IDEA IN BRIEF

Data-driven program design in higher ed can support high-impact teaching practices. We hear from five university instructors using data in innovative ways to improve access and persistence for underrepresented students.

They show that data can enable:

- Personalized and individualized instruction
- Assets-based instruction
- Collaboration for student success across the university
- Continuous reflecting and adjusting by individual faculty
- Practices that improve student engagement

Introduction

Educational technology tools like learning management systems, adaptive courseware and electronic textbooks provide instructors with growing sources of student data, potentially offering new insights into student progress.

While some may fear that new learning technologies minimize the role of classroom instructors, National Louis University (NLU) believes data and teaching excellence go hand in hand. Using data to support high-impact teaching practices is a foundational aspect of Pathways, NLU’s four-year nonresidential undergraduate program. Pathways offers a professionally focused, supportive, flexible, affordable path to a degree that provides equity of access to underserved and low-income students.

A previous case study presented how Pathways is closing the degree attainment gap for traditional-age college students in the Chicago area by using data while designing a new high-tech, high-touch degree from the ground up. A primary goal of Pathways is to be “student ready,” taking into account the realities individual students bring to their college experience and removing roadblocks to degree completion.

That case study described how data informs program-level design and revision. But another key feature of the new program, says Aarti Dhupelia, vice president of undergraduate education and dean of the undergraduate college, is the impact of data on the classroom experience. Data from adaptive learning software and other sources allows instructors to engage more fully with students and to adapt both individual and class-wide instructional strategies. Instructors get regular snapshots of student progress, influencing lesson planning before class and even allowing them to pivot as needed during class meetings.

In short, Pathways always approaches data with the purpose of supporting teaching excellence.
What teaching excellence looks like

Stephanie Poczos, Associate Dean of General Education and Pathways, uses the words teacher and faculty interchangeably. She says, "The most progressive college faculty are teachers, not predominantly lecturers. And from a best-practice perspective, we know the best college faculty use certain instructional strategies."

First, she says, "excellent teachers have active classrooms where they are not the sage on the stage, but rather the guide on the side. They provide frequent feedback and are consistent about strengths, weaknesses and the expectations students need to meet."

Excellent teachers constantly reflect, she adds, "asking themselves after every class if they are doing their best for every student. And they collaborate with colleagues, sharing what works and asking for creative strategies to improve."

They also engage students frequently on an individual basis and use a strengths-based approach. "A strengths-based approach allows students to gain confidence and recognize their strengths and areas for improvement. If students feel confident and practice a growth-mindset, they often have more ownership and efficacy in their own education."

Ownership means overcoming fixed mindsets that students may have about their abilities. "For example," Poczos explains, "they may say, 'I am not good at math.' The reality is that everyone has the ability to improve. Using strengths-based and growth-mindset language helps students believe in themselves and achieve success."

“A strengths-based approach allows students to gain confidence and recognize their strengths and areas for improvement. If students feel confident and practice a growth-mindset, they often have more ownership and efficacy in their own education.”
Using tech for high-impact teaching

Poczos and her colleagues at NLU wanted to use technology to empower faculty to move toward those high-impact teaching practices. They selected technology tools by how they complemented effective instruction, enabling personalization, collaboration, reflection, strengths-based approaches and active learning.

“A core principle for us was that technology does not replace the teacher,” she says. “It allows them to do their job more effectively and efficiently.”

Through NLU’s adaptive courseware and their own analytics from D2L (the learning management system Pathways uses), faculty are able to see where the gaps are in student learning before they even walk into the classroom. “This is a game changer for planning,” Poczos says. “The information pulled from the software becomes a more powerful tool to guide personalized learning.”

For example, data will bring attention to individual students who are completing assignments late or who are high-achieving students but not challenged enough. It can also highlight groups of students all struggling with the same concept.

