Scaling Learning Innovations

From Early Adopters to Campus-Wide
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Misreading Innovation in Higher Ed

Reductive View of Change Sees Only Inertia

Is Innovation Absent in Higher Ed?

“[Higher education is] one of the most sclerotic sectors of the U.S. economy, one so shielded from the need for improvement that its biggest innovation in the past 30 years has been to double its costs and hire more administrators.”

– The Atlantic

“‘When I re-engaged with higher education after a 20-year absence in the private sector, I felt like Rip Van Winkle: The generations were different, but the landscape remained the same.”

– Ann Kirschner, CUNY Dean

“‘At most higher ed institutions, you’d be hard pressed to see anything ‘disruptive’ going on. Fundamental transformations of the higher educational model are still the exception, not the rule.”

– Jonathan Mott, Learning Objects

“Instructional design is found by many to define the sacrosanct concept of education…. This ‘handcrafted’ approach, while highly valued by some, fails to capture potential efficiencies and economies of scale.”

– McKinsey & Company

A Profusion of Innovation

Institutions across Segments Experiment with Curriculum and Delivery

Public 4-Year
- Accelerated Degree Pathways
- IAMSTEM Active Learning Redesign
- Adaptive Learning in First-Year Math
- Alternative Classroom Designs

Private 4-Year
- Competency-Based Education
- Course Modularization
- Prior Learning Assessment
- Online First-Year Gen Ed Courses

Canadian 4-Year
- Entrepreneurship Incubators
- Competency-Focused Syllabi
- Teaching-Stream Faculty Rank
- Active Learning Lecture Software

Public 2-Year
- Open Course Library
- Predictive Academic Analytics
- Employer Curriculum Collaborations
- Student-Centered Developmental Math

Focused Campaigns Catalyze Progress
Executive-Level Support and Funding Aims to Move the Dial

Harvard Initiative for Teaching and Learning
Harvard University
$40M for classroom redesigns and project seed funding

Educational Innovation
University of Wisconsin-Madison
Grants and support for active learning, master’s launches, and technology

Third Century Initiative
University of Michigan
$50M for student learning, global challenges, interdisciplinary research, and learning analytics

Provost’s Challenge
Portland State University
$3M for online education, digital instruction, and technology solutions for student success

University Innovation Alliance
Consortium of 11 public research institutions aiming to pilot and scale high-impact practices

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A New Urgency
The Unexpected Benefits of MOOC Mania

MOOCs Not Disrupting
- Institutions not granting credit for MOOCs to students not enrolled and not paying tuition
- Outside of computer programming, MOOC performance not leading directly to job offers
- Vast majority of MOOC students already have baccalaureate degree
- Faculty not leaving the institution to pursue MOOCs full-time

But Leading to a Revitalization of Teaching Practice
- Experimentation with accelerated content and condensed course timelines
- Willingness to develop online content for future hybrid courses and flipped classrooms
- Prioritization of learning outcomes over knowledge transfer in course development

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Source: EAB interviews and analysis.
Spilling into the Classroom
Moving from MOOCs to the Core

“At Duke, [MOOCs have] revitalized the notion of pedagogic innovation, in a way that’s spilled out of the online space and into the regular classroom…. There’s a lot of unexplored power that can be harnessed.”

– Sally Kornbluth, Provost
Duke University

Channeling Innovation to Inflect Student Success
Progress Still Evades Us on Student Success
Despite Investments, Key Success Indicators Still Lag

5-Year Graduation Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>52.5%</td>
</tr>
<tr>
<td>2015</td>
<td>52.6%</td>
</tr>
</tbody>
</table>

The Faculty Role in Student Success

Enhance the Learning Experience
Individual Contributions
Evaluating and scaling high-impact learning innovations across courses and disciplines

Average first year student hours spent...

- Advising Office: 1
- Classroom: 225

Investments in Student Success
- Early alert systems
- Attendance tracking
- Financial aid labs
- Emergency fund awards
- Student success centers
- And many more staff-driven efforts

Classroom Touch Points Underused in Retention Efforts
- Advisors have limited opportunities to monitor risk
- Close class interaction position faculty to intervene

A Mismatch in Supply and Demand

Innovation Most Likely to Occur in Small Classes Where It’s Least Needed

**Eager, Creative Faculty**

*High-impact pedagogy in small, upper division courses*

“I love seeing my students learn. I test out new things all the time in my senior seminars.”

**Critical Courses**

*High DFW rates and little innovative teaching*

“We see far too many students fall through the cracks of intro courses.”

**Effective practice focused on solely on well-prepared students**

**High-need students get minimal exposure to innovative pedagogy**

**Reasons for Mismatch**

- Faculty feel more ownership of boutique courses
- Stakes of failure higher for courses everyone teaches
- More administrative roadblocks to experimentation in intro courses
- Personal connection in small courses inspires commitment to innovate

High-impact pedagogy in small, upper division courses

High DFW rates and little innovative teaching

Junior Faculty Most Likely to Innovate…

…But Pay Highest Opportunity Costs

**Experiential Learning Cut Short by the Tenure Clock**

**No Rewards Means Lots of Risk**

1. Tenure-track faculty member conceives of innovative multi-course experiential learning pilot
2. Discusses idea with instructional designer who enthusiastically supports it
3. Abandons idea because tenure clock does not permit distraction from research

5% Of faculty say they would be adequately rewarded for learning innovations

12% Of faculty say they have the time and resources to develop learning innovations

8% Of faculty say their institutions’ leaders are effective in supporting changes in instruction

“Nothing for the Next Half-Decade”

“I can’t say I will have made any progress on this idea in three years. I’m on the tenure track. I have to focus on my research and the classes I’m already teaching. Yes, it’s a good idea, but I don’t have the time to do it for at least the next half-decade.”

