MIXING MEASURES

How We Used Quantitative and Qualitative Techniques to Assess Teaching and Learning in a New High-Tech Classroom

NORTHERN ARIZONA UNIVERSITY

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NAU MARKETING

We transformed a sleepy microforms area…

CLAUDIA BAKULA

library.nau.edu/services/learningstudio/

SUMMER DIO

ASSESSMENT IN THE CLINE LIBRARY LEARNING STUDIO

In Fall 2014, at the request of NAU's provost, we launched a year-long assessment project to better understand the experience of students and faculty in the room.

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ASSESSMENT PROJECT

We collaborated with a mix of people:

- Faculty teaching in the Learning Studio
- Library staff
- A research analyst
- The university's IRB specialist
- Administrators
- And many others

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The project included a mix of quantitative and qualitative measures.

1. CRITICAL INCIDENT QUESTIONNAIRE (CIQ)

A five-question survey encouraged students to reflect on their learning and gave instructors information regarding how students were experiencing their teaching.

Survey Item: At what moment in class this week did you feel most engaged with what was happening?

"I felt most engaged when we were watching each other present our projects and presenting ourselves. It was a fun way to see the people in the class understanding the material."

2. Classroom Observations

Comments and a ranking were recorded on a rubric for various interactions such as student engagement in instruction and instructor engagement with technology.

Rubric Criterion: Instructor Engagement with Students

Highest-Ranking Interaction: Instructor Engagement with Students

- Most of the instructors maintained good eye contact with their students, walked around the room to facilitate questions, and visited work stations to better facilitate student learning.

- Instructor engagement with students increased as instructors became more familiar with the layout of the room and its instructional and technological capabilities.

3. Student and Faculty End-of-Term Surveys

The surveys assessed four psychometrically tested constructs: engagement, enrichment, flexibility, and classroom/course fit.

They were adapted from a 2009 survey of student perceptions of classroom space developed by the Research and Evaluation Team at the Center for Educational Innovation at University of Minnesota.

Survey Item: *The classroom in which I am taking/teaching this course…*

Rated High by Students and Faculty:
Enhances in-class activities with features of the room (movable furniture, large-screen displays, etc.)

Rated Low by Students and Faculty:
Helps me to develop connections with my classmates/students.

4. FACULTY POST-TERM INTERVIEWS

Faculty were asked four questions about their experience teaching in the Learning Studio.

Interview Question: How have you changed as an instructor as a result of your experience in the Learning Studio?

Most frequent response: I became more interactive with my students.

"I feel as though all of my projects have become more 'hybridized' to include more group, discussion, writing, and technical analysis. I have also confirmed my feeling that 'studio' time, using class time to work on projects, to get instructor and peer feedback is essential." – MARK MANONE

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5. Classroom-based Teaching and Learning Activities

A small study was conducted using student performance data from the signature assignment in five iterations of one instructor's course.

Research Questions
- Are there significant differences in students' total scores on the signature assignment analysis essay among the five different iterations (Fall 2011 Traditional, Fall 2012 Blended, Spring 2013 Blended, Fall 2013 Blended, and Fall 2014 Blended + Learning Studio) of the course?
- If so, between which iterations of the course are there significant differences?

Fall 2014 students in the Learning Studio performed statistically significantly better than did Fall 2011 students in a traditional type of classroom space.

Students in **all classes taught in the blended format performed statistically significantly better** than did students in the traditional format.

6. ROOM RESET SURVEY, TECHNICAL ISSUES, TECHNOLOGY BARRIERS AND UNMET NEEDS

- An online "Room Reset" survey used by Library Technology Services (LTS) after a class session collected data about the room's use and any technical problems.
- LTS also tracked technical issues through a help desk ticket system and frequent conversations with faculty.
- As faculty taught in the Learning Studio, they shared additional needs with LTS staff.

Room Reset Survey Items

Tools and Strategies
- **Most used:** Display instructor's content onto large or all screens

Problems Reported
- **Most common:** Audiovisual equipment

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- The Learning Studio engaged both students and faculty and enriched their teaching and learning experience.

- All faculty experienced a "learning curve."

- Students and faculty agreed that the technology in the Learning Studio was both a blessing and a curse.

TOSHIO ASAI

The question of whether student learning and development is improved in the Learning Studio is yet to be fully answered.

CHALLENGES

- **Accountability**

  Faculty were key to the success of the project, but they were not aware in advance of the project and their potential roles.

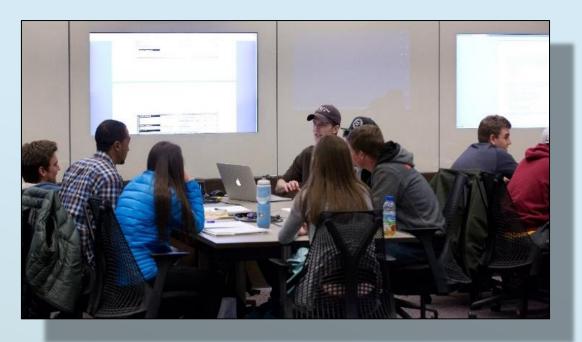 We found varying levels of faculty engagement and participation.

- **Time**

  To develop the plan, identify and implement the measures, collect and analyze the data, report the findings and recommendations…

  And time for all of the communication – big and small – along the way.

LESSONS LEARNED

- Start mixing early.

- Mix quantitative and qualitative measures.

- Mix people.

- Ensure stakeholders understand what's in the mix – and the ideal final product you are aiming for.

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Expect to learn a lot and be pushed beyond your comfort zone.

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QUESTIONS?

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