



Equity-Forward Learning Analytics: Designing a Course Diversity Dashboard to Support Marginalized Student Success



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The Ivy Tech Community College logo is positioned in the top right corner of the slide. The background of the slide is a photograph of a graduation ceremony, showing graduates in black gowns and caps, some with their caps raised, in front of a modern building. The word "CONGRATULATIONS" is visible in green letters across the middle of the image.



Learning Outcomes

Attendees will be able to explain how Ivy Tech and Pearson collaborated around learning analytics to design a dashboard to support DEI initiatives at Ivy Tech.

Attendees will develop a framework for evaluating the usefulness of learning data to address systemic inequities.

Attendees will explore how learning analytics can be used to initiate change in course design at both an institutional and individual faculty level.



Pearson/Ivy Tech Partnership

- 5 year data partnership
- Started around an exploration of how Ivy Tech could use Pearson resources to better understand how their products were being used in the classroom



Course Diversity Dashboard

Goal

Build a dashboard to support and guide institutional DEI efforts

Method

The design of the dashboard was informed by exploratory research into differences in student course outcomes, study strategies, and prerequisite knowledge associated with students' varying intersectional identities

Evidence-Informed Approach

Our research was guided by a review of key findings in the learning and educational sciences that directed us to investigate important factors known to impact student success in college

Development of Course Diversity Dashboard



IVY TECH

Course ID

Student email address

Instructor email address

Mid term grade

Final grade

Derived Ethnicity

Gender

PEARSON MYLAB MATH

HW submission times

HW activity

Feature usage in homework (e.g., worked example viewing and hints)

Objective-level performance on HW questions



4 Math Courses

MATH123: Quantitative Reasoning
MATH135: Finite Math
MATH136: College Algebra
MATH201: Brief Calculus I

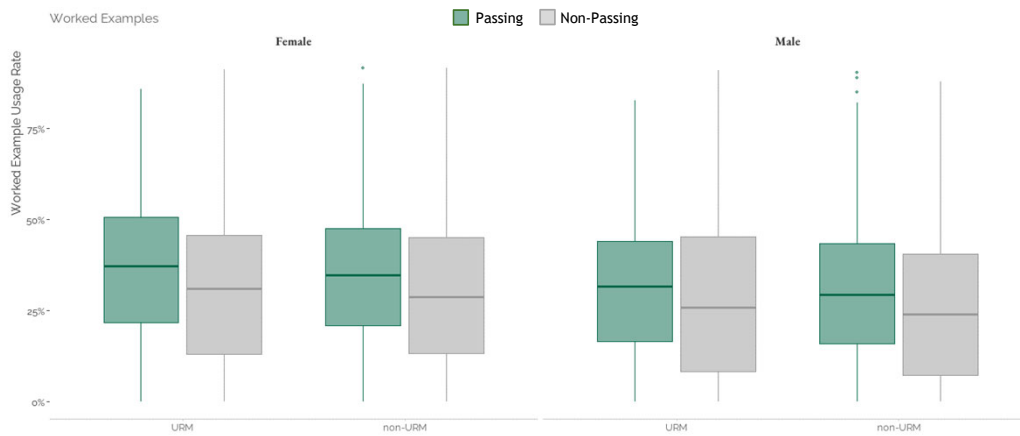


Under Represented Minorities

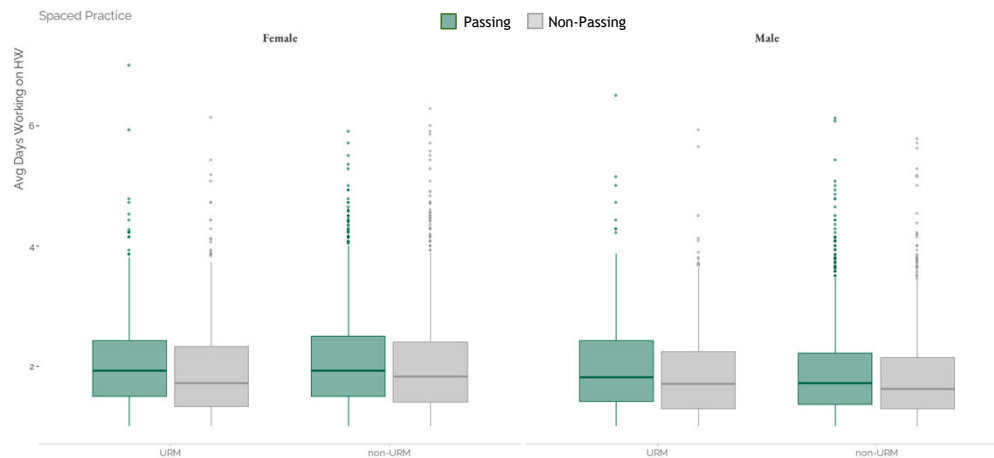
URM = African American, Latinx, Native American
Non-URM = White, Asian



Worked Examples

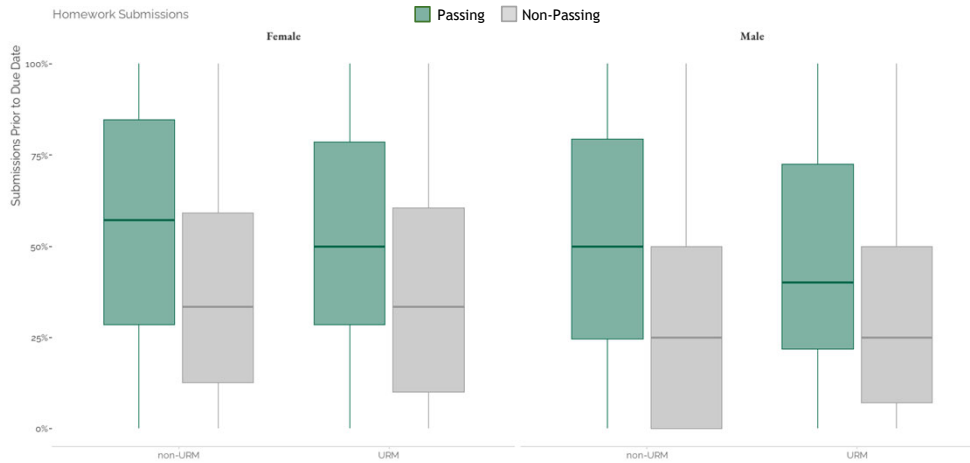


Spaced practice





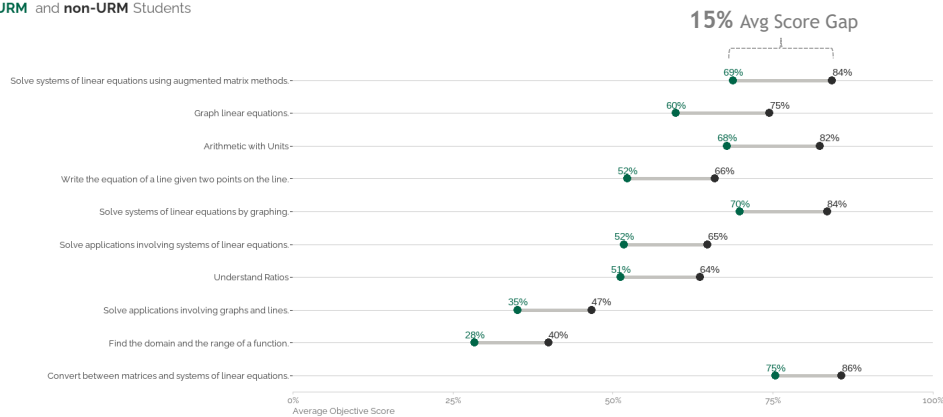
HW Submission Timing



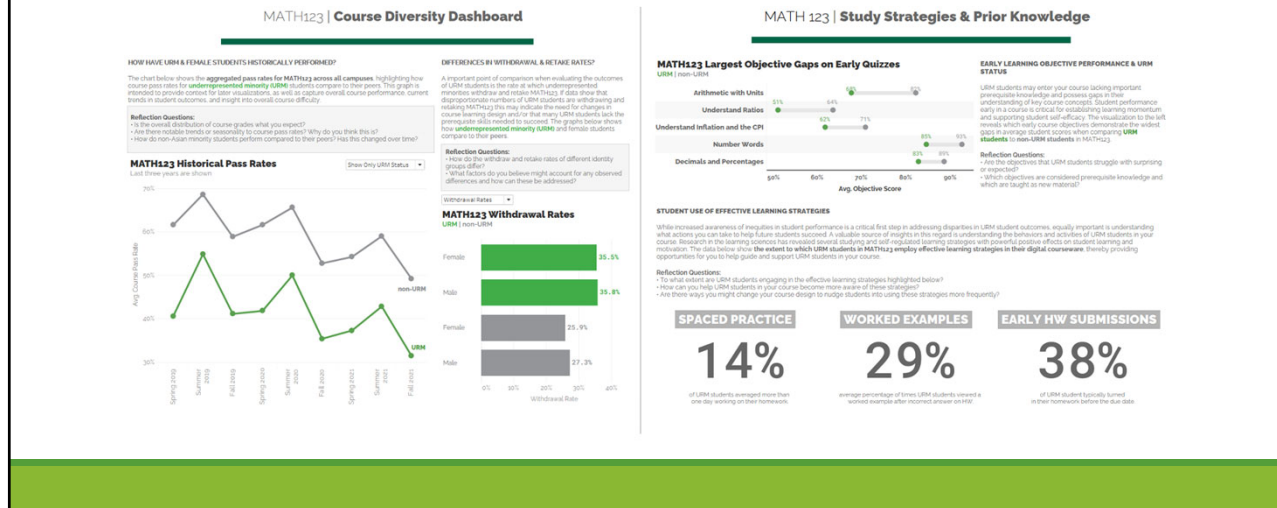
Prior Knowledge



Learning Objective Gaps on Early Quizzes
 URM and non-URM Students



Course Diversity Dashboard



Study Limitations



- Student interaction data in courseware as a proxy for student studying behaviors
- Binary outcome of passing, which is unable to reveal potentially important inequities in the underlying distribution of letter grades awarded



Next Steps

- Additional standardization of course elements across courses
- Incorporate course surveys to understand students' perceptions of their course climate and sense of belonging
- Expand data to include other important student characteristics (1st generation status, Pell eligibility, non-binary, etc.)



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