*Business Professor, Public Research University*
When Expectations Are Upset, Scores May Drop

Learning Innovations Jarring for Some Students

Technology-enhanced active learning redesign meant...

- Course difficulty increases
- Attendance expectations increase
- Need for in-class engagement increases
- Students’ course evaluation scores decrease

But assessment showed students learned nearly twice as much

Grant-Funded Evaluator Saves the Day

“We had the foresight and the resources to budget an evaluator into the grant that supported the redesign. He was able to put together the data showing that the students were learning a lot more, despite their protests. But that first semester was rough. Students didn’t expect it, and they made that known. Without the evaluator, the initiative might never have been able to take off.”

Physics Professor, Private Research University

Strategies for Priming the Pump Fall Short

Teaching Center, Classroom Tech, and Seed Funds Make Few Gains on Scale

Resources to Support Learning Innovations

- Teaching and Learning Center
  Programming focuses on cutting-edge pedagogy
  But faculty members rarely visit it
  1 in 5, Faculty use the Teaching and Learning Center for help with curriculum development

- IT-Supported Classroom Tech
  Support unit equips classrooms with software and hardware for teaching
  But faculty members are unsatisfied with them
  2 in 3, Faculty say they are not satisfied with classroom technologies provided by IT

- Instructional Seed Funding
  Faculty can apply for grants to support pedagogical experiments
  But few faculty can access them
  1 in 7, Faculty applicants to innovation seed fund received grant funding to explore their ideas at a public research university

Source: EAB interviews and analysis.

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Source: FTI Consulting, “U.S. Postsecondary Faculty in 2015.” ECAR study of faculty, EAB interviews and analysis.
Scaling Learning Innovations
From Early Adopters to Campus Wide

The Learning Innovations Adoption Curve

Harnessing Grassroots Activity
Reducing the Risk of Adoption
Channeling Efforts to Priorities
Coda: Sustaining What Works

“Innovation”—A Word with Many Meanings
What We Are, and Are Not, Talking about Today

Today’s Discussion

<table>
<thead>
<tr>
<th>In-Class Technology Enhancements (Small Tech)</th>
<th>Enterprise-Wide Technology Enhancements (Big Tech)</th>
<th>Alternative Pedagogies and Instructional Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Flipped classrooms</td>
<td>• High-tech classrooms</td>
<td>• Active learning</td>
</tr>
<tr>
<td>• Active learning software</td>
<td>• Virtual reality and simulation centers</td>
<td>• Team-taught interdisciplinary courses</td>
</tr>
<tr>
<td>• LMS apps (e.g., adaptive release)</td>
<td>• LMS overhauls</td>
<td>• Peer instruction</td>
</tr>
<tr>
<td>• Global learning videoconferencing</td>
<td>• Multi-course adaptive pathing</td>
<td>• Experiential and applied learning</td>
</tr>
</tbody>
</table>

A Topic for Another Day

Program-Level Innovations

• Fully online programs
• Digital badges
• Competency-based programs

• Alternative credentials
• E-portfolios

Source: EAB interviews and analysis.
Harnessing Grassroots Activity

Scaling Learning Innovations

Innovators and Early Adopters

Setting the Pace for Pedagogy on Campus

Harnessing Grassroots Activity

Reducing the Risk of Adoption

Channeling Effort to Priorities

Coda: Sustaining What Works

Committed to Classroom Innovation

Self-motivated

Eager to experiment

Dedicated to student learning

Tech-savvy

Breakthrough Practice Approach

#1: Lower Threshold for Seed Funding

#2: Identify Innovation Outliers

#3: Generate Proofs of Concept

#4: Stage Next-Steps for Pilots
The Classroom as R&D Lab

Solutions to Critical Challenges Likely Already In Development

Innovators Test Unconventional Pedagogies

- Biology professor
  - Developed self-paced modules
- Psych professor
  - Designed a hybrid course
- Chemistry professor
  - Trained peer instructors
- Business adjunct
  - Built experiential learning into course

The Right Answer Is Hidden on Campus

“The solution to a lot of our problems is out there. It’s in individual classrooms, helping small numbers of students. I just don’t know which ones.”

Provost, Private Master’s University

The Provost’s Dilemma

Academic Leaders Struggle to Identify, Target, and Scale Best Ideas

Missed Opportunities

- Cannot Surface Innovators
  - Most creative faculty experiment in isolation, off leaders’ radars
  - Best ideas’ shelf life lasts only as long as pioneering faculty’s interest

Investment Risk

- Lessons from Pilots Unexamined
  - Missteps and success stories fail to inform future investments
  - Academic leaders struggle to distinguish what is truly replicable from other successful projects

- Fail to Channel Efforts to Priorities
  - Replicable innovations impact department of origin, not area of greatest need
  - Instructional inequities emerge across disciplines

- Projects Advanced Recklessly
  - Projects chosen based on presumed fit with institutional needs
  - Administrators do not anticipate service needs before elevating projects
#1: Lower Threshold for Seed Funding

## Pre-Seed Experimental Funding

Low-Complexity Proposal and Small Experimental Grants Drive Innovation

### Low-Complexity Online Grant Application

- **Name and Department**
- **Email**
- **Office Phone**
- **Briefly, what project or idea are you considering for an Innovation in Learning Grant?**

### Small-Dollar Sandbox Funding

**Providing Small Dollar or Non-Financial Support**

- Average grant size in low thousands
- 20-30 projects currently in sandbox phase
- One-semester timeframe for exploration
- Faculty initiate projects through walk-ins or online applications

We wanted to create the ability for anyone on campus to propose an early-stage exploration. We’ve always done this sort of low-threshold experimentation, but now we’re using it to discover early on what we need to know to inform the next stage.

