instructor/faculty led
  • 20 student limit per lab to enable greater interactions, participation, and intimacy
    • Creation of community of learners who think critically together and reflect both individually and collectively
  • Lab sessions engage students in guided experiential activities that provide students the opportunity to reflect and process
  • Extensive TA/instructor/faculty training includes weekly meetings designed to highlight effective instructional strategies to deliver the week’s content and to present and teach pedagogical concepts to enhance teaching effectiveness.
SITUATING IMPACT:

TRENDS IN FACULTY DEVELOPMENT FOR THE ADVANCEMENT OF TEACHING

Pat Hutchings
SOURCES

1. Faculty Development in the Age of Evidence
   Andrea L. Beach, Mary Deane Sorcinelli, Ann E. Austin, and Jaclyn K. Rivard

2. Coming in from the Margins
   Faculty Development's Emerging Organizational Development Role in Institutional Change
   Connie M. Schroeder and Associates

3. Faculty Development and Student Learning
   Assessing the Connections
   William Condon, Glen R. Iverson, Cathryn A. Mandoca, Carol Ritz, and Gufrun Willett

4. The Advancement of Learning
   Building the Teaching Commons
   Mary Taylor Huber

5. Engaging Students as Partners in Learning and Teaching
   Alison Cook-Sather, Catherine Bovill, and Peter Felten
TRENDS, ASPIRATIONS, & CAVEATS

1. More focus on faculty assets
2. More attention to disciplinary differences
3. More opportunities to reflect, inquire (vs. tips, how-to)
4. More sustained experiences
5. More community building – FLCs
6. More connection to program and institutional goals
7. More partners (student affairs, librarians, chairs, deans, & students)
8. More accountability for learning
9. More about “bending” campus culture

10. More IMPACT
WHAT MAKES IMPACT UNIQUE?

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LET’S TALK

• What are some of the challenges related to large-scale faculty development?

• What are some ways to evaluate the impact of such faculty development efforts?

• What do you hope to learn from this session?
RESOURCES


