Education Advisory Board | COE Forum

Blended Learning and Flipped Classrooms

Personnel and Strategies at Public Four-Year Institutions

Research Brief

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1) Executive Overview

Definitions

Blended learning refers to a course in which instruction occurs both in-person and online. **Flipped classrooms** refer to courses in which in-person class meetings focus on problem-solving, while readings and lecture occur outside the classroom. **This report uses the term 'blended learning' to refer to both blended learning and flipped classroom models unless explicitly differentiated.**

Key Observations

Contacts promote blended learning as a means to enhance student engagement. Staff members at contact institutions began to consider the implementation of blended learning as a result of discussions about the future of teaching and learning in light of Massive Open Online Courses (MOOCs) and other online instructional methods. Although factors such as space utilization do augment the case to implement blended learning initiatives, administrators do not typically promote blended learning outside the context of improved student learning.

Contacts estimate approximately 10 percent of faculty implement a blended or flipped model. Classification of blended learning models proves complicated without official definitions, but contacts estimate the share of faculty who employ a blended learning model at around 10 percent. Contacts report the overall portion of the faculty who employ a blended learning model is small but growing.

Faculty who teach large-enrollment classes implement blended learning more often than other faculty members. Faculty in large-enrollment classes often struggle to maintain student engagement and benefit significantly from modifications to the instructional method. Due to their size, these courses have seen significant academic gains (e.g., improved test scores, improved retention) by students, particularly in the science, technology, engineering, and mathematics disciplines.

While many different offices provide support for blended learning, administrators at contact institutions desire to consolidate services. Support staff from several offices (e.g., distance education and online learning, teaching and learning, academic technologies) dedicate time to blended learning initiatives and faculty development. Profiled institutions vary in centralization and coordination of these staff members, but contacts report a trend toward consolidation.

Instructional design staff provide most faculty development related to blended learning in the form of consultations, workshops, and course design institutes. Engagements range from single emails to continued in-person support two years after the implementation of a blended learning model.

2) Blended Learning Initiatives

Promotional Strategies

Promote Blended Learning as a Tool for Enhanced Student Engagement

While many reasons exist to promote blended learning, contacts cite enhanced student engagement as the primary motivation to advance blended learning initiatives. Contacts report administrators do not promote blended learning itself but rather as one strategy to enhance student engagement to improve student outcomes.

Motivations to Flip Classrooms[1]

Results from a Pearson Survey of Faculty and Staff

1. Improve students' critical thinking, creative problem solving, higher-order thinking, and 21st century professional skills
2. Increase student participation
3. Improve students' team-based skills and peer-to-peer interaction
4. Customize/differentiate learning
5. Make students center of learning/encourage student ownership of learning
6. Better faculty to student interaction — Enhanced student learning
7. Increase faculty freedom/enjoyment
8. Improve learning outcomes
9. Dealing with absences
10. Encourage faculty collaboration
11. Compensate for limited classroom space

Define Blended and Flipped Classroom Models to Track Extent of Blended Learning

Contacts report difficulty in the measurement of blended learning at an institution. Administrators cannot easily measure 'blended learning' because many faculty incorporate some portion of online instruction in their courses. Many instructors, particularly in the humanities, report the use of flipped models because students read outside of class—a fact which confounds measurement of 'flipped classrooms.' Administrators may coordinate with the registrar and designate course types to measure the extent of blended learning at an institution. The National Center for Academic Transformation provides a brief explanation of different models from which to develop official institutional definitions.[2]