*Dale Pike, Executive Director, TELOS Virginia Tech*
#2: Identify Innovation Outliers

## Data Signals of Effective Teaching

UMBC Administrators Use LMS Analytics to Identify Innovative Faculty

### AVP Zeros in on High-Activity Courses

1. Isolated correlation between LMS engagement and grades
2. Searched for courses with high LMS activity
3. Interviewed instructors of high-activity courses for best practices

<table>
<thead>
<tr>
<th>Course</th>
<th>Hits</th>
<th>Hits per User</th>
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</thead>
<tbody>
<tr>
<td>Principles of Accounting</td>
<td>90,893</td>
<td>2,838</td>
</tr>
<tr>
<td>Project Management Ops</td>
<td>32,642</td>
<td>1,632</td>
</tr>
<tr>
<td>Structured Systems Analysis</td>
<td>31,026</td>
<td>1,551</td>
</tr>
</tbody>
</table>

### Prof. Hardy Uses Adaptive Release to Ensure Mastery

- **Pivot Tables Assessment**
  - Skill critical to course success
  - Must pass to unlock course

- **Excel Model Project**

- **Spreadsheet Analysis Assignment**

### Early Results Show Lasting Effects

- 20% higher scores on final
- Higher than average GPAs in next course (3.37 vs. 2.76)
- Less than 5 hours course development time

### Leveraging Innovators to Drive Change

Institutional Change Begins with Exceptional Instructors

#### Emulating Positive Outliers

"My approach is to use data to identify positive outliers, then tap into my PR background to spread the word. It’s much easier to get people to change if they want to emulate something good."

*John Fritz, AVP Instructional Technology, UMBC*

#### Other Signals of Innovation

- Course evaluation scores
- Grades compared to other sections
- Grades in next course in sequence
- Undergraduate research submissions
- Library check-ins by course

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The Perpetual Pilot Problem

Institutions Lack Structures for Targeting Efforts and Scaling Up Successes

Pilots as an End Unto Themselves

“We’ve done a great job creating a culture of innovation on campus. If a faculty member wants to test out a new idea, he can apply for a pilot grant. If another faculty member wants to replicate it, she can also pilot it. Our pilot system is very strong.”

Provost, Public Research University

#3: Generate Proofs of Concept

Linking Funding to Assessment

Tiered Stipends Incentivize Evaluation at Saint Mary’s College of California

Course Assessment

What strategies worked well? Which did not?

What tech needs went unmet? What tools were most useful?

How could staff better support this sort of activity?

Two-Part Redesign Stipend

Attends Redesign Workshop

Completes Assessment of Delivery Method

$350

$150

Request Alone Rarely Enough

May elicit low completion rates or incomplete information

May be completed haphazardly due to apparent unimportance

~100%

Near universal completion of assessments after course redesign

Source: EAB interviews and analysis.
#3: Generate Proofs of Concept

A Hub of Scholarly Inquiry

University of Michigan’s LED Lab Assesses Innovation to Rigorous Standard

Innovation Evaluation Process

Faculty member has an innovative instructional idea

Learning, Education, and Design (LED) Lab
- Conducts research and publishes on learning innovations
- 2 full-time staff; 6 faculty and scholars; 13 graduate students
- Partners include IT, Center for Technology in Learning, library, and school of information
- Current projects: gamified learning platform; predictive academic analytics; digital badges

Digital Innovation Greenhouse (DIG)
Incubator to explore and expand technology tools and innovative pedagogies

Pursuing a High Standard of Proof

“...I want to make sure that, when we’re doing these kinds of things at Michigan, we’re investigating them in a scholarly manner that holds up to the sort of peer review that faculty members are used to.... There’s a need today for provosts to support scholarly research to develop innovations so that we’ll all be more confident of their impact.”

Stephanie Teasley, Director of the LED Lab, Research Professor
University of Michigan

#4: Create a Tiered Pilot Framework

Gates Govern Elevation toward Scale

Virginia Tech Requires Buy-In from Affected Units before Increasing Support

Sign-Off and Buy-In

Gate 1: Participation from key stakeholders
IT, teaching center, bookstore, library, facilities, etc.