“Now you have a context in which to consider how you teach, what you teach and when you should teach it,” Poczos says. “Maybe you need to scaffold instruction more. Maybe it’s time for a station rotation or reciprocal teaching strategy. All those high-impact practices the literature tells educators to consider can now be directed at a specific challenge with a specific student because of the context the data highlights.”

In other cases, as some of the profiles below illustrate, data influences the critical contacts that individual students have outside of the classroom with teachers and with other student support colleagues who work with the same students.

Poczos says that at heart, data-driven instruction is about maximizing and personalizing how instructors spend time with every student.

“You'll often hear of how faculty are teaching to the middle, but that isn't the best education for all students,” Poczos says. “As a student, whether you're struggling or you're far exceeding your goals, a more personalized approach challenges in the way that is right for your learning path. Data gives our faculty and staff the ability to achieve that personalization.”
WHAT IS NLU’S PATHWAYS PROGRAM?
Pathways is a four-year nonresidential undergraduate program at National Louis University (NLU), a nonprofit, nondenominational university offering bachelor's, master's and doctoral degrees in the fields of education management, human services, counseling, public policy, culinary arts, hospitality and others concerned with career and professional development.

Launched in 2015, Pathways offers a professionally focused, supportive, flexible, affordable path to a degree for underserved students. The vision of Pathways is to drive equity in degree attainment and employment for low-income students. Students served in 2018:

• Were 82 percent Pell grant eligible.
• Were 82 percent first-generation college students.
• Were 70 percent Latinx, and 24 percent African-American.
• Earned an average ACT score of 17, and average high school GPA of 2.7.

Pathways has several unique characteristics designed to expand access to this student population:

• $10,000 annual tuition before financial aid, which can mean zero out-of-pocket expense for students qualifying for full federal and state aid.
• A streamlined admissions process with a 2.0 GPA or higher admissions requirement.
• Schedule flexibility, consistency and dependability (students attend classes two days a week on-campus and complete the remainder of coursework online).
• Personalized, flipped, adaptive instructional model leveraging technology and small class sizes to differentiate support for every student.
• Clear and well-rounded pathway to a degree.
• Embedded career preparation through required curriculum, work-based learning and career coaching.
• High-touch, supportive environment, with a success coach for every student and cohorted teams of instructors and staff who collaborate, informed by data, to focus on each student.

The Pathways model has been so successful that in July 2018, the Undergraduate College at NLU was established. The Pathways instructional and student support model that had been running for freshman and sophomore students now serves all four years of NLU’s undergraduate programs, both for first-time freshmen and transfer students.

Margeaux Temeltas
How Data Supports Assets-Based Instruction

Recently, one of the most engaged students in Margeaux Temeltas’ class started missing classes. When Temeltas, assistant professor and chair of the NLU English department, reached out to the student, he at first explained he was taking on more hours at work since his father had lost his job.

So Temeltas tried to talk with the student about troubleshooting the absences and adjusting his school schedule. But the conversation took another turn; the student told her he believed he was the worst student in the class.

In his mind, it didn’t matter if he dropped out because he wasn’t good at college. He told her he was “not meant to be there.”

This isn’t uncommon. Many of NLU’s Pathways students are first-generation students and come from disadvantaged backgrounds. Non-cognitive skill development is just as vital as cognitive skill development. Sometimes it can take significant “re-teaching” for students to believe they belong in school and they deserve an education.

However, students talking themselves down usually happens when their grades are below average. "But I was surprised, because the work I had seen so far had been excellent," Temeltas says.

She sat down with the student and showed him objectively in the data where his strengths lay. “This wasn’t just a pep talk. This was data painting a persuasive picture for him.”

Next Temeltas was in touch with other instructors on this student’s schedule to make sure they were aware of his circumstances and so they could reinforce that message. Ultimately, the student was able to adjust his work schedule — and adjust his own sense of himself as a student — and pass all his classes that term.