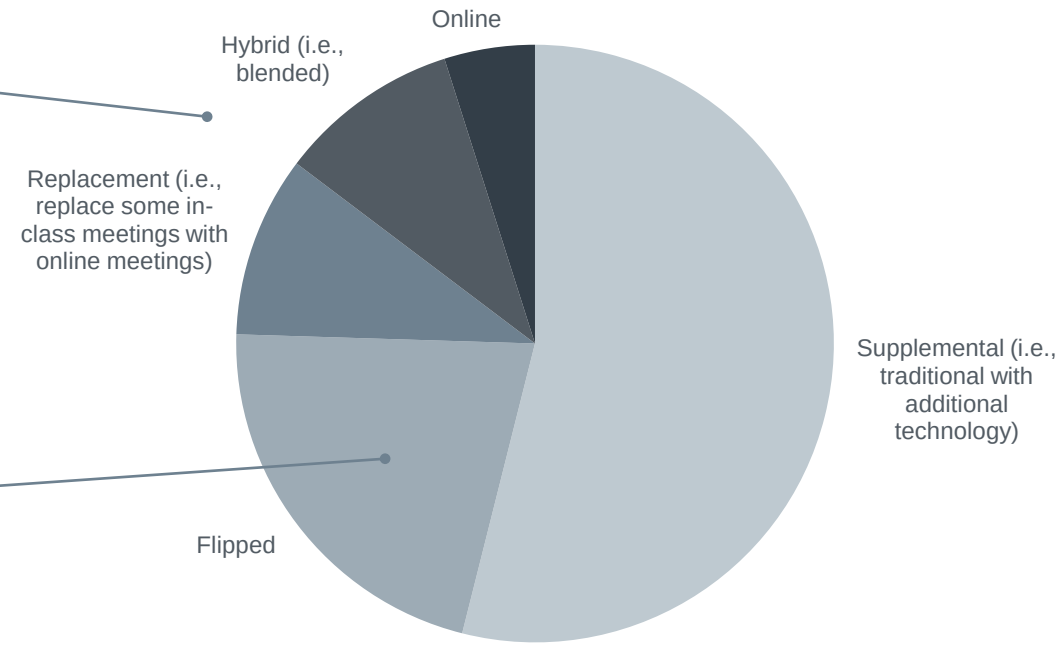
Contacts estimate approximately **10 percent** of faculty at institutions employ a blended or flipped classroom model.

1) Pearson, 'Flipped Learning in Higher Education' http://www.flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/41/HigherEdWhitePaper%20FINAL.pdf
2) The National Center for Academic Transformation, 'Six Models for Course Redesign' http://www.thencat.org/R2R/R2R%20PDFs/Six%20Models%20for%20Course%20Redesign.pdf

Non-traditional Instructional Models at *Institution B*[3]

Share of Redesign Models Chosen by Faculty in Course Redesign Program

Many different classifications exist for blended learning initiatives. Administrators who wish to quantify implementations of specific models must carefully define the models.



Instructors at **Institution B** favor models that incorporate more face-to-face interactions than online interactions.

Focus on Large-Enrollment Courses to Maximize Impact of Blended Learning

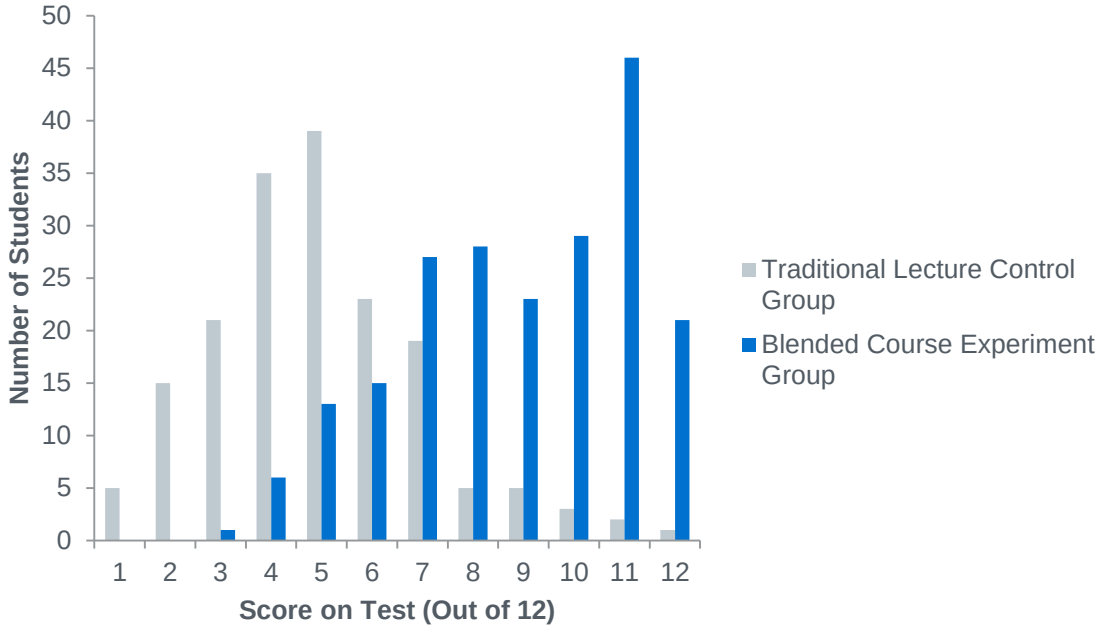
Contacts report large-enrollment courses comprise the greatest share of blended learning courses as these courses present the greatest opportunity for increased student engagement. A large share of faculty implement blended models in science, technology, engineering, and mathematics (STEM) disciplines. A 2011 study which addresses success of blended formats in a large-enrollment physics class demonstrates the potential gains from this strategy.[4]