Gate 2: Sign off from institutional leaders
Provost, Chief Business Officer, VP for IT
Partnering with Your Most Creative Instructors
Strategies for Getting the Most from Innovators and Early Adopters

Harnessing Grassroots Activity

Surface Innovative Faculty

1. Eliminate administrative barriers to accessing seed funding
2. Reduce the size of seed grants, but extend them to more faculty members
3. Use data to identify effective instructors and isolate best practices

Reduce Risk of Investment

1. Assess replicability of learning innovations outside departments of origin
2. Require sign-off from affected campus units prior to elevating pilots
3. Intensify funding and support for best-in-class innovations to bring to scale

Notes:
Reducing the Risk of Adoption
Scaling Learning Innovations

The Next Wave of Faculty Adopters
Early Majority Interested in New Strategies, But Fearful of Risks

Halting but Real Interest in Innovation
- Motivated by example
- Hesitant to experiment
- Divided between priorities
- Conversant with technology

Breakthrough Practice Approach
- #6: Arrange Faculty Teaching Shadows
- #7: Facilitate “Try Before You Buy” Tests
- #8: Integrate Tech Trainings into Faculty Routines
- #9: Provide Just-in-Time IT Support
- #10: Empower Faculty to Reward Innovative Peers
Despite Growing Comfort, Hesitation Remains

Most Faculty Familiar with Innovations, But Avoid Trying Them Out

A Growing Comfort with Tech-Enhanced Teaching

60% Of faculty say the LMS is a critical tool to their teaching
78% Of faculty have a growing interest in using tech in teaching

A Form of Empowerment

"Faculty are starting to see their own embrace of technology as a form of empowerment."

Matthew Rascoff, University of North Carolina

“Professors Know About High-Tech Teaching Methods, but Few Use Them”

<table>
<thead>
<tr>
<th>Technique</th>
<th>Not Familiar</th>
<th>Familiar but haven’t tried</th>
<th>Tried</th>
<th>Adopted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clickers and other real-time feedback</td>
<td>11%</td>
<td>64%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Interdisciplinary team-teaching</td>
<td>13%</td>
<td>63%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Hybrid courses</td>
<td>8%</td>
<td>58%</td>
<td>11%</td>
<td>20%</td>
</tr>
<tr>
<td>Fully online course</td>
<td>9%</td>
<td>57%</td>
<td>7%</td>
<td>24%</td>
</tr>
<tr>
<td>Online collaboration tools</td>
<td>9%</td>
<td>56%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Experiential or service learning</td>
<td>14%</td>
<td>49%</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Flipped classroom</td>
<td>6%</td>
<td>47%</td>
<td>17%</td>
<td>29%</td>
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Perceived Risks Deter Otherwise Willing Adopters

Pedagogical Risk

What if it doesn’t work?
Professor integrates active learning into her class. Students fail to engage productively and learning suffers.

Technological Risk

What if it breaks?
Professor purchases student-response clickers and builds lessons around them. The clickers malfunction en masse mid-lecture.

Social Risk

What if my peers disapprove?
Professor moves lectures online and uses class time for peer instruction. Colleagues doubt effectiveness and reputation suffers.

Source: EAB interviews and analysis.
Mitigating Perceived Risk of Adoption

Three Strategies for Recruiting the Early Majority

1. **Demonstrate effectiveness**  
   (Pedagogical Risk)
   - Arrange Faculty Teaching Shadows
   - Facilitate “Try Before You Buy” Tests

2. **Increase confidence**  
   (Technological Risk)
   - Integrate Tech Trainings into Faculty Routines
   - Provide Just-in-Time IT Support

3. **Hardwire social rewards**  
   (Social Risk)
   - Empower Faculty to Reward Innovative Peers

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### #6: Arrange Faculty Teaching Shadows - Pedagogical Risk

**Have to See It to Believe It**

Shadowing Demonstrates Effectiveness to New Active Learning Instructors

**Innovation in Brief**

**Tech-Enhanced Active Learning (TEAL) at MIT**
- Intro physics courses had **DFW rates as much as 10 points higher** than other STEM fields (15% v. 5%)
- Courses with up to 800 students/150+ students per course redesigned for active learning
- Students sit at tables of 9, work collaboratively in groups of 3, take notes on visualizations
- DFW rates cut in half
- Student learning doubled on normed physics assessments

**Physics Department Faculty Shadowing**
- Instructors paired with experienced faculty, attend class sessions to observe impact of active learning

- **Observe 3-4 Classes**
- **Review Course Materials**
- **Customize Curricula**

**Outcomes**

- Comfort with using technique
- Confidence in effectiveness
- New faculty successfully teach active learning course
#6: Arrange Faculty Teaching Shadows – Pedagogical Risk

Intensive Support for the Early Majority
Semester-Long Peer-Mentor Program at Purdue University Calumet

**Orientation**
- Two-day pre-semester session
- Intro to instructional design
- Technology basics
- Quality standards review

**Mentor Meetings**
- Three two-hour one-on-one sessions
- Small group with one mentor and four mentees

**Online Institute**
- Discussion board forums on each of three group workshop tactics
- Troubleshooting with fellow participants

**Design Support**
- Access to instructional design staff for pedagogical questions
- Support from graphic designers, tech staff, and student workers

**Group Workshops**
- Three one-day sessions led by instructional design staff
- Address basic course design, models for interaction, course facilitation

80% of online courses must be completed by end of semester

Course release awarded to faculty participants

The High Stakes of All-In Redesign
Lack of Exit Strategy Often Deters Faculty

**The Instructional Cliff**
Once they hit “go,” there’s no turning back

No exit strategy in event of failure

First Day of Class

What if it’s clearly not working in week two?
Where do I go from there?

**Innovative Pedagogy Is Inherently Challenging**

“I’ll be honest, the most exciting instructional techniques aren’t easy. You have to be 100% on if you’re trying out active learning, or teaching a hybrid course, or the like. It’s especially tough if it’s your first time. A lot of faculty members recognize the stakes of getting it wrong, and they say, ‘No thank you.’”

