Assessing the Impact of Faculty Course Redesign on Student Success
Presenters

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About UMBC

• Founded in 1966 (5 mins from BWI Airport)
• Research extensive Carnegie classification
• Student Enrollment, Fall 2014
  – 13,979 (11,379 undergrad, 2,600 graduate)
• 769 Faculty (501 FT, 268 PT), 1,248 staff
About Blackboard @UMBC

• Began using in Spring 2000
• Current version: 9.1.2x (Managed Hosting)
• Adoption
  – 96% of all students
  – 87% of all instructors
  – 82% of all course sections
  – 300 Communities
Background

• Alternate Delivery Program = ADP

• Since fall 2006, 60 faculty members have adapted existing courses for hybrid delivery through UMBC’s ADP.

• LMS activity, a proxy for student engagement

• The data indicate that student LMS activity is higher for courses that have undergone redesign than those that have not.
Research Questions

• To what extent are different forms of Blackboard interactions associated with student academic success (i.e., Blackboard use as a proxy for engagement)?

• To what extent might we support instructors to increase student Blackboard interactions through training (i.e., ADP)?

• To what extent is participation in these trainings associated with increased student academic success above and beyond Blackboard interactions alone?
The Data

- 257,000 Records
  - 15.52% of students taught by ADP instructor
- 1 record = 1 student, 1 course, 1 term
- All ADP Instructors taught courses for FA2006 – WT 2015
- Comparison group of all other courses
- Blackboard Variables
- Academic Outcomes (i.e., Term GPA, Cumulative GPA, Term Credits Earned, and Cumulative Credits Earned)
Methodologies

• Primary Blackboard (Independent) variables:
  – Blackboard use (interactions, course access, minutes accessed, submissions) and Instructor participation in ADP

• Primary Academic (Dependent) Variables:
  – Term GPA, cumulative GPA, term credits earned, two or better GPA

• Controls (e.g., Standard demographics, pre academic controls: SAT; HS GPA)

• OLS and Logistic regression
The Students

![Bar chart showing comparison between ADP Students and Non-ADP Students across categories such as White, Male, Citizen, In state, Freshman, Cont. Ugrad, On Campus.](image)
Blackboard Activity

Non-ADP Students

ADP Students

Course Interactions

Course Access

Course Minutes Accessed
Academics Outcomes
## Significance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (SE)†</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term GPA</td>
<td>.33*** (.03)</td>
<td>0.06</td>
</tr>
<tr>
<td>Cumulative GPA</td>
<td>.05* (.02)</td>
<td>0.13</td>
</tr>
<tr>
<td>Term Credits Earned</td>
<td>-2.60*** (.16)</td>
<td>0.11</td>
</tr>
<tr>
<td>Cumulative Credits Earned</td>
<td>2.69** (.82)</td>
<td>0.34</td>
</tr>
<tr>
<td>≥ 2.0 Term GPA</td>
<td>.76*** (.10)</td>
<td>NA††</td>
</tr>
</tbody>
</table>

† p values * p < .05; ** p < .01; *** p < .001; standard error in parentheses
†† Logit model
Implications

• Blackboard use is associated with statistically significant improved academic outcomes

• ADP participation is associated with statistically significant improved academic outcomes when controlling for Blackboard use

• Engagement unto itself is a good thing; it appears we can improve upon it through training
Next Steps

• Predictive modeling and Quasi-experimental design (course as the unit of analysis)

• Qualitative analysis

• Further assessment of the characteristics of the quality of Blackboard interactions
Freshmen Retention by Bb Learn Risk Profile, FA2013
WRAPPING-UP