

Impact of Online Discussion Platform and Pedagogy on Student Outcomes

Examining the Impact of the Use of
Packback Compared to LMS Discussion

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About this Study

This study compared the use of the discussion platform **Packback** to institutions' current **Learning Management System-based discussion** solution. The study examined the impact of discussion platform (and corresponding interaction model) on student engagement, discussion quality, grade outcomes, and qualitative faculty and student feedback.

10 institutions participated in this study and obtained IRB-approval from their respective institutions. Data collected included raw discussion posts from both the control group (LMS discussion) and treatment group (Packback discussion), as well as qualitative survey results, and course grade and withdrawal information for both groups.

Population

68,820

Discussion Posts Analyzed

1,079

Students using Packback
(Treatment Group)

1,786

Students using LMS
(Control Group)

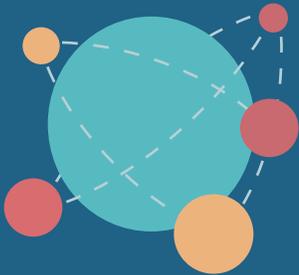
10

Participating Institutions



Summary of Findings

Students using Packback had the following outcomes, when compared to students using the existing learning management system (LMS)-based discussion board and interaction model:



1. Improved Student Engagement

Students on Packback wrote **more posts** overall (despite equivalent requirements in both groups) and each question received **more responses** compared to the control group.



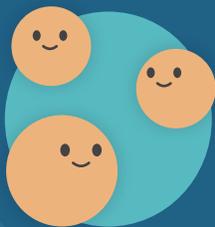
2. Improved Discussion Rigor and Quality

Students using Packback **cited sources more than 2X as often**, wrote **more posts longer than 120 words**, and had a **higher median word count** compared to students in the control group.



3. Improved Course Grade Outcomes

Students using Packback received **significantly more A's** and **fewer D's and F's** as compared to students in the control group. Similar findings were observed when compared to historical data.



4. Positive Student and Faculty Satisfaction

Students and faculty **rated Packback favorably** in surveys. Instructors reported observing **higher quality discussion**, and reported **spending less time managing discussion**.

What is Packback?

Packback enables inquiry-driven asynchronous student discussion, combining both platform and implementation pedagogy to deliver consistent results.

The Packback system enforces an inquiry-driven, student-led discussion pedagogy through its features and design. Through the use of AI-based writing coaching, moderation, and scoring, Packback provides a personalized learning experience to each student, while reducing the administrative burden on instructors. The platform was designed to make it easy to implement an inquiry-driven discussion model in any course, regardless of size, subject, or modality.



What are you curious about?

How can the process of osmosis be applied to products?

Add more details to your question!

We learned about osmosis today in our Introduction to Biology class. As an engineering student, I was interested in researching how this biological phenomenon is applied in products used in everyday life today.

I found out that osmosis is used in the **process of preserving food products**, used in **kidney dialysis machines**, and more. What other applications of osmosis can be designed by people?

Source

Instant Feedback



- ✓ Great use of an open-ended question!
- ✓ Appropriate use of paragraph breaks.
- Cite a source to increase your post's credibility.
- ▲ You may be using passive voice. **Review.**

Introduction

A robust body of research indicates that quality online discussion can lead to better discussion quality and interaction, greater faculty satisfaction, and improved course outcomes. And getting discussion right is especially critical—both during and well beyond the COVID-19 crisis—as online education continues to grow, along with the use of online discussion to support blended and fully in-person courses.

But strong outcomes are far from guaranteed, and the model for discussion has a major impact. Pedagogy that supports intrinsic student motivation—by supporting robust peer-to-peer interaction, asking students to formulate and pose inquiries, and encouraging them to assume a kind of teaching role with peers—can be especially powerful.

This paper aims to add to our understanding of online discussion and how to maximize it to improve outcomes along with the faculty and student experience. To do so, 10 institutions participated in a research study with Packback, an inquiry-based discussion platform that uses artificial intelligence (AI) to provide a personalized learning experience in discussion. The study, which involved the analysis of 67,910 student discussion posts, grade outcomes, and

survey data comparing the use of Packback versus LMS discussion boards the institutions were using.