3) Institution B Website

4) Deslauriers, Louis; Schelew, Ellen; Wieman, Carl. "Improved Learning in a Large-Enrollment Physics Class" Originally published in *Science Magazine*. Apr. 2011. Retrieved July 28, 2014 from https://info.maths.ed.ac.uk/assets/files/LandT/Deslauriers_Science_May2011.pdf

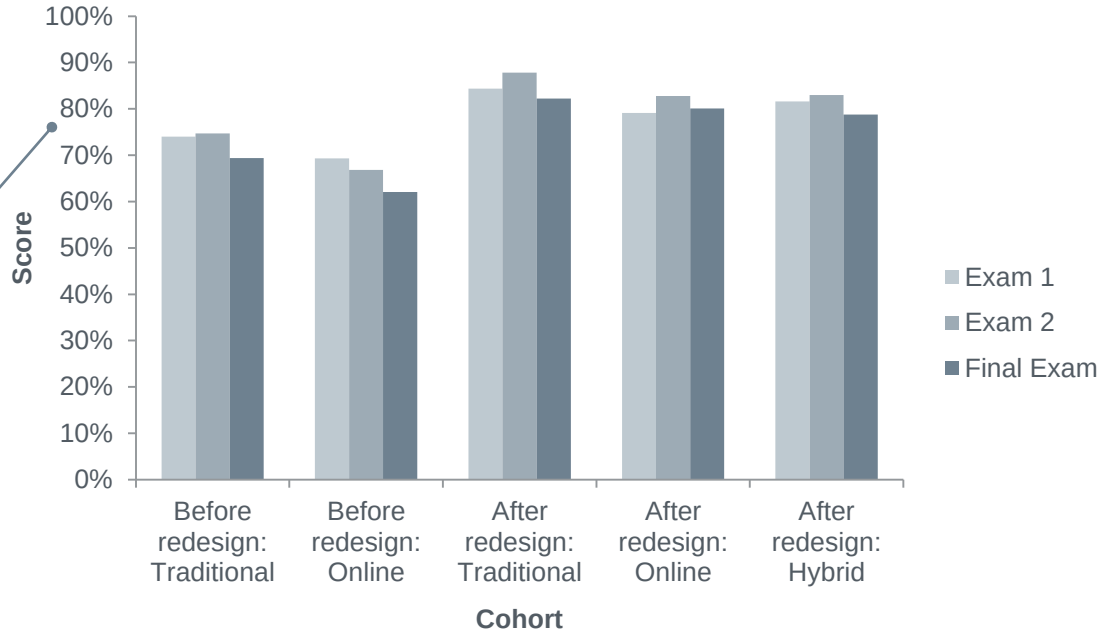
Improved Learning Outcomes from Blended Learning

*Results from an Experiment in a Large-Enrollment Physics Class at the **University of British Columbia**[5]*



*Results from a Blended Learning Redesign of a Large-Enrollment Statistics Course at **Institution B**[6]*

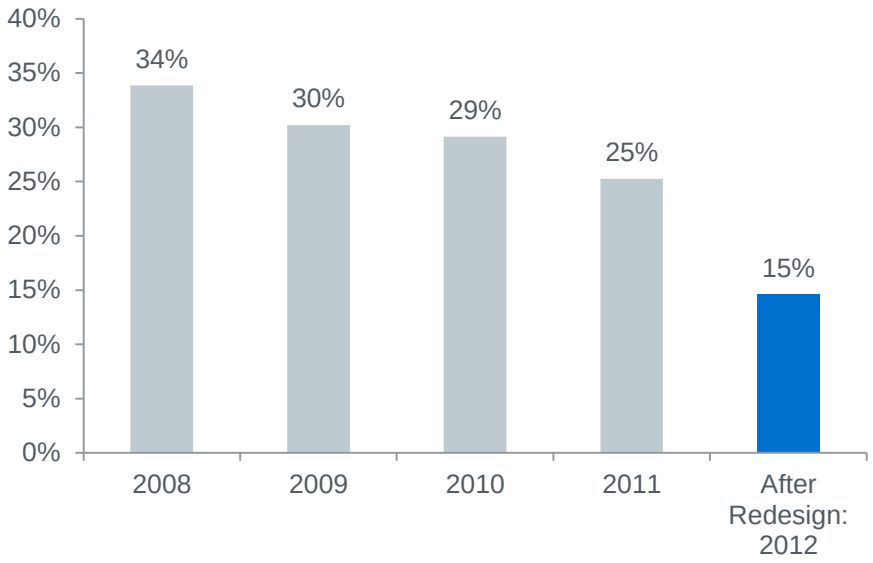
Redesign interventions improved final exam scores by 13 percentage points in traditional delivery and 18 percentage points in online delivery. Hybrid delivery produced better results than traditional and online delivery before redesign, but not as well as either method after the redesign. Contacts target improved instruction, not specific instructional models.