This is the kind of result Temeltas was looking for from the weekly content meetings she implemented in the English department. She called on faculty to share strategies, technology resources and lesson ideas with other instructors teaching the same course material.
Faculty at departmental content meetings also look at weekly reports on attendance, assignment completion rates and grade trends. Reviewing this data allows faculty to see how students are doing and to brainstorm additional interventions to help all students meet all the learning objectives for the English courses.

The departmental content meetings have been so successful that this year, Temeltas, a former high school English teacher who has been with Pathways since the first class of incoming freshmen in 2015, created a playbook to help instructors who lead content meetings in other departments.

One guideline in her playbook is to get qualitative feedback from instructors while taking into account the quantitative data generated by the learning management system. “We try to get a more holistic view of the student beyond the numbers,” she says. “Data is about seeing what’s going on with our students to find what additional resources we might bring into the classroom. A lot of it is just paying attention to where students are falling through the cracks early enough that we can reach out.”

Unfavorable data about a student or a group of students can be frustrating and upsetting, but Poczos reminds her faculty that “data is about the past. Faculty problem solving and creating interventions are what influence the future.”

Temeltas emphasizes that she is still doing the personal one-to-one work that excellent teaching requires. The data clarifies what she and students need to talk about. In particular, it can reveal what the student’s strengths are, which is the foundation of assets-based instruction.

For example, another guideline she recommends to colleagues is to examine what’s working, rather than just pointing out what’s going wrong. If progress reports show a student is failing two classes but getting an A in a third, she sees an opportunity that might help with the challenge. She raises that with colleagues in Student Success Collaboration meetings (see sidebar) to explore what about that subject or the instructor connects with the student. Data flags where they may be a foundation to build on, helping students apply their strengths in the more challenging courses.

“It can be easy to think the student asleep in the back of the class doesn’t care, when in reality they are falling asleep because they showed up to class after working an overnight shift,” Temeltas says. “The fact that they are there at all proves that they do care. Students may question whether or not college is right for them and whether or not they can succeed, but I don’t think it’s ever true that they simply don’t care. There is always a goal or a desire there you can work with.”
CASE STUDY

Lisa Downey

Using Data to Individualize Instruction

As NLU’s director of undergraduate teacher preparation, Lisa Downey teaches practice-based and methodology courses to the Chicago area’s future teachers. Last year, one of her students was struggling in every way, from attendance to getting work done on time to the quality of the work.

But when she spoke to the student in person, he was reluctant to talk about his struggle in the class. So she brought up his situation at the SSC meeting with his other faculty and success coach (see sidebar on page 4).

The group dug into this student’s data for the previous two years, and they found a pattern. On one hand, the student’s results on quizzes and assessments didn’t suggest he had a problem understanding the material or the concepts in his courses. On the other hand, he consistently struggled with larger, independent writing assignments.

Downey took that insight back to the classroom, sitting down with the student to create an individualized plan to help him break down his writing assignments into manageable chunks. She also devoted time to answering his questions after class.

The student’s final writing assignment for the class was an autobiography about why his culture influenced him in wanting to become a teacher. He earned an A on the paper and a B+ in the class.

“Without having been able to look at the historical data with other faculty, it would’ve been difficult to come up with the best strategy,” says Downey.

For Downey, this is modeling the principles she encourages in her students as they prepare to become teachers themselves. Teacher candidates in NLU’s undergraduate teacher preparation program are trained to create assessments that have SMART goals. Then they learn to decide which learning data is important to watch and to analyze data to understand how individual students learn. They incorporate that data into their next lesson cycle, focusing on individualized instruction within the context of planning for an entire group.

Additionally, teacher candidates who minor in Special Education learn to use data when developing Individualized Education Programs (IEPs) and to help families advocate for children.

Downey believes instructors have always intuitively used data. “Maybe they never thought about it as data, but good teaching is really learning about your students, then taking that learning to influence your teaching,” she says.