Director of Teaching and Learning Center, Public Master’s University

Source: EAB interviews and analysis.
#7: Facilitate "Try Before You Buy" Tests - Pedagogical Risk

## Medical Simulations as Course Modules

University of Toledo’s Simulation Center Complements Instruction

Pamela Boyers, PhD
Fmr. Executive Director of the IISC
University of Toledo

“We’ve asked faculty to pick parts of their courses that they want to move into the simulation environment. We’re doing it in steps so that faculty don’t back away from too much too soon.”

### Faculty Plan Modules Mid-Semester

**Total Students Served in 2013-14 School Year**

Faculty use simulation center mid-semester to reinforce learning

### Growing Faculty Participation

**Total Students Served Feb 2011, Feb 2014**

Source: EAB interviews and analysis.

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1) Currently Associate Vice Chancellor, University of Nebraska Medical Center.

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#7: Facilitate "Try Before You Buy" Tests - Pedagogical Risk

## A Space for One-Off Experiments

Virginia Tech’s Incubator Classrooms Enhance Existing Syllabi

### Shared Active Learning Space

- Moveable furniture
- No "front "of classroom
- Tech-enabled

Instructors limited to 3-6 class sessions per semester in incubator classrooms

### Fall 2015 – ECON 301

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 4</td>
<td>Lecture – The Market and Budget Constraint</td>
</tr>
<tr>
<td>Sep. 9</td>
<td>Lecture - Preferences</td>
</tr>
<tr>
<td>Sep. 11</td>
<td><strong>Active Learning</strong> – Modeling Consumer Choice</td>
</tr>
<tr>
<td>Sep. 16</td>
<td>Lecture - Utility</td>
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<td>Sep. 18</td>
<td><strong>Active Learning</strong> – Utility in Consumer Choice</td>
</tr>
<tr>
<td>Sep. 23</td>
<td>Lecture - Choice</td>
</tr>
</tbody>
</table>

### Intended Benefits

- Engage more faculty in experimenting with active learning
- Open the institution to new types of experimentation in pedagogy

Source: EAB interviews and analysis.
#8: Integrate Tech Trainings into Faculty Routines - *Technological Risk*

**Achieving Baseline Digital Fluency**

Arizona State and Virginia Tech Develop Alternative Tech Training Models

**Take It Out of the Classroom**

Administrative duties are carried out on digital platforms, increasing comfort and fluency

- Virtual committees meet via social media discussion board
- STEM faculty collaborate digitally on grant proposals
- Digital Pedagogy Committee members share online best practices

**Require Training for Upgrades**

Faculty customize training to meet 12-credit requirement and suit own tech needs

- *12 Credits Required for Computer Upgrade*

**1-2 Credit Each**

- Fall/Spring Trainings
  - Mini-workshops on key topics
  - Faculty mix and match sessions

- Summer Intensives
  - 2-day course redesign workshops

**Variable Credit**

- Implementation Projects
  - Faculty complete tech launch and share practices

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#9: Provide Just-In-Time IT Support - *Technological Risk*

**“But What If It Breaks?”**

Mount Holyoke’s Just-in-Time IT Support Mitigates Technological Risks

**Innovation in Brief**

**VP-50 Initiative**

- Videoconferencing initiative to bring global perspectives into classroom
- Faculty connect with scholar-practitioners around the world
- Micro-grants incentivize participation

**Sustainable IT Support Strategy**

- **Identify Need**
  - Faculty submit application detailing when they plan to use tech

- **Test Upfront**
  - IT staff test tech before class to minimize errors

- **Support During Class**
  - Map staff support to identified need

**Faculty Participation in Videoconferencing Initiative**

- **12**
  - 2011-2012
- **50**
  - 2014-2015

- Faculty confidence in videoconferencing as pedagogical tool grows
- Participation in VP-50 initiative increases as good experiences spread by word of mouth

Source: EAB interviews and analysis.
Social Risk

The Social Risk of Innovation

Faculty Skepticism Dampens Early Majority’s Enthusiasm

Online Commenters: The Faculty’s Id

"Online programs only exist to make money. There’s no good pedagogical reason to do them."

Will my colleagues think I am foolish for trying this?

"I am suspicious of claims that there is a special trick that will turn things around in one semester."

Will people judge me harshly if the results aren’t stellar?

"I don’t think we can boil down the imparting of knowledge to a single technique."

Is this just a shallow fad that I should ignore?

#10: Empower Faculty to Reward Innovative Peers - Social Risk

A Social Reward for Innovation

Center for Teaching and Learning Partners with Faculty Senate

Austin Peay State University’s Course Redesign Competition

CTL Administrators Formulate Criteria

Faculty Senate Picks Winners

Public Showcase Recognizes Winners

Criteria include:
- Severity of academic problem
- Potential impact
- Whether proposal targets gateway course

- $65k budget
- 60% of proposals chosen on average
- Past winners include physical geology lab, intro to web development, and intro to public policy

- Allows colleges to applaud redesigns
- Panelists share successes and best practices
- Participants guide others by highlighting barriers to implementation

Recognition Drives Innovation

"Faculty are competitive. When you put a competition in front of them, they want to win. When you tell them they need to redesign a course because it’s part of their job, they’ll probably do it, but if it’s competitive, they’ll do a bang-up job."