5) Deslauriers, Louis; Schelew, Ellen; Wieman, Carl. "Improved Learning in a Large-Enrollment Physics Class" Originally published in *Science Magazine*. Apr. 2011. Retrieved July 28, 2014 from https://info.maths.ed.ac.uk/assets/files/LandT/Deslauriers_Science_May2011.pdf

6) Institution B Website

Fall Semester Drop, Fail, Withdrawal Rates in Large-Enrollment Statistics Course at ***Institution B***[7]



Specific Initiatives

Coordinate Initiatives to Enhance Student Outcomes through Blended Learning

Coordinated initiatives to improve student learning often focus on instructional delivery and utilization of technology in the classroom, both of which may include blended learning.

Sources of Blended Learning Initiatives

More Participation ◄——► Less Participation

	Provost	Faculty	Staff
Benefits	▪ More resources ▪ Broader institutional support	▪ Departmental funding available ▪ Support from faculty already exists	▪ Instructional design support knowledge already in place ▪ Knows faculty needs
Costs	▪ Harder to put blended learning on agenda	▪ Less institutional support ▪ No coordination	▪ Opt-in support only ▪ Few benefits (e.g., space utilization) captured by the institution
Strategy	▪ Focus on student learning ▪ Present results from successful blended classrooms	▪ Demonstrate results from successful blended classrooms ▪ Collaborate across departments	▪ Target high enrollment and STEM fields ▪ Match faculty to tools and models based on fit

7) Institution B Website

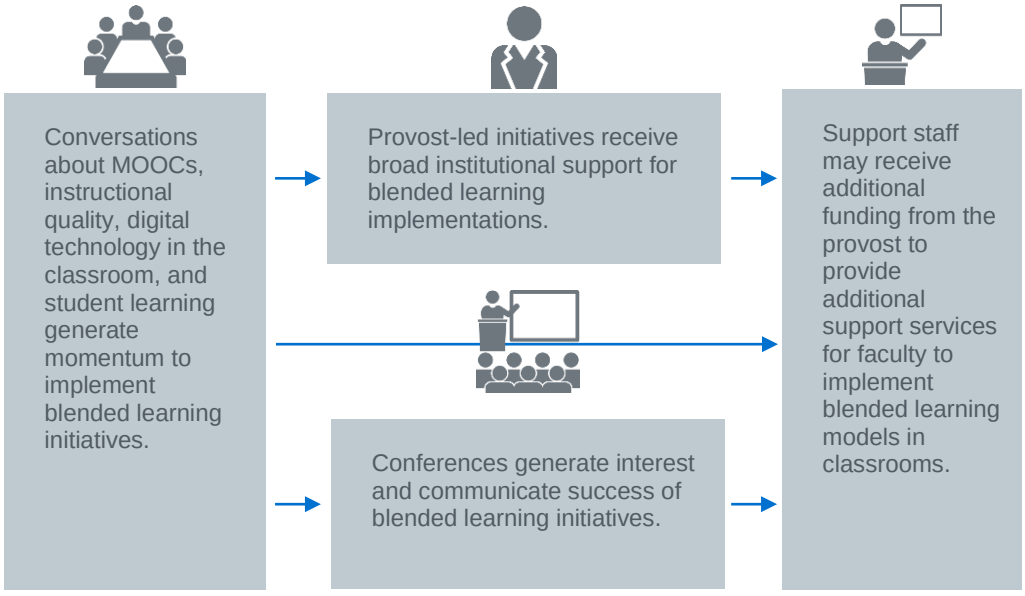
Blended Learning Initiatives from Profiled Institutions

