Impact of Online Discussion Platform and Pedagogy on Student Performance at Community Colleges

Introduction

Quality online discussion has never been more important in higher education, and getting it right can be challenging under even the best circumstances. Fortunately, artificial intelligence—when utilized thoughtfully—has great potential to increase discussion quality, student engagement, and outcomes.

To better understand how AI can improve online discussion, 10 community colleges across the country participated in a study with Packback, examining outcomes for more than 100 instructors and 5,000 students in treatment and control groups. Results from the study's fall cohort show that Packback's approach to AI and faculty coaching drives greater student engagement than traditional online discussion tools —and that, in turn, increases faculty satisfaction and engagement and, ultimately, student grade attainment.

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Packback's people are so engaging and supportive, and have actually gotten our faculty excited. Everyone always says, "When students are engaged with the content, they will be more successful" and that is exactly what we saw with Packback.

Dr. Kathy Cecil-Sanchez
VP of Instruction at Lone Star College-University Park

How this Study was Conducted

Packback conducted this research in partnership with ten community colleges and systems across the country. The findings included in this brief summary are based on preliminary results from Harrisburg Area Community College, Lone Star College - University Park, and Florida State College of Jacksonville.

Study Dataset
Over **100,000** Discussion Posts Analyzed
5,000 Students *(across treatment and control)*
100 Instructors
10 Community Colleges and Systems

Finding 1: Improved student engagement and better discussion quality

Students using Packback for online course discussion are more engaged than students using the LMS discussion board. At Florida State College of Jacksonville (FSCJ) and Harrisburg Area Community College (HACC), for example, students using Packback are not only more likely to post, but participation is of higher quality.

Compared to LMS discussion control

All results shown are statistically significant at the **1%** *level.*

Students on Packback were nearly 2X *(HACC)* **and 2.5X** *(LSC-UP)* **more likely to post.**

Students on Packback write more *(38% increase in posts over 150 words)* **and use more rich text** *(87% increase in formatted posts)* *(FSCJ).*

Students on Packback cited sources 5x as often *(HACC)*, **and nearly 2x as often** *(FSCJ).*

Students were nearly
2x more likely to post

68.5%

**36.9%**

Packback   LMS
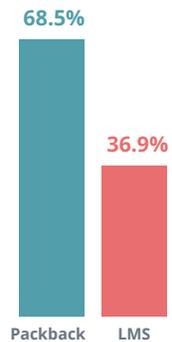
% of students who posted week-over-week

Data from HACC

Finding 2: Increased instructor satisfaction with the course discussion

In turn, faculty responded to students' curiosity with increased engagement of their own, and they reported high levels of satisfaction. Because the Packback platform uses AI for routine administration of the discussion board, faculty members have observed better discussion results without increased administrative effort. That recovered time is then redirected towards higher impact interactions with students.

Instructor Survey Question

I find my students questions and conversations more dynamic and genuine, as compared to previous terms.

50%

40%

30%

20%

10%

0%

Strongly Agree   Agree   No Change   Disagree   Strongly Disagree
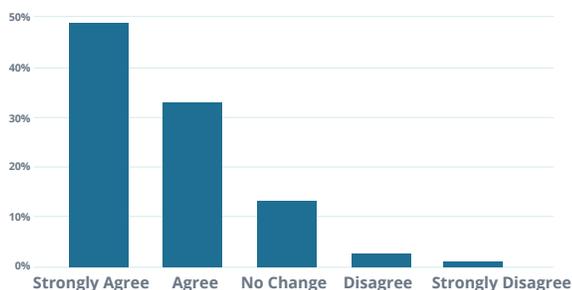
Aggregated survey, 10 study institutions (75 instructor responses)

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My students have been using Packback this term, and I've found that they are enjoying it. And since they are enjoying it, I'm enjoying it.

Taurie Gittings-Wheeler

*Humanities Instructor at Miami Dade College*

Grading discussion postings has become drastically less time consuming, which has always been a challenging process in the past.

Crystal Scheib

Anthropology Instructor at HACC

Finding 3: Improved grade and course completion outcomes

Students using Packback were more likely to have earned an A in their course than students using LMS discussion, and less likely to have earned a D, F, or W. 2 of the 5 schools reflected in this preliminary study summary showed no statistically significant increase or decrease in grades, while 3 of 5 showed a positive increase.

KEY

A   B   C   D / F / W / FN / I
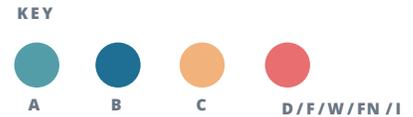
At FSCJ in Online courses, students using Packback had a
**54% increase in A's, and a
47% decrease to earn D's, F's, or W's.**

A's **+54%**   B's **+65%**   C's **+11%**   DFW's **-46%**

+100%

0%

-100%
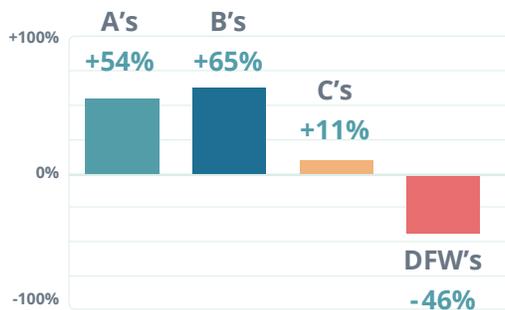
Data from Florida State College at Jacksonville, in Online courses
*Data statistically significant at the **1%** level.*

At LSC-UP, students using Packback showed a
**24% increase in A's, than students in the
same course using LMS discussion historically.**

A's **+23%**   B's **-10%**   C's **-10%**   DFW's **-15%**

+100%

0%

-100%
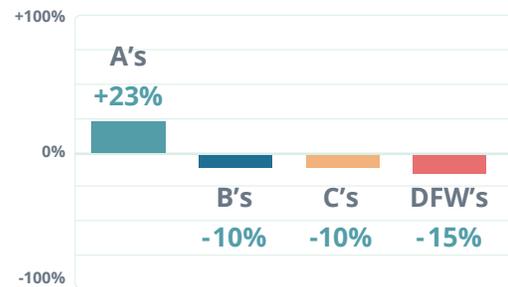
Data from Lone Star College, in primarily Face-to-Face courses
*Data statistically significant at the **10%** level.*

About Packback

Packback is an inquiry-driven online discussion system that engages students' cognition and motivation through the process of asking open-ended questions. Packback's Digital TA (AI) helps instructors moderate the discussion, give feedback, and grade participation automatically, providing instant feedback to students while saving instructor time.

This study builds on a robust existing body of research showing that when students are exposed to engaged peers and participate in inquiry formation, their performance improves.

485K
Student Learners

2.6K
Instructors

200
Institutions

Want to join this study?
Packback continues to study how AI-powered discussion can drive student curiosity, increased motivation, and improved outcomes. Please contact our team if you're interested in learning more about this study or about ways Packback could support your institution's work.

Email the Packback team at:

curious@packback.co