

As part of their effort to redesign developmental education and refine placement practices, Jacksonville State University tested EdReady as a low-stakes math placement tool. Early results are promising for this approach as an alternative to traditional high-stakes placement exams that have frequently proven to be poor predictors of student college-math success.¹

INSTITUTIONAL PROFILE

Jacksonville State University (JSU) is a four-year, public institution in Alabama with approximately 8,500 enrolled students. It is located in a low-income area and a significant number of students are the first in their families to attend college.

BACKGROUND

In Alabama, 71% of 8th graders and 80% of 11th graders require remediation in math. Half of the first-year students at JSU were failing college algebra. This high failure rate was not only imposing a hardship on students and their families, it also cost JSU millions of dollars in lost tuition revenue when failing students dropped out of school.²

Regarding math remediation, “This is a huge need in our state,” notes Courtney Peppers-Owen, the Director of Learning Services at JSU. “In the state of Alabama, the difference between a high-school diploma and a bachelor’s degree is about 3 million dollars in lifetime earnings.”

Like most institutions, JSU historically relied on high-stakes exam scores – from Compass, SAT, and ACT – to place students in appropriate math courses, including developmental math. “We know that’s not a competency-based placement, and we’ve been questioning that for years,” says Peppers-Owen.

Seeking better student outcomes, the JSU administration charged the faculty with developing a better, faster, and more cost-effective way to improve college-math readiness. The JSU faculty partnered with The NROC Project to develop solutions. One of the approaches was spearheaded by the Department of Learning Services, which tested the traditional high-stakes placement model against a low-stakes approach supported by the EdReady platform.



DETAILS

WHO WAS SERVED: Entering JSU Freshmen

WHEN: Fall 2014 to present (ongoing)

NUMBER OF STUDENTS: 968

STUDY QUESTION: How does EdReady — a low-stakes college-math placement tool — compare to traditional, high-stakes placement tests when measuring pass rates of first college-math courses?

RESULTS:

Students placed in college math using their EdReady diagnostic score were significantly more likely to pass versus students placed by traditional, high-stakes placement tests (85.8% vs. 80.2%). This difference was most pronounced for STEM students. EdReady placement also led to a significant reduction in STEM student withdrawal and incomplete versus traditional placement (6.2% vs. 10.9%).

STUDY METHODOLOGY

New JSU students were sent an email informing them about the importance of college-math readiness to ensure college success and directing them to the JSU EdReady website. JSU emphasized that the EdReady diagnostic exam was not a high-stakes test, but an inventory of their math skills. The purpose of using EdReady was to support their efforts to be ready for college math. Students were encouraged to be honest while completing their EdReady assessment so they could have a clear picture of the skill gaps that would need to be addressed prior to the start of the school year.

¹ Judith Scott-Clayton, *Do High Stakes Placement Exams Predict College Success?*, CCRC Working Paper No.41, February, 2012. <http://ccrc.tc.columbia.edu/media/k2/attachments/high-stakes-predict-success.pdf>

² Beckett, S. W., *Targeting fractions to remediate cumulative dysfluencies in a college developmental algebra classroom*, December 2015. Jacksonville, AL.

Students were informed that an EdReady diagnostic score of 43 was sufficient to be deemed college-math ready for non-STEM students, and that an EdReady diagnostic score of 70 was required to be deemed college-math ready for students pursuing STEM degrees and certificates. If students were not satisfied with their initial EdReady diagnostic score, they were encouraged to work through their individual study path at EdReady and improve their score. In this way, students could still avoid remedial math courses by showing score improvement in EdReady. Students worked independently to assess and improve their college-math readiness in the months before school began (Fall semester).

For the purpose of this study, JSU tracked a sample of 968 students who placed into college-level math, 338 of whom were placed based on their EdReady scores, and 630 of whom were placed based on the traditional high-stakes metrics. After the semester concluded, the college-math grades for the sample students were recorded so they could be compared to the grade performance of EdReady-placed students versus traditionally-placed students.

RESULTS

Whether A-C or A-D is used as “passing grades,” students placed with EdReady performed significantly better in college-math courses than students placed in the traditional manner. Dividing the students into STEM and non-STEM cohorts reveals that it is the improvement by the STEM cohort that is responsible for all of the difference in performance; the non-STEM cohort performed equally well either way. In addition, there were significantly fewer STEM students who did not complete or withdrew from college math when those students were placed using EdReady versus the traditional model.

“I thought it was interesting that, with...very little one-on-one contact and follow-up and progress monitoring, students still worked more than the minimum required for the pre-calculus algebra; many of the students worked it all the way to [a score of] 100.”

—Courtney Peppers-Owen, Director of Learning Services at JSU

DISCUSSION

These findings clearly call into question the efficacy and rationale for using high-stakes approaches to managing college-math readiness. While the reason that students performed equally well or better with the EdReady-supported low-stakes approach has not been established, JSU’s Department of Learning Services has some insights that are worthy of further testing. A high-stakes exam, for example, effectively serves as a barrier to entry for new students, denying them opportunities they would have had if they had only been able to “pass” that exam. By contrast, a low-stakes approach provides a supportive framework for students to evaluate their readiness and take action (and leverage institutional supports) to put themselves in the best position for post-secondary success. Whether students simply needed a math refresher or had a lot of catching up to do, EdReady’s low-stakes approach empowered students to achieve readiness and gave supporting staff the data and tools to help students along.

JSU plans to continue their investigation of low-stakes versus high-stakes college-math placement. Future studies will explore the decisions that led EdReady-placed STEM students to persist and succeed in their studies (instead of withdrawing or earning an incomplete) in greater numbers than those students placed in the traditional manner. ■

Basis for comparison		EdReady placement	Traditional placement	Statistic
Passing grades (A-C)	Combined	74.3%	66.3%	n=968, X ² =6.449, p<0.011
	STEM	76.1%	63.0%	n=662, X ² =12.336, p<0.000
	Non-STEM	68.4%	72.2%	n= 306, X ² =0.433, p=0.510
Passing grades (A-D)	Combined	85.8%	80.2%	n=968, X ² =4.768, p<0.029
	STEM	86.5%	78.4%	n=662, X ² =6.101, p<0.014
	Non-STEM	83.5%	82.0%	n=306, X ² =0.056, p=0.815
Withdraw or Incomplete	STEM	6.2%	10.9%	S1 n=403, S2 n=259, 2-sample test for difference, Z=-2.20, p<0.028
	Non-STEM	8.9%	10.6%	S1 n=227, S2 n=79, 2-sample test for difference, Z=-0.45, p=0.652

Outcomes for Students Placed Using EdReady (Low-Stakes) vs. Traditional Methods (High-Stakes)