Institution	Initiative	Description
Institution A	Exploring Educational Technologies	Staff and faculty meet together to discuss technology in the classroom.
Institution B	Innovative Course Change	Program initiated by the assistant provost and director of the Teaching and Learning Center to provide faculty with instructional support through course redesign.
Institution C	Innovations in Teaching and Learning Conference	Conference designed to discuss teaching, learning, and technology and the future of the Teaching and Learning Transformation Center.
Institution D	Digital Education	Office created by the provost to coordinate digital programs and platforms across academic units.
Institution E	Blended Learning Conference	Semi-annual institutional conference on blended learning to share best practices and motivate future implementations.
University of Wisconsin	Blend @ UW	Program coordinated through academic technology office to provide support for blended course implementations.

Provide Institution-Wide Events to Engage Faculty

Contacts at all profiled institutions organize some type of large-scale program to promote blended learning. These events, usually institution-wide conferences, gather up to 150 faculty members to discuss blended learning opportunities and strategies. Faculty who have successfully implemented a blended or flipped classroom model present their successes at these events and other college staff communicate available institutional grants and programs.

Building Momentum for Blended Learning Initiatives



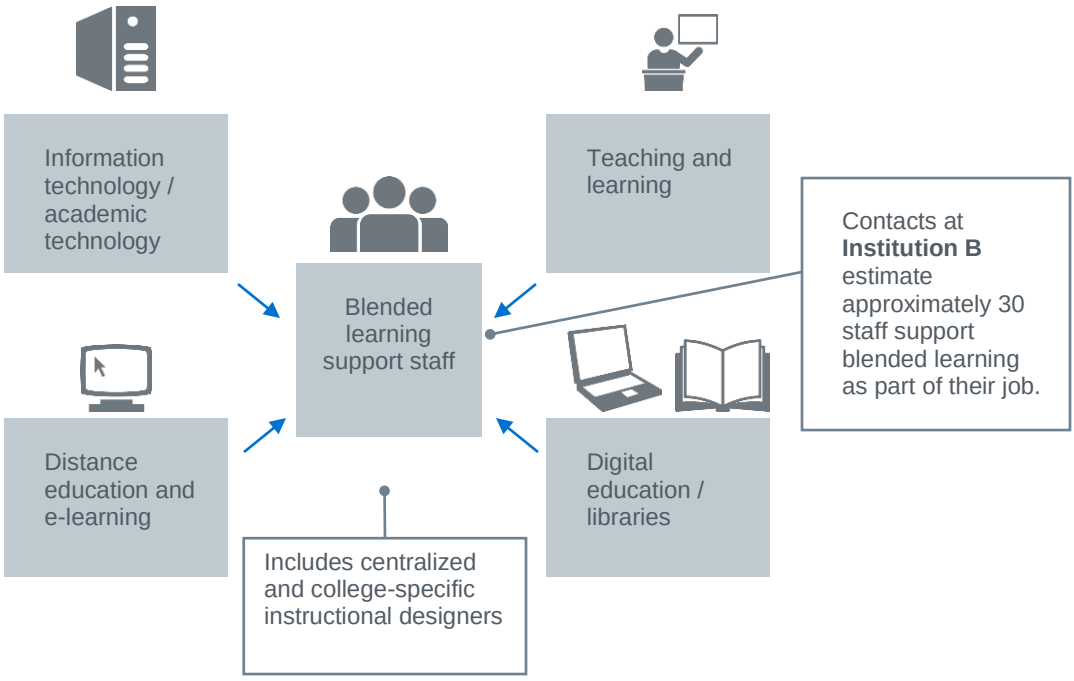
3) Organizational Structures for Blended Learning

Personnel

Involve Several Offices in Blended Learning Initiatives to Provide Comprehensive Support for Faculty

Blended learning initiatives pair teaching and learning personnel with information technology, digital education, and online learning staff. Teaching and learning staff provide the majority of faculty development and instructional design support with supplemental services available through other offices.

