Connecting a Conduit of Learning Analytics to Proactive Support: Building a Community of Support through Interdepartmental Collaboration

Presented by:
Shoshana Zeisman-Pereyo, Ed.D. & Anika Stephen Wilbur, M.A.

Welcome! Please log in to Poll Everywhere:
PollEv.com/shoshz800
OR
Text SHOSHZ800 to 37607
Active + Adaptive Initiative

29 Faculty | 31 Courses | 12 Disciplines | Multiple Vendors

Modules:
Art History
Biology (a&p)
Chemistry (organic)

Computer Science
Freshman Inquiry
Philosophy

Psychology
Spanish
Writing

Full Courses:
Business
Biology (non-majors)
Chemistry (general)

Math/Statistics

Physics

Thank you APLU for your support!
Learning Objectives

● Describe PSU’s Physics Pilot Project:
  ○ Discuss how learning analytics can help to inform proactive communication and coaching to students
  ○ Share faculty, Peer Assistant, and Academic Coach perspectives on the project

● Identify who in your own student support network can collaborate directly with instructors
Poll Everywhere Log-in

PollEv.com/shoshz800

OR

Text **SHOSHZ800** to **37607**
Name some of the struggles that your students face in STEM courses.
Are you using adaptive courseware in your courses?

Yes

No

Not yet, but it's on the horizon.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Sort of</td>
<td></td>
</tr>
</tbody>
</table>
Physics Pilot Project Purpose

Improve learning and academic support for students enrolled in one section of Algebra-based General Physics through the use of a Peer Assistant, an Academic Coach, adaptive courseware, and enthusiastic faculty.
Background - Stakeholders

- Office of Academic Innovation (OAI)
- Learning Center (LC)
- Physics Department
- Academic Advising
Background - Student Learning Objectives

- **SUPPORT**
  - Increase in As, Bs, and Cs
  - Decrease in Ds, Fs, and Ws
  - Students report feeling supported
  - Increase in student engagement
## Background - First Term Project Phases

<table>
<thead>
<tr>
<th>Phase 1 - Predictive Support</th>
<th>Phase 2 - Early Alert</th>
<th>Phase 3 - Stay the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Cumulative GPA ≤ 2.7</td>
<td>● Utilization of adaptive courseware</td>
<td>● Biweekly emails</td>
</tr>
<tr>
<td>● Course credit ratio ≤ 76%</td>
<td>● Attendance metrics</td>
<td>● Connecting with students in class and in the group review sessions</td>
</tr>
<tr>
<td>● Repeat of course or academic warning/probation</td>
<td>● Grades on quizzes or exams</td>
<td>● Outreach as deemed appropriate by the instructor and academic coach</td>
</tr>
<tr>
<td>● Score on prerequisite math course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>● Common Index (SAT + high school GPA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>● Purchase of CogBooks (after two week grace period)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Methodology
Taking Action – Fall 2019

**ANTICIPATED**

**Phase 1 - Predictive Support**

- Cumulative GPA ≤ 2.7
- Course credit ratio ≤ 76%
- Repeat of course or academic warning/probation
- Score on prerequisite math course
- Common Index (SAT + high school GPA)
- Purchase of CogBooks (after two week grace period)

**ACTUAL**

**Phase 1 - Predictive Support**

- Cumulative GPA ≤ 2.7
- Course credit ratio ≤ 76%
- Academic warning/probation
- Action: Pre-term outreach from academic coach
Taking Action – Fall 2019

ANTICIPATED

Phase 2 - Early Alert

● Utilization of adaptive courseware
● Attendance metrics
● Grades on quizzes or exams

ACTUAL

Phase 2 - Early Alert

● Tracking: Enrollment
● Tracking: Attendance metrics
● Tracking: Utilization of adaptive courseware
● Tracking: Poor performance (≤ 50%) on courseware modules

● Action: Outreach as deemed appropriate by the instructor and academic coach
● Action: Peer Assistant connecting with students during class and in group review sessions
Taking Action – Fall 2019

ANTICIPATED

Phase 3 - Stay the Course

● Biweekly emails
● Connecting with students in class and in the group review sessions
● Outreach as deemed appropriate by the instructor and academic coach

ACTUAL

Phase 3 - Stay the Course

● Tracking: Grades on quizzes or exams
● Tracking: Attendance metrics
● Action: Outreach as deemed appropriate by the instructor and academic coach
● Action: Peer Assistant connecting with students during class and in the group review sessions
● Action: Alerts through advising
Taking Action – Winter 2020

- Pre-term Risk Group:
  - Students who earned a C+ grade or lower in PH 201

- Similar pattern of Academic Coach email outreach

- Continuation of Peer Assistant-led review sessions

- New for this term:
  - Academic Coach - two mini in-class presentations
  - Faculty/Academic Advising - earlier utilization of PSU’s alert system for at-risk students
Taking Action – Spring 2020

● COVID-19 impact:
  ○ Faculty - switch to remote instruction and online assessments
  ○ Academic Coach - reduction in email outreach