Loretta Griffy, Director, Center for Teaching and Learning
Austin Peay State University
The Next Wave of Adopters

Strategies for Recruiting a Critical Mass of Faculty

Reducing the Risk of Adoption

**Pedagogical Risk**

1. Arrange for new adopters to shadow experienced practitioners
2. Broker semester-long mentoring relationships between faculty
3. Create opportunities for limited “test runs” of unfamiliar techniques

**Technological Risk**

1. Tie incentives like computer upgrades to completion of trainings
2. Engage faculty members in casual tech trainings outside of workshops
3. Track and target support to upcoming uses of educational technology

**Social Risk**

1. Empower faculty members to reward their peers’ innovations
2. Design faculty grant programs around collegial competition
3. Publicly showcase most effective pedagogical redesigns

Nature of Investments and Support Changes When Approaching Scale

**Incent Individual Innovators**

- Target forward-thinking faculty across the institution
- Provide many one-off seed fund grants

**Remove Structural Barriers to Scale**

- Mitigate inefficiencies in room assignments for hybrid courses
- Recalculate departmental funding models to incent course-wide redesigns
- Reconfigure course scheduling to allow for widespread alternative delivery

Source: EAB interviews and analysis.
Channeling Efforts to Priorities
Scaling Learning Innovations

Where Innovation Is Most Needed
Student Success Pain Points Too Often Evade Effective Course Design

Harnessing Grassroots Activity
Reducing the Risk of Adoption
Channeling Effort to Priorities
Coda: Sustaining What Works

Critical Courses

Gateway Courses
Bottleneck Courses
High-DFW Courses

Breakthrough Practice Approach

#11: Build Withdrawal
Redirect Courses

#12: Design Shell Courses

#13: Arrange Complementary Hybrid Room Assignments

#14: Reinvest Departmental Cost Savings

Source: EAB interviews and analysis
# A Mandate to Innovate

**Urgency of Student Success Problems Demands New Approaches**

<table>
<thead>
<tr>
<th>Critical Courses</th>
<th>Effective Practice</th>
<th>Structural Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gateway Courses</strong></td>
<td><strong>Self-Paced Learning</strong></td>
<td><strong>Time</strong></td>
</tr>
<tr>
<td>Few students pass major prerequisites on first attempt</td>
<td>Students master course content at their own pace, increasing success</td>
<td>Standard schedule ill-suited to self-paced learning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Bottleneck Courses</strong></th>
<th><strong>Hybrid Courses</strong></th>
<th><strong>Space</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand exceeds capacity, resulting in progression delays</td>
<td>Instructional capacity increases while space needs decrease</td>
<td>Hybrid courses prevent others from using space, even when not in use</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>High-DFW Courses</strong></th>
<th><strong>Active Learning Redesigns</strong></th>
<th><strong>Funding</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Meager course success rates add time to degree and derail progression</td>
<td>High-touch learning boosts at-risk students’ performance</td>
<td>One-off financial incentives raise concerns about sustainability</td>
</tr>
</tbody>
</table>

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**Gateway Courses**

### Adding Time to Degree

**Gateway Courses Disproportionately Impact Two Types of Students**

#### Early Withdrawal

Students withdraw after drop period, preventing registration in other classes

**Fall Semester**

Student drops course

Withdrawal Deadline

No credit gained for remainder of semester

**Needed: Accelerated Course Alternative**

#### Developmental Coursework

Students enroll in developmental modules, but scheduling impedes timely completion

<table>
<thead>
<tr>
<th>Module 2</th>
<th>Module 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completes after week 2</td>
<td>Does not complete</td>
</tr>
</tbody>
</table>

**Module 4 Repeat after Module 4**

<table>
<thead>
<tr>
<th>4 Weeks</th>
<th>8 Weeks</th>
<th>12 Weeks</th>
<th>16 Weeks</th>
</tr>
</thead>
</table>

**Needed: Flexible Module Scheduling**

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Source: EAB interviews and analysis.
#11: Build Withdrawal Redirect Courses - Gateway Courses

Alternatives to the Semester

Alabama’s Redirect Courses Allow Students to Stay on Track

Advisors notify at-risk students of “redirect” option

Traditional 15-Week Course

- Proactive registration not allowed
- Add/Drop Deadline
- 3-Week Registration Period

Online 10-Week Course

- Course Prioritization: High demand prerequisites, general education courses, and introductory pre-med courses

Benefits

- Students avoid losing financial aid eligibility
- Doesn’t use valuable classroom space
- Keeps students on track for graduation

#12: Design Shell Courses - Gateway Courses

Self-Paced Modules Within One Shell

Rolling Modules into Traditional Semesters Prevents System Meltdown

Shell Course Combines Multiple Modules of Varying Length

Student places into modules 2, 4, 7, and 9

Developmental Math

- 4 Credits
- Individualized Pacing
- Module 2 ➔ Module 4 ➔ Module 7 ➔ Module 9

- 4 Weeks
- 8 Weeks
- 12 Weeks
- 16 Weeks

Creating Method From Madness

“We drove the registrar (and really the entire student services division) crazy the first year of our modular redesign. Shell courses avoid the logistical nightmare of enrolling students in a million minimesters.”