Units Involved in Blended Learning Initiatives

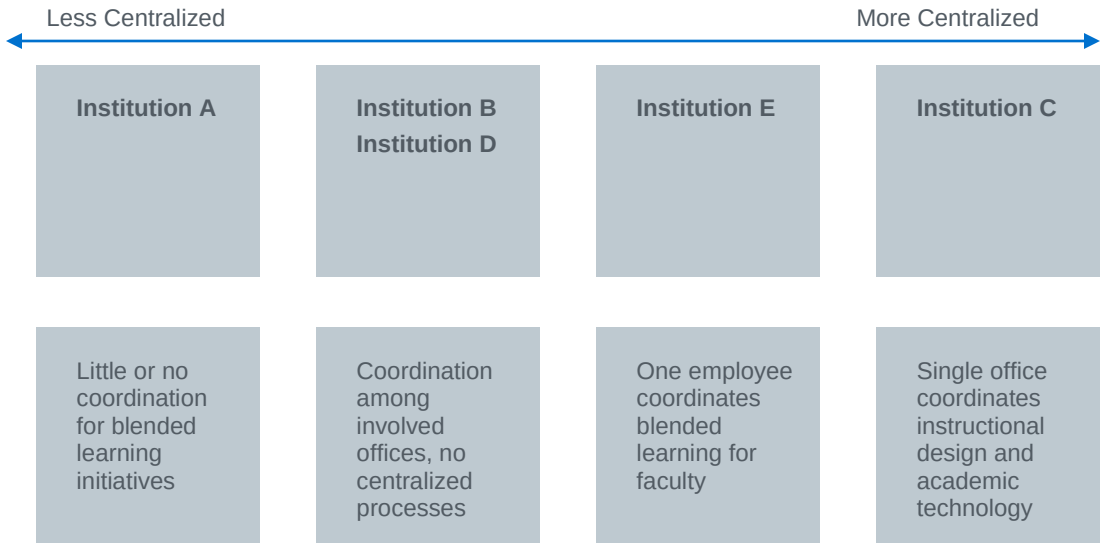


Coordination

Designate an Office to Coordinate Blended Learning Initiatives

Contacts report administrative initiatives to consolidate instructional design support services and academic technology services. Administrators at **Institution C** are creating a new center that will coordinate an academic technology office, the teaching and learning office, and a learning analytics group. The provost at **Institution D** established a Digital Education office to coordinate all digital education initiatives, which includes blended learning. Consolidation provides institutional administrators an opportunity to capture the benefits of blended learning (e.g., freed classroom space) and coordinate efforts to improve instruction.