● Continuation of Peer Assistant-led study sessions
  ○ New Peer Assistant

● Continuation of Faculty/Academic Advising utilization of PSU’s alert system for at-risk students
Data
# Final Grades - Fall 2019

<table>
<thead>
<tr>
<th>Entire Class</th>
<th>Pre-term Risk Group</th>
<th>CogBooks Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>43</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>27</td>
<td>B</td>
</tr>
<tr>
<td>C</td>
<td>14</td>
<td>C</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>D</td>
</tr>
<tr>
<td>F</td>
<td>14</td>
<td>F</td>
</tr>
<tr>
<td>W</td>
<td>6</td>
<td>W</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre-term Risk Group Criteria</th>
</tr>
</thead>
</table>

- Cumulative GPA ≤ 2.7
- Course credit ratio ≤ 76%
- Academic warning/probation

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>8</td>
</tr>
<tr>
<td>W</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CogBooks Performance Group Criteria</th>
</tr>
</thead>
</table>

- Poor performance (≤ 50%) on 3 or more courseware modules prior to Exam #1
- No engagement with the adaptive courseware at all

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>8</td>
</tr>
<tr>
<td>W</td>
<td>3</td>
</tr>
</tbody>
</table>
Fall Grades

PH 201 Fall Grades

- 2017
- 2018
- 2019

Grade Distribution:
- A-B-C: 80.0%
- D-F-W: 10.0%

Portland State University
Winter Grades

PH 202 Winter Grades

Grade

A-B-C

D-F-W

2018
2019
2020

0.0%
25.0%
50.0%
75.0%
100.0%
Spring Grades

PH 203 Spring Grades

Grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-B-C</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>D-F-W</td>
<td>0</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
The Survey
Who in your own student support network can collaborate with directly with instructors?
Fall 2019

Did you feel supported in your PH 201 course?

Yes
No
Other

Did you know where to go for academic support and help?

Yes
No
Approachability

I can approach the instructor with any questions that I might have.

4.28

I can approach Anika, the academic coach, for support and resources.

3.86

I can approach Lewis for help with course content or physics study tips.

4.14
Winter 2020

Did you feel supported in your PH 201 course?

- Yes
- No
- Other

Did you know where to go for academic support and help?

- Yes
- No
Winter 2020

Approachability

I can approach the instructor with any questions that I might have. 4.21

I can approach Anika, the academic coach, for support and resources. 4.07

I can approach Lewis for help with course content or physics study tips. 4.21
Spring 2020

Did you feel supported in your PH 201 course?

Did you know where to go for academic support and help?
Spring 2020

Approachability

I can approach the instructor with any questions that I might have.

I can approach Anika, the academic coach, for support and resources.

I can approach Ty for help with course content or physics study tips.
Findings
Faculty Perspective

- Knowing that there was support for students’ non-academic issues, such as stress management, time management, motivation, made it easy for me to direct students to get help from trained professionals. I was able to let them know that there was more to learning than content digestion.

- For students who needed specific help with content, having an embedded Peer Assistant was valuable. Peer assistants were also helpful with homework problems and exam preparation.

- Through participating in this project, I also enjoyed and benefited from having the support of so many different on-campus units.
Peer Assistant Perspective

- The students became more comfortable with me over time, until I had about 10 regular students [in the weekly review sessions].

- The aspect I most enjoyed was working closely with the students and seeing introductory physics from their perspective. Students frequently brought up questions which tested the depth of my own understanding in the study sessions.
Academic Coach Perspective

- Engaging with the most at-risk students in the course proved to be a challenge; most were unresponsive.

- The majority of students I saw for coaching consistently earned As and Bs on exams and were engaged with the coursework. The common focus of our coaching sessions was self-management.

- The in-class mini coaching presentations were great as they helped me become familiar with student faces, and supported the students in understanding that I was a real person and dedicated resource as opposed to just someone sending them emails.
Major Findings

- Pre-term risk criteria was useful in identifying potential struggle.
- Early engagement was predictive of success.
- Academic coaching works, but those who need it most didn’t participate.
- Students enjoy and benefit from having a “near-peer” embedded in the course.
- Engaging with students via email, while necessary, is not ideal.
- Students viewed their professor as approachable, and as a result outreach to the professor increased.
Recommendations

- Find a sustainable way to use pre-term risk data in preparation for Fall term.
- Embedding a Peer Assistant is another useful resource for students and an additional access point beyond tutoring.
- If you’re going to embed an Academic Coach within a course, the greatest benefit to students is seen when the coach presents on a tangible skill.
- With institutions leaning more heavily on remote instruction, faculty and support services will need to identify metrics within adaptive courseware to measure engagement.
Wrap-up

This was only a pilot project.

All stakeholders will continue to look at how to implement recommendations moving forward.
1. How can you increase support in your STEM courses? Who can you collaborate with outside of faculty?

2. How do you use predictive analytics to help your students and encourage a growth mindset?

3. What benefits have you experienced with adaptive courseware?
Thank You!