Math Department Chair, Community College

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Source: EAB interviews and analysis.
#13: Arrange Complementary Hybrid Room Assignments - Bottleneck Courses

## Smarter Space Use Eliminates Bottlenecks

### Complementary Room Assignments for Hybrid Courses Maximize Efficiency

**The Empty Space Dilemma**

Inefficient Space Use in Hybrid Courses

<table>
<thead>
<tr>
<th>September</th>
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<tbody>
<tr>
<td>Su</td>
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<tr>
<td><img src="image1" alt="Course meets in person in assigned space" /></td>
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</tbody>
</table>

Registrar blocks off room for hybrid courses even when class doesn’t meet

**CSUN’s Complementary Scheduling Solution**

Eliminating Bottlenecks

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<th>September</th>
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<tbody>
<tr>
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</tr>
<tr>
<td><img src="image1" alt="Course meets in person in assigned space" /></td>
</tr>
</tbody>
</table>

Students complete asynchronous coursework

### High-DFW Courses

Financial Realities Reinforce Business as Usual

Redesign Costs and Lack of Financial Rewards Slows Change

**Costs Mount for Course Redesigns**

- Department Budget
- Release Time
- Training Cost
- Additional TAs
- Evaluators
- Remaining Budget

Even when we offer to provide grant funding to cover redesign costs, department chairs and their faculty don’t see enough benefit to them because we recapture long-term cost savings. There’s no real incentive for changing.”

Provost, Private Master’s University

**Innovation in Brief**

**Course Redesign Initiative at University of Maryland**

- Administrators aimed to reduce instructional costs
- UMD system provided matching funds to institutions up to $20k
- Faculty redesigned courses by collapsing sections, flipping classes, including supplemental instruction, and designing active learning
- Redesigns resulted in an average savings of 38% on instructional costs per students

Source: EAB interviews and analysis.
#14: Reinvest Departmental Cost Savings – High-DFW Courses

**Reinvested Savings Incent Redesign**

**University System of Maryland Lets Departments Keep Recaptured Costs**

- **Range of Cost Savings/Avoidance**
  - 100%
  - 71%
  - 53%
  - 12%
  - 0%

**Faculty Time and Adjunct Funds Freed Up**
- Focus faculty time on research and other high-return activities
- Expand new course development
- Reallocate budgeted adjunct funds to other purposes

**$1.8M**
- Total cost savings and avoidance across 57 courses
- Efforts sustained past 2-3 year design and implementation period
- Average drop in DFW rate (e.g., from 20% to 13%)

**High-Priority Course Redesigns**

**Strategies for Enabling Innovation Where It’s Most Needed**

**Channeling Efforts to Priorities**

**Smart Scheduling**
1. Create self-paced modules for gateway courses
2. Schedule modules in flexible blocks of time to ensure mastery
3. Enroll developmental students and students who withdraw late

**Complementary Room Assignments**
1. Convert bottleneck courses into a hybrid format
2. Identify hybrid courses whose meetings occur on non-overlapping days
3. Schedule these complementary courses in the same classroom

**Effective Incentives**
1. Redesign high-DFW courses to improve outcomes and generate cost-savings
2. Allow departments to retain faculty lines and adjunct savings
3. Encourage departmental leaders to reinvest savings in high-return activities
**Shifting the Focus to Systematic Change**

Strategy for Critical Priorities Differs from Early-Stage Seeding and Scaling

**Incent Individual Innovators**

Innovative early adopters, regardless of discipline

**Remove Structural Barriers**

Instructors and units offering high priority courses

**Target Participants**

Experimental “pre-seed” funds and small pilots

**Financial Investment**

Course redesign cost savings retained by units

**Support Activities**

Troubleshoot problems, connect with resources

Reconfigure key structural elements of institution

**Institutional Goals**

Surface techniques and methods that should be developed and replicated

Immediate impact on learning outcomes, retention, and progression to degree

*Source: EAB interviews and analysis.*

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**Notes:**

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Coda: Sustaining What Works

Scaling Learning Innovations

Ensuring Sustainability in the Long Term
Moving Learning Innovations to a Position of Value in Academe

Challenges to Self-Perpetuating Innovation

<table>
<thead>
<tr>
<th>Lack of Career Rewards</th>
<th>Primacy of Scholarship</th>
<th>Assessment as Afterthought</th>
<th>Academic Freedom Impeding Reform</th>
</tr>
</thead>
</table>

Breakthrough Practice Approach

#15: Rethink Promotion and Tenure Strategy
Critics Question Tenure’s Research Focus…

...But Powerful Forces Combine to Preserve Status Quo

Media Says Teaching Is Undervalued…

Engaging Students Requires a Renewed Focus on Teaching

Sure, Professors Like Tenure, But Does It Help Students?

The Forgotten Student: Has Higher Education Stiffed Its Most Important Client?

College professors are neither trained nor rewarded for excellence in the classroom. Incentive structures and university culture reinforce other activities, such as research, service on committees, and graduate education.

Yet Challenging Tradeoffs Persist

Research Funding Takes Precedence

Provosts want to promote good pedagogy, but research dollars come first

Faculty Face Time Tradeoff with Scholarship Demands

Learning innovations impinge on faculty obligations to pursue cutting-edge scholarship

Academic Leaders Cannot Dictate Tenure Guidelines

Tenure committees resist mandates to assign less weight to research

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#15: Rethink Promotion and Tenure Strategy

Strengthening the Teaching and Tenure Link

Institutions Recently Rethinking Research-Centric Career Rewards

Updated Teaching Evaluations

Purdue University rewrites teaching evaluations with two new measures: undergraduate involvement in research and classroom innovation.

New Faculty Roles

Northwestern University and the University of Denver established a career ladder for instructional faculty

Teaching Practice Dossiers

The University of Alabama requires all faculty members to submit an annual tenure review assessment dossier detailing instructional practices

Revised Tenure Guidelines

Purdue University and the University of Michigan compiled new tenure guidelines to reward innovative teachers and committed mentors

What Would You Build With a Blank Slate?