Centralization Spectrum of Profiled Institutions

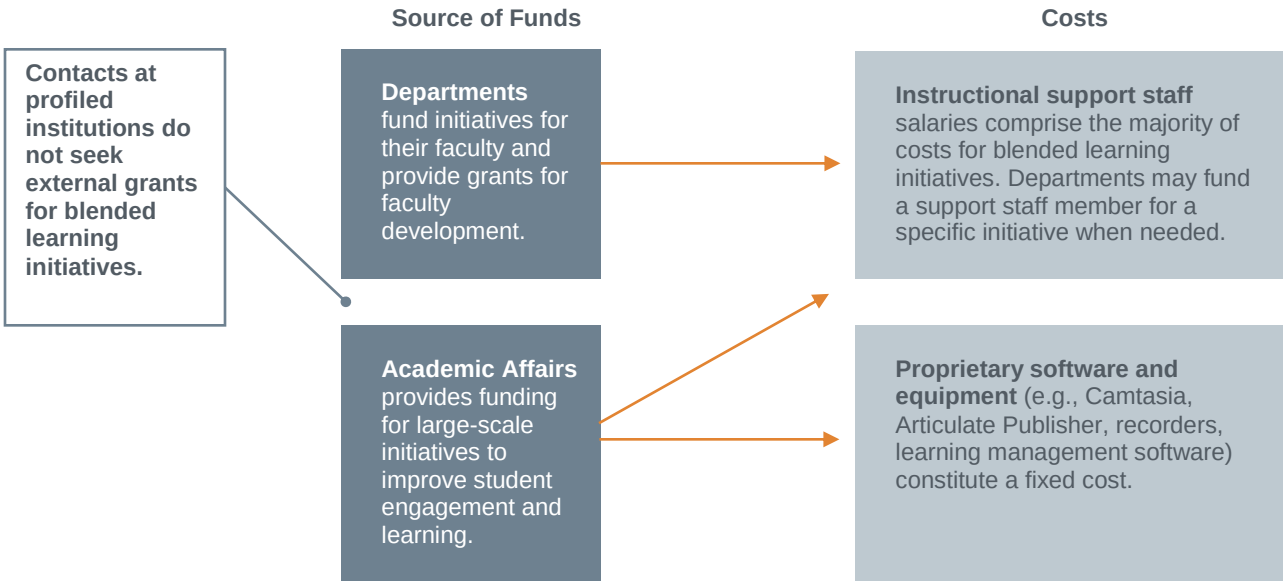


Funding

Rely on Departmental and Institutional Funding to Support Blended Learning

Blended learning initiatives do not require significant financial investments beyond an initial investment in proprietary software and support staff. Since support staff do not focus exclusively on blended learning initiatives (with the exception of the blended learning coordinator at **Institution E**), blended learning does not incur unique labor costs. Faculty typically have access to grants to improve teaching and learning in their classroom, though this funding decreasingly goes to traditional flipped classrooms.

Funding Paths for Blended Learning Initiatives



4) Faculty Development for Blended Learning

Workshops

Provide a Variety of Workshops to Equip Faculty to be Successful in Blended Instruction

Personnel at contact institutions provide instructional design and implementation support for blended learning through workshops faculty can attend throughout the year. Within institutions, faculty may elect to attend group sessions and/or individual consultations.

Characteristics of Successful Workshops

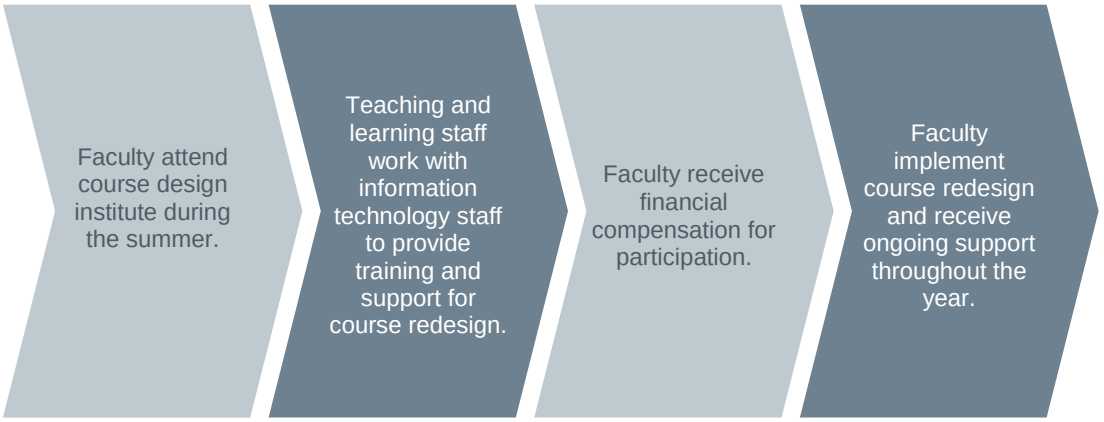
- Designed to be manageable and fit into faculty schedules (e.g., 90 minutes)
- Occurs over several weeks, not just ad hoc meetings
- Workshop presented to demonstrate redesign model (e.g., taught in flipped format for flipped classroom workshops, taught online for online delivery workshops)
- Teaching and learning workshops focus on pedagogy
- Information technology workshops focus on platform implementation

Ongoing Support

Create Programs to Provide Ongoing Engagement with Blended Learning

Staff at contact institutions provide long-term programs that include a summer session for course design and additional support throughout the year. Course design institutes provide support for blended learning but typically do not focus on any particular instructional model.

Ongoing Initiatives at *Institution B* and the *University of Wisconsin*[8, 9]



8) Institution B Website

9) University of Wisconsin, 'Blended Learning' http://edinnovation.wisc.edu/phase-ii-creating-and-executing-your-educational-innovation-plan/whocanhelp/

Faculty Compensation

$10,000

Participants of the course design program at **Institution B** receive $10,000. Participants in a similar program at **The University of Wisconsin** receive $4,000.