Using data to inform her teaching practice isn’t about just looking at a number on a page, she adds: “We’re using data-driven practices at the college level not just to influence the way we teach whole groups of students, but also to help support individual students in their success. It’s personalized for each student, which is a strategy we want our teacher candidates to implement in the field with children.”

Douglas McCoy

Using Data to Bring Professors Together

Last year when looking at student data, Douglas McCoy, assistant professor of social science, noticed that a student who had previously been on a strong upward path to success was now missing classes and doing poorly on assignments. But before talking with the student to find ways to get her back on track, McCoy met with the student’s success coach to learn more about what was going on.

Eventually, McCoy and his success coach colleague uncovered that the problem wasn’t with understanding the material or with her study habits. The student was having a crisis in her home life, having been kicked out of her aunt’s house due to family finances.

The team at NLU worked to get the student into their housing program and even to help her find a new job so she could continue her studies. Once the student was back on her feet, McCoy observed that she quickly returned to being engaged and on-track in class.

For McCoy, the early-warning sign data provided was a critical part of helping this student persist toward graduation. The Pathways program is designed around collaboration and problem-solving, so the model provided a roadmap to identify the problem and quickly determine an intervention.

In other words, McCoy had the data, but he didn’t have all the answers. It required colleagues coming together to examine the problem. Since different faculty and success coaches can interpret student data in different ways, Pathways is designed to bring data to the table where colleagues share insights and discuss interventions.
“From a faculty perspective, having access to that data has a huge impact on student success outside of the classroom,” McCoy says. “If life gets in the way, we have an entire team that will jump in and lend a hand. There are a number of issues you have to deal with in this sort of situation, and it’s really rewarding when you’re able to help a student find success.”

The data informs a strength-based approach to the SSC (see sidebar on page 4). For example, reviewing data might start conversations that reveal a math anxiety, technology issues or problems with transportation or home life. In every case, McCoy, other instructors and university personnel are invested in working together to understand the challenge and to find a solution.

McCoy did his doctoral dissertation on the creation of online universities and worked for over 15 years at another institution as a dissertation advisor in a higher education leadership Ph.D. program, so he has given a lot of thought to how data can support student learning in both traditional face-to-face and online learning environments.

“Many of my graduate students researched student retention in data-driven programs,” he says. “NLU’s undergraduate college has been quite exciting in that we are actually doing what the research explores—hybrid, flipped and collaborative.”

At NLU the on-campus and online environments go hand in hand. Students have access to all the resources, instructional materials and content for a more seamless experience. Meanwhile, faculty have a central location for data that informs their teaching practices. McCoy believes more institutions will use this approach to learning in the future.

Another key piece of the university’s instructional model is that collaboration is as broad as possible. Faculty from all areas of a student’s experience are involved in the SSC meetings, whether they are full time or part time. The university invests in time for instructors to attend these meetings because having everyone there is critical to developing a robust picture of the student’s success.

Faculty members aren’t working independently for a student’s success, McCoy says. He likens SSC meetings to a group of doctors and specialists getting together to analyze a patient’s health. Poczos compares the SSC meetings to the “Triage approach.” When a patient arrives needing care, multiple parties come together to find a solution. SSC meetings are the same approach, but for students.

“NLU’s program is an excellent example of a hybrid campus,” says McCoy. “Then you wrap that around this coaching model and the software to drive data, and you’ve got the key components that define an undergraduate academic instructional model that no one else is doing. This approach works.”

**Tara Bryant-Edwards**

**Using Data to Reach Students**

As an Assistant Professor in the Counseling Program at NLU, Tara Bryant-Edwards frequently discusses with her colleagues how assessment data suggests students are having issues with writing assignments.

Naturally, faculty in that program recommended students use the on-campus writing center for more support. But Bryant-Edwards also reached out to the writing support team, who sent writing coaches into the classroom for a couple of weeks.

The first goal was humanizing the people who work at the writing center. “That part of it made students more willing to go,” Bryant-Edwards says.