Faculty Careers at University of Minnesota-Rochester...

“The bad news at the beginning was that we had no faculty. The good news was that we had no faculty.”

– Stephen Lehmkuhle, Chancellor
University of Minnesota-Rochester

Design Faculty

- Tenure-track
- One per discipline
- Develop curricula and instructional methods
- Conduct and publish learning research

Student-Based Faculty

- Not tenure-track, but eligible for promotion
- Focused on instruction and guiding students’ learning
- Team-teach courses with design faculty

Tenure Criteria

“...faculty who are recognized leaders in the area of student learning at the postsecondary level; who develop and implement cognitive models for student learning informed by research; and who disseminate research that is recognized by peers to advance knowledge in the scholarship of learning.”

Promotion Criteria

“...a track record of exceptional teaching.... The development of course materials including in-class lessons, homework, assignment criteria, grading mechanisms, and online resources.... Implementing pedagogical strategies to support UMR student learning research...”

Sources: “Center for Learning Innovation Departmental Statement”, University of Minnesota-Rochester; “Student Based Faculty (SBF) Promotion Procedure for Spring 2015”, University of Minnesota-Rochester; EAB interviews and analysis.

Scalining Learning Innovations

From Early Adopters to Campus-Wide

1 Harnessing Grassroots Activity
   Surfacing and Supporting Innovators
   - Identify innovative faculty
   - Reduce risk of investment

2 Reducing the Risk of Adoption
   Lowering Opportunity Costs
   - Demonstrate effectiveness of alternative pedagogies
   - Increase confidence in technology
   - Hardwire social rewards

3 Channeling Efforts to Priorities
   Aligning with Institutional Initiatives
   - Create smart scheduling practices
   - Prioritize complementary room and facility assignments
   - Provide effective departmental incentives for course redesigns

4 Sustaining What Works
   Prioritizing Innovation in the Academy
   - Reconsider the role of innovation in promotion and tenure
   - Document learning innovations and explore new instruction-focused roles

Source: EAB interviews and analysis.
Innovations in Brief
A Snapshot of Profiled Practices

**Sandbox, Pilot, Production**
- Provides pre-seed funding with low threshold
- Unearths developing innovations

**Adaptive Release Learning Analytics**
- Administrators identify outlier faculty with high LMS activity
- Leverage expertise to spread practices for incorporating adaptive release methods

**Tiered Course Redesign Stipends**
- Faculty receive portions of stipend after each step of the redesign process
- Incentivizes faculty to follow through with evaluation to ensure lessons are learned

**VP-50 Videoconferencing Initiative**
- Provides funding and tech support for in-class discussion with global figures
- Ensures global perspectives in the curriculum and eases faculty tech concerns

**Technology-Enhanced Active Learning**
- Redesign of intro physics courses to include collaborative, active learning
- Led to increased student learning and lower DFW rates

**Train the Trainer**
- Peer coaching program provides support for online instructors
- Facilitates confident adoption of practices for new adopting faculty

**Interprofessional Immersive Simulation Center**
- Provides simulation space for collaborative simulations in medical sciences
- Facilitates partial, modularized adoption of active learning techniques

**Digital, Social Media Administration**
- Faculty meet using digital tools and social media
- Fulfillment of administrative duties online builds competency and comfort

**Structured Assistance Program**
- Created a co-requisite model of academic support for developmental math students
- Students enrolled in college credit-bearing courses with concurrent support sections

**Withdrawal Redirect Courses**
- At-risk students notified and allowed to enroll in condensed online course section
- Students stay on track while maintaining commitment to face-to-face learning

**Self-Paced Developmental Modules**
- Registrar creates semester courses to house self-paced learning modules
- Serves to save students tuition money or ease burden on registrar and administration

**Complementary Hybrid Course Schedules**
- Faculty create hybrid courses with 50% online content
- Administrators schedule classes to maximize space utilization

**Reinvesting Redesign Savings**
- System funded course redesign to save on instructional costs in intro courses
- Cost savings recaptured by unit in form of faculty time and adjunct funds

**Learning, Education, and Design Lab**
- Faculty rigorously assess learning innovations and publish evaluations
- Best innovations move to innovation greenhouse for further development

**Revised Tenure Guidelines**
- New guidelines structured to reward and recognize innovation in teaching
- Also recognizes faculty for mentoring efforts

**Innovation-Based Faculty**
- Established faculty roles dedicated to advancing teaching practice
- Hire individuals experienced in advancing the scholarship of learning
Active Learning Test Spaces
- Institution invested in technology-enabled active learning classrooms
- Limited use to 3-6 sessions per semester to ensure that broad section of faculty can experiment

12-Credit Digital Training Program
- Requires faculty to complete 12 credits of technology training to earn computer upgrade
- Faculty fulfill requirement through a catalog of short sessions and intensive trainings

Early Start Program
- State-mandated program of remediation held the summer prior to first-year enrollment
- Led to higher persistence for at-risk students and improved GPAs

Teaching Evaluation Revisions
- Rewrote teaching evaluations to include two new measures
- Now includes classroom innovation and undergraduate participation in research

Teaching Practice Dossiers
- Instructors submit a written dossier on teaching practice for formal review
- Dossiers highlight innovation and experimentation in teaching practice

Instruction-Focused Faculty Roles
- Established career ladders for faculty focused on instruction rather than research
- Gives instructional faculty opportunities to earn mid-to-long-term contracts for demonstrated excellence