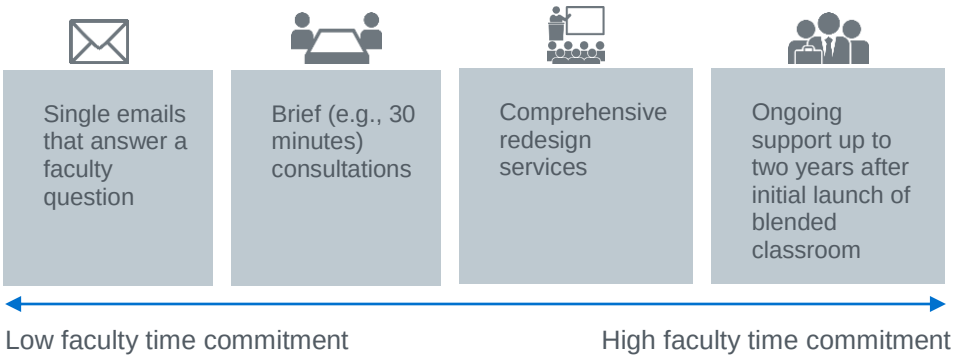
Provide Financial Incentives to Promote Blended Learning

Since course redesign programs for faculty require several hours of summer engagement and ongoing commitments throughout the year, contacts report success in the provision of financial compensation for faculty who participate.

Offer Flexible Support Services to Accommodate Faculty Needs

Faculty engagement varies significantly within an institution. Instructional support personnel see faculty on an ad hoc basis as needs arise.

Variation in Instructional Design Support for Blended Learning



Communication Strategies

Develop Programs to Elicit Faculty Participation

While contacts cater to faculty needs for service provision, they also emphasize the importance of proactive engagement with faculty members to promote enhanced student learning. Contacts determine faculty needs through secondary research, surveys of faculty, and anecdotes from faculty during consultations.

Proactively Address Faculty Concerns in Outreach

Faculty often resist external pushes to modify instructional methods in the classroom, particularly when modifications include extensive time commitments and frustrations with new technologies. Support staff communicate the long-term gains in student performance outweigh these costs. Contacts promote the benefits of enhanced student engagement in outreach materials (e.g., newsletters, departmental emails) for instructional design support services.

5) Research Methodology

Project Challenge

Leadership at a member institution approached the Forum with the following questions:

- What considerations (e.g., cost reduction, educational innovation, improved student outcomes) motivate administrators to implement blended learning or flipped classrooms?
- What initiatives do administrators implement to promote or enhance blended learning or flipped classrooms?
- Which personnel (e.g., new hires, existing staff) dedicate time to blended learning or flipped classroom initiatives?
- What organizational and reporting structures exist to support blended learning or flipped classroom initiatives?
- Which administrative departments contribute to blended learning or flipped classroom initiatives?
- What financial resources does the university administration dedicate to blended learning or flipped classroom initiatives?
- What external financial resources (e.g., grants, major gifts) support blended learning or flipped classroom initiatives?
- What faculty development programs for blended learning or flipped classroom do administrators implement?
- Which personnel directly support faculty development for blended learning or flipped classrooms?

Project Sources

The Forum consulted the following sources for this report:

- EAB's internal and online research libraries (http://eab.com)
- The Chronicle of Higher Education (http://chronicle.com)
- National Center for Education Statistics (NCES) (http://nces.ed.gov/)
- Institutional Websites
- Levesque-Bristol, Chantal; Doan, Tomalee; and Attardo, Donalee, "Fostering Blended Learning: Successful Partnerships and Faculty Development for Institutional Change" (2013). IMPACT Presentations. Paper 1 http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1000&context=impactpres
- The National Center for Academic Transformation, 'Six Models for Course Redesign' http://www.thencat.org/R2R/R2R%20PDFs/Six%20Models%20for%20Course%20Redesign.pdf
- Pearson, 'Flipped Learning in Higher Education' http://www.flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/41/HigherEdWhitePaper%20FINAL.pdf
- University of Wisconsin, 'Blend @ UW' http://sites.google.wisc.edu/blend/
- University of Wisconsin, 'Blended Learning' http://edinnovation.wisc.edu/phase-ii-creating-and-executing-your-educational-innovation-plan/whocanhelp/

Research Parameters

The Forum interviewed teaching and learning and instructional technology administrators.

A Guide to Institutions Profiled in this Brief

Institution	Location	Approximate Institutional Enrollment (Undergraduate/Total)	Classification
Institution A	Midwest	40,000 / 55,000	Research Universities (very high research activity)
Institution B	Midwest	31,000 / 40,000	Research Universities (very high research activity)
Institution C	Mid-Atlantic	25,000 / 38,000	Research Universities (very high research activity)
Institution D	Midwest	28,000 / 43,000	Research Universities (very high research activity)
Institution E	Midwest	20,000 / 25,000	Research Universities (very high research activity)
***University of Wisconsin**	Midwest	30,000 / 40,000	Research Universities (very high research activity)

Source: National Center for Education Statistics

*Profiled through secondary research