At the same time, the writing specialists who meet weekly with freshman and sophomores in the Pathways program were working with instructors to improve the way they explained writing assignments, improving their own ability to engage students.

The student learning data in this case led to instructors turning a critical eye on their own classroom practices. By collaborating with the writing support team, they examined what methods were actually working with the students and found tools to improve.

“This data is making us more aware of who we are as educators, as opposed to just being subject matter experts,” Bryant-Edwards says. “The instructors at NLU are invested in and passionate about teaching. Instead of saying, ‘I’m delivering this information and I hope you understand it,’ it’s more like ‘What do you need as a learner?’”

She has seen instructors help students redefine their own relationship with their education. “Our goal is to help them tap into their own desire to embrace learning and to understand who they are as learners,” says Bryant-Edwards.

“These students have figured out a way to survive and thrive in circumstances that could destroy a human. How do we continue to leverage that strength and passion in an educational environment? Data points us toward new opportunities to reach students.”
Bethany Harding

Using Data to Reflect and Adjust

Bethany Harding, assistant professor of history at NLU, teaches both of the undergraduate history courses offered to Pathways freshmen, World History and Civics and American Government.

In the Pathways hybrid model, students complete assignments in the adaptive courseware outside of the class meetings, which gives Harding data to consider before students come to class.

But rather than looking for what questions individual students missed, Harding tries to find patterns she can use to adjust her lesson plans. What types of content do students seem to be having trouble with? What questions seem to be stumping them?

Generally, she finds that when students perform poorly on the quiz material, the issue falls into two categories—comprehending the material and comprehending the structure of the question.

Some of Harding’s favorite moments are when she is able to work one on one with students. She goes through the adaptive courseware with individual students to help them identify patterns in the types of questions they missed. In one conference, she pulled out three questions the student had answered incorrectly and asked her to identify the pattern.

Presented that way, the student realized she hadn’t noticed a particular keyword common to each of the questions. That gave her a place to focus her efforts to improve. “My favorite moment was when I saw her two weeks later and she told me, ‘I passed,’” Harding says.

Harding also uses different technologies to engage students during her classes and to make adjustments on the fly. She uses conferencing software for screen sharing to ensure all students are looking at the same material being discussed. Quick polling software allows students to give short answers, which can be combined and analyzed immediately. “It helps me get a read on their knowledge in real time,” Harding says.

Having a wealth of data and instructor experience surrounding each student allows Harding to tailor her instructional and support strategies to the particular needs of her students, whether that’s in lesson planning or one-on-one lessons. “To me, it’s just one piece of how dynamic and innovative the program here is,” says Harding.

For example, in a recent Civics and American Government course, Harding saw that some students were stumped by questions about differentiating between influences on the U.S. Constitution. That told her she needed to spend class time reviewing sections in the textbook and creating new lessons that covered that information.

Other errors, however, clustered around questions worded in a way that asked students to identify things that were not true. (e.g. “Which of the following was not a factor?”) In that case, she devoted class time to helping students understand what’s being asked by looking for signal words like “not,” “most,” “best,” and “least” within questions.


About National Louis University

National Louis, a nonprofit, nondenominational university, offers bachelor’s, master’s, and doctoral degrees in the fields of education, management, human services, counseling, public policy, culinary arts, hospitality and others concerned with career and professional development. National Louis’ roots date back to 1886 when it first began providing educational access to adult, immigrant and minority populations. Our mission is to provide innovative and superior and supportive educational experience for students of all ages and backgrounds, and we are committed to the preparation of professionals who serve their communities. Serving more than 9,000 students at locations in Illinois and Florida, we are proud of our alumni who are using their education to serve others. Learn more at www.NL.edu. For more information about Pathways at National Louis University, Stephanie Poczos, Associate Dean, General Education and Pathways, at Stephanie.Poczos@nl.edu.

122 South Michigan Avenue, Chicago, Illinois 60603-6119

www.nl.edu © National Louis University, 2019