The findings revealed that students who use Packback are more likely to substantially contribute to online discussions, which improves grades and retention *without* burdening the instructors with additional work.

The treatment group using Packback showed improved instrumental measures of discussion quality (source citation rates, post length, posting frequency) as well as statistically significant improvements to final grade outcomes. Similar findings to those included in this study have been replicated in independent studies.

These findings speak to the outcomes and benefits driven by Packback, but also more broadly to the efficacy of inquiry-based discussion and the use of AI to facilitate it. The need for effective online discussion is well established for online courses, and this study has shown that asynchronous inquiry-based discussion is an effective way to consistently reap the benefits of online discussion.

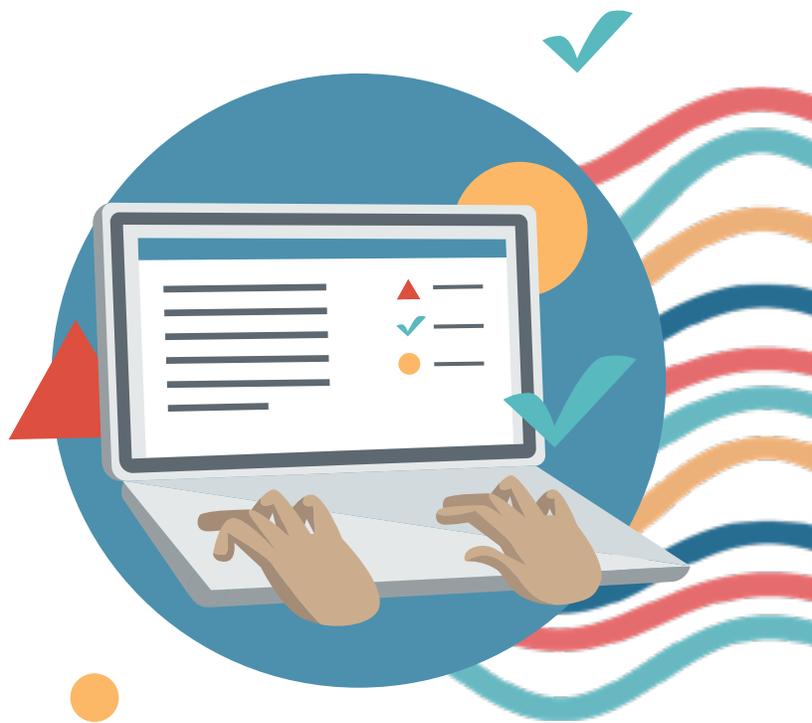
Literature Review

Pedagogical Basis for the Use of Online Discussion

The presence of a discussion community for online courses has been shown to be a key predictor in the success rates achieved in that online course (Sun & Chen, 2016). Calderon, Ginsberg, and Ciabocci (2012) found that students consider the opportunity to interact with peers and faculty via discussion board or other online communication tools to be one of the most effective aspects of an online or blended learning course.

Discussion has additionally been shown to improve learning outcomes. The merits of online discussion include improved active learning behaviors and enhanced learner outcomes (Wilson et al. 2007). When discussion is implemented with effective moderation, students show higher levels of critical thinking in their posts (DeLoach and Greenlaw, 2007).

The responses students write tend to improve in response to the quality of responses received by peers (DeLoach & Greenlaw, 2005), and DeLoach and Greenlaw (2005) identified that there are “critical thinking spillovers” observed in these interactions not found in other classroom interactions or assignments. There has been a positive relationship observed between the level of student interaction in online discussion and the presence of critical thinking, measured by taking the average number of in-depth statements a student made compared to the average number of direct



references made to other students' posts in their content (Williams & Lahman, 2009). Further research has shown that interpersonal interaction via online discussions promotes learning through a deeper level of reflection on the course material and through exchange of ideas and feedback (Wyss, Freedman & Siebert, 2014).

