Blended Learning in a Liberal Arts Setting

Smith Faculty Luncheon, 2 November 2012

Research sponsored by a grant from
Blended Learning in a Liberal Arts Setting

OVERVIEW
Why Blended Learning?

- In 2010-11 NE Deans impressed by studies showing ...
  - Higher faculty/student satisfaction\(^1\)
  - Greater student engagement\(^2\)
  - Improved student performance\(^3\)

... in blended courses.
But, Studies at *Large* Institutions

- Would blended learning offer the same or equivalent benefits at a liberal arts college?
  - Ex. Student satisfaction related to reduced “seat time”
  - Ex. Control courses vs. typical LAC intro courses

- Was it compatible with culture and values of liberal art colleges?
What do we mean by “blended”?

1. Students receive feedback on learning outside classroom through computer-based materials

2. Extra-classroom component alters how instructor teaches or uses class time
No Other Prescriptions

- No requirement to reduce “seat” time
- **Faculty** identify pedagogical challenges & goals
- Pedagogy drives technology
Goals of the NGLC Study

1. Encourage and support faculty experimentation
   - 14 Bryn Mawr faculty, AY2011-2012
   - 40 faculty at 25 partner colleges, AY2012-2013

2. Collect and analyze data on these experiments
   - Faculty and student perceptions of impact
   - Quantitative assessment of impact (where possible)
# Scope of Study

## Subjects

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<th>Anthropology</th>
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## Colleges

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Summary of Findings

1. Blending can improve learning outcomes in LACs as well as in large schools

2. Faculty and students report that blending:
   - Supports their teaching and learning
   - Is consistent with LAC values and experiences

3. For faculty, main barrier to adoption is “start up costs”
Blended Learning in a Liberal Arts Setting

EVIDENCE OF IMPACT ON STUDENT LEARNING
Higher Completion Rates

● In all blended pilot courses at BMC …
  85% of students completed with grade $\geq 2.0$

● In blended STEM pilot courses at BMC …
  93.5% completed with grades $\geq 2.0$
  (Ave. for non-blended courses $= 83\%$)
Well Above Historical Norms

- For 3 of the 4 courses where data is available
  - Ave. grade in blended version was ~1 SD higher
  - Proportion of students with grade $\geq 2.0$ was 0.65-1.41 SD higher in blended version

And even in that 4th course …

(general chemistry)
Blended Materials Helped

Analysis of student learning data generated by general chemistry courseware showed:

● Strong correlation between completion rates and final grade

● For undergraduates, SATM score predicted 30% of final course grade, but completion of courseware predicted 58%
Blended Learning in a Liberal Arts Setting

FACULTY AND STUDENT FEEDBACK
Feedback Very Positive

- All BMC faculty who piloted have continued blended approach (albeit with tweaks)
- 75% of students reported positive impact on learning

Did the computer-based materials impact how well you did in this course?

- 24.8% Yes, very much
- 55.8% Helped some what
- 16.5% Didn't help or hurt
- 0.5% Negative impact
- 2.4% Not sure
Value of Instant Grading/Feedback

- Allows you to assess more often/quickly
- Takes advantage of
  - “Testing effect”\(^4\)
  - Effect of review at intervals\(^5\)
Value to Students

Report that instant feedback enables them to:

• Ask better questions
• Get help *before* class moves on
• Better structure study time
• Practice before “it counts”

*Caveat:* not all materials created equal
Value of Learning Data

- Real-time information on learning
- Supports “agile” teaching
- Leads to more fruitful conversations with students
Value of Audiovisual Elements

- Visual presentations of information support learning in any media.
- Not long, “talking head” videos, but animations, simulations, virtual experiments, etc.
- Not a substitute for in-class or hands-on experiences.
- But adds option to rewind, slow down, review …
Compatibility with LAC Values

- Faculty and students reported that blended learning
  - Supports individualized, learner-centered education
  - Enhances faculty-student interactions
  - Helps faculty meet the needs of diverse student body
  - Frees up class time for collaborative work, research projects, deeper study, discussion …