

MATH PATHWAYS

The University of North Carolina Charlotte redesigns undergraduate statistics courses to help students succeed and persist.

THE CHALLENGE

Create a "Math Pathway" for Social Sciences

Like most universities, UNC Charlotte offers their students alternative "pathways" to achieve their math proficiency – a business pathway, an education pathway. But they didn't have a pathway for their social sciences program and building one would require coordination and input from a great many stakeholders.

THE SOLUTION

The Social Sciences Math Pathways Workshop

The UNC Charlotte Department of Undergraduate Education and The Center for Teaching and Learning sponsored a three-day workshop that brought together statistics faculty as well as social sciences faculty from receiving courses to have conversations about what is most beneficial for students and what skills are necessary



for student success. Using strategic planning and visual learning design tools, iLED helped the faculty craft a vision for the project. In addition, iLED facilitated the creation of learning design patterns to use as building blocks to use as templates for course interactions.

POWERED BY LEM™

- UNC Charlotte benefitted from iLED's strategic planning system and its accompanying visual planning tools to help define the project goals. The resulting unified vision helped support collaboration and effective learning design.
- iLED assisted UNC Charlotte faculty with the design and creation of the statistics courses using the LEM™ suite of visualization tools. LEM™ allowed faculty to communicate, understand, critique, and improve proposed learning designs as they worked towards their stated goals.

"It allowed us to take this huge, long marathon and break it down into these short, manageable sprints that we could do very well on. Then we could take a breather, collect ourselves, see how far we've come, and then build on it."

Michael Smalenberger

Department of Mathematics and Statistics Instructor, UNC Charlotte

UNC Charlotte students get stuck because they have to repeat courses that are not the best fit for them. They don't find them engaging because they can't figure out how statistics will help them be better at their chosen profession. Often they have to retake the course, but sometimes this is where they get tripped up and it causes them to drop out of the university.

This three-day workshop provided a managed environment that allowed math faculty, social sciences faculty, and UNCC instructional designers to collaborate and innovate in ways that were not previously thought possible.

The Math Pathways Workshop helped craft a curriculum that will prepare students to be successful not only in their careers, but also to be successful in life. A forum where diverse faculty stakeholders participated in creating a unified vision and shared goals for the program. It provided:

- A common design language (LEM™) that enables UNC Charlotte faculty and staff to collaboratively design, diagnose, and communicate course learning interactions
- LEM™ design patterns for learning interactions that will be used to create course learning designs.

"Because it's not just about a job. In the social sciences, we're not just preparing students to be anthropologists; they go out and do a lot of things. But the statistical literacy, the mathematical literacy is what we would like to see our students have when we send them off into the world."

Coral Wayland

Associate Dean of Curriculum, UNC Charlotte