But online discussion is not just an alternative method for achieving existing learning outcomes in a new medium. In addition to supporting learning outcomes found in traditional writing assignments, online discussion has been shown to support learning outcomes that are unique to the online discussion medium, including interpersonal communication, greater metacognition (Calderon & Sood, 2018), self-reflection, environment management, and regulation (Ke, 2013). Additionally, discussion online allows educators to capture and create space for interpersonal and reflective interactions that would otherwise go uncaptured and that are often seen as secondary to cognitive learning goals (Calderon & Sood, 2018). The benefits of a dedicated space for interpersonal and reflective interaction can be seen as even more necessary in online courses, in which students lack the ability to casually interact with peers in a face-to-face setting.

Beyond learning outcomes achieved within the discussion itself, online discussion has shown potential to improve students' performance in the course overall. Wilson (2007) showed that students who began courses with lower "grade point averages" earned better grades after reading feedback from instructors and messages from peers (Wilson et al. 2007).

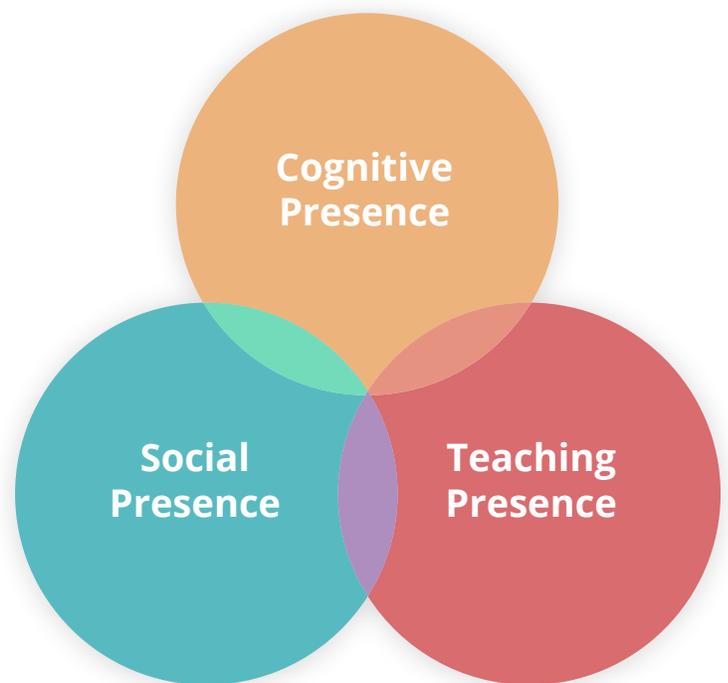
In 2016, the Stanford CEPA research team ran a study that demonstrated that the more peer-peer interactions a student receives in the discussion—specifically, being directly replied to or nominated ("named") by a peer—led to improved discussion engagement by the student who received the nomination. Additionally, overall course outcome improvements were

observed for students who received more nominations or interactions from peers, as opposed to students who received less peer interaction. This effect was exaggerated for students who were a part of marginalized communities (Bettinger et al., 2016).

Impact of Discussion Interaction Model on Learning Outcomes

Despite these promising findings, a well-established body of research exists that demonstrates that the mere presence of online discussion is not sufficient for attaining improved learning and course outcomes. The specific discussion pedagogy and interaction model utilized have a meaningful impact on the interaction generated via the discussion, and the course outcome improvements that can be tied to online discussion.

The Community of Inquiry model (Garrison & Vaughan, 2008; Garrison, Anderson, Archer, 2010) outlines a widely acknowledged model for online discussion design to enable students to attain high levels of metacognition in their posts. In the Community of Inquiry model, the individual learner should have a Cognitive Presence in the discussion, which requires the student to reflect and conceptualize course content and generate inquiry; a Social Presence, which requires the student to have open communication with peers in a group setting; and a Teaching Presence, which requires the student to have a moderating role within the community.



Above: The Community of Inquiry Model Framework

In the Community of Inquiry model, the process of students formulating

their own questions is seen as essential. In the Col model, the “Cognitive Presence” is represented through the Practical Inquiry Model (Garrison & Vaughan, 2008), a cycle wherein students take in information from the outside world via course lecture, resources, or other students’ posts, reflect on and synthesize the information internally, and then generate an inquiry that extends upon the information to share back out to peers. Garrison shows this cycle of inquiry formation as essential to the learning process, and inherent in the Community of Inquiry model for discussion.

It is worth noting that while the “teaching presence” is frequently discussed as being provided by the teacher, the original text and subsequent research from Garrison and Akyol outlines “teaching presence” as a moderating presence in the community, ideally played with increasing independence by the student themselves (Garrison & Akyol, 2011). Ke (2013) described this practice of guiding the discussion through inquiry and moderation as “environment management”.

More recent research has extended the Community of Inquiry model to explore the specific interaction models that encourage effective engagement and critical thinking in online discussion. Ke (2013) performed an a priori analysis of discussion content which compared the results generated in discussion communities using different interaction models across three dimensions; student-student interaction, student-instructor interaction, and student-content interaction. The study found that a discussion environment with high levels of student-student (SS) and student-content (SC) interaction and comparatively low levels of

...discussion environments with high levels of student-student (SS) and student-content (SC) interaction and comparatively low levels of student-instructor (SI) interaction led to the highest rates of engagement and generated posts that demonstrated higher levels of critical thinking and metacognition.

Feng Feng Ke, 2013

student-instructor (SI) interaction led to the highest rates of engagement and generated posts that demonstrated higher levels of critical thinking and metacognition (Ke, 2013). This study theorized that the higher levels of cognitive and metacognitive attainment displayed in communities with a high student-student and low student-instructor interaction model was likely due to students being able to fill the “teaching presence” role as described in the Community of Inquiry model, and feeling comfortable to assert their opinion and provide feedback to peers when not in the direct presence of the instructor, who would be the expert on the topic. These findings align with and support the Community of Inquiry model, in which it is recommended that the student play an increasingly active and independent role in fulfilling the “teaching presence” in the discussion as the course progresses.

While the Community of Inquiry model is widely known and accepted, there is not yet complete consensus in the research on a single ‘most-effective’ online discussion pedagogy. A model recommended by Lane in 2014 proposed an instructor-led and structured approach to online discussion wherein a new discussion thread is created for each new topic, requiring students to reply to the same thread multiple times and to respond to instructor feedback on successive posts. Brooks and Bippus (2012) put forth a study that recommends the currently widely used discussion interaction model in which students respond to an instructor-posted question and then respond to other peer’s responses.

It is possible that the range of discussion recommendations put forth in research is evidence of different evaluation models used by researchers to assess the efficacy of discussion. This is plausible, as online discussion is a communication medium through which communication and interaction take place, rather than a fixed assignment. Individual essay assignments, for example, can have very different goals, evaluation mechanisms, and outcomes from one another, while still both broadly being defined as

essays.

Current State of Online Discussion Research

As noted by Calderon (2013), the ability to tie a learning activity directly to a learning outcome is often a requirement for accreditation. However, research into online discussion efficacy and the impact of discussion on learning outcomes is still emerging.

Studies into the efficacy of online discussion have used a number of indirect measures to attempt to quantify the value of the activity, from direct measures like surveying student reactions to the assignment (Matthews and La Tronica-Herb, 2013), analysis of instructors' qualitative reactions to the discussion content (Klisc, McGill, and Hobbs, 2009), or instrumental parameters like post length (Brooks and Bippus, 2012; Wong & Fong, 2014) and interaction frequency (Ionone, 2014).

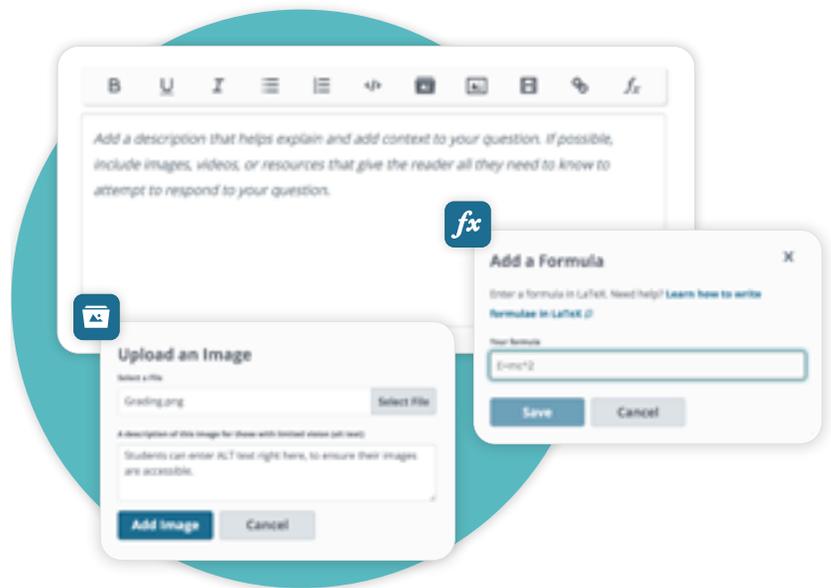
Additionally, a range of studies have sought to analyze learning outcomes driven by online discussion using a priori methods for classification and analysis, often based on criteria used to analyze traditional writing assignments, such as metacognition (Calderon & Sood, 2018). Henri (1992) played a pivotal role in shaping the earliest efforts to measure outcomes in the cognitive dimension in online learning, building a classification model with five cognitive categories of elementary clarification. This body of work was extended by Hara, Bonk, and Angeli (1998, 2000) to further classify the roles played by students as "starters" (initiating discussion) or "wrappers" (responding to discussion). The Community of Inquiry model is the result of an a priori discussion analysis measuring the level of metacognitive attainment in student discussion posts (Garrison). Ke's (2013) a priori analysis yielded several new aspects of learning observed in the discussion that are unique to the online discussion environment, including environment management, reflection, and self-regulation.

Calderon and Sood (2018) recognized that most research to-date had sought to measure discussion learning outcomes using a priori methods, and designed a study to use an a posteriori methods to group and analyze posts after collection to identify if any online discussion-specific criteria emerged. Through a posteriori analysis of discussion post content, Calderon and Sood generated a criteria with three dimensions for assessing online discussion content; contextual (content mastery), interpersonal communication, and meta-learning (reflection). The “meta learning” level was an unexpected finding and was evident in posts on the discussion board thread whose content expanded beyond simply responding to the question posed by the instructor in the discussion prompt (Calderon & Sood, 2018).

State of Research on Discussion Technology and Tools

The most widely used tool for facilitating online discussion is the campus Learning Management System (LMS). Interesting and creative ways of utilizing the LMS discussion board have been explored. Matthews and La Tronica-Herb (2013) described a learning assignment designed to simulate working in public service roles. Students were assigned specific roles in public service and had to simulate discussion to attempt to introduce and pass bills.

As evidenced by the range of outcomes observed in research into online discussion efficacy to date, it is absolutely possible to achieve



a pedagogically sound online discussion model in the Learning Management System, but results are highly variable based on the applied interaction model and can vary in attainability based on instructor time, pedagogy, and course size. Currently, the most widely used discussion implementation model prioritizes instructor-posted questions in lieu of student inquiry, with students posting a reply to the instructor-posted question and two of their peers. Often, a rubric-based moderation and scoring method is used to score discussion.

Barriers to implementing and scaling a student inquiry-driven discussion model exist in the Learning Management System, both technical and practical. Technical challenges of implementing an inquiry based discussion model in the LMS include the increased burden on instructors to moderate and review the increased number of top-level discussion threads generated through student inquiry as compared to a single instructor-led discussion thread, as well as the challenge of showing their presence in the discussion in a visible and prominent way when student attention is spread across multiple top-level threads.

While there is strong support for a discussion environment that prioritizes student cognitive presence, social presence, and teaching presence through an inquiry and student autonomy, this discussion interaction model is still not widely used. This paper explores the impact of an inquiry-driven, student-led discussion interaction model and platform on course engagement metrics and outcome metrics, to explore if effective discussion can also have a positive influence on the course overall.



There is strong support for a discussion environment that prioritizes student cognitive presence, social presence, and teaching presence, the tenets of the Community of Inquiry model.

Study Design

Research Questions

- 1. Do course outcomes or discussion quality differ in courses using Packback versus the LMS for discussion?**
- 2. Do students or instructors report differences in satisfaction and quality of discussion experience when using Packback versus the LMS for discussion?**
- 3. Did course outcomes during COVID-19 differ in courses using Packback vs. the LMS for discussion when compared to pre-COVID-19 historical data?**

Experimental Design

This quantitative study used data from 10 institutions, which participated in an IRB-approved A/B test of the institution's existing discussion platform and discussion interaction model versus an emerging discussion platform for facilitating inquiry driven learning.

Courses were selected that had two or more sections taught by the same instructor. The first section of each course continued to use the existing discussion platform (LMS) and implementation model, while the second section adopted the Packback platform.

To make it possible to accurately analyze differences in course outcomes, discussion engagement, and quality between the two segments, the experiment required that both course sections were matches along the following dimensions: they both allocated the same grade percentage to discussion; they both had the same number of required posts per week; and they both had the same instructor reviewing discussion posts in both experimental groups to compare content quality with qualitative assessment.

Control Group and Treatment Group

Control Group (LMS Discussion)

Students in the control group sections used the institutions' LMS discussion solution.

- Used an **instructor-led discussion model** in which the instructor posted the questions.
- Students posted one reply to the instructor post and two responses to peers.
- Many of the control group courses used **rubrics** for grading that involved minimum word counts.
- An equal percent of the grade was allocated to discussion in both treatment and control.

Treatment Group (Packback Discussion)

Students in the treatment group sections used the Packback discussion solution.

- Used an **student-led discussion model** in which students posted the questions.
- Students posted one open-ended question, and responded to two peer questions.
- Treatment group courses were **not** graded on a rubric; they utilized Packback's built-in feedback system.
- An equal percent of the grade was allocated to discussion in both treatment and control.

Data Collection

The Fall 2019 research cohort included 607 treatment students, and 1251 control students. The data set collected and analyzed in the Fall cohort contained 51,389 total discussion posts: 21,125 from Packback and 30,264 from the Learning Management System.

The Spring 2020 research cohort included 472 treatment students, and 535 control students. The data set collected and analyzed in the Spring cohort contained 17,431 total discussion posts; 8,447 from Packback and 8,984 from the Learning Management System.

Results and Analysis

Results from both the fall and spring cohorts indicate that Packback’s approach, leveraging AI and an inquiry-driven interaction model, drives greater student engagement and discussion quality than do many traditional online discussion tools.

Student engagement, in turn, increases faculty satisfaction and engagement and, ultimately, student grade attainment. For example, the study found students are more likely to post—sometimes twice as likely—and to leave longer responses on their peers’ posts when using Packback versus a traditional LMS. We know from the research and user feedback that this greater level of interaction is both a measure of—and a driver of—student engagement.

The findings in this study show that an inquiry-driven interaction model and technology can support highly engaging, rigorous discussion that improves overall course outcomes and satisfaction.

This section breaks down this and other key findings across four areas: student engagement, discussion quality, faculty satisfaction, and engagement, and outcomes. It lays out results from the study while also highlighting user experiences.

Note: Unless otherwise stated, all P-values reported in this work are the result of one-tailed Z-tests on the differences between two proportions.

“**I really don’t like it when discussion boards have a lack of communication. When the board is quiet and no one participates in useful and purposeful conversations, the discussion board becomes useless.”**

Pre-Survey quote from a student at Harrisburg Area Community College, before using Packback

Finding 1: Increased Student Engagement

The results from the study found that students using Packback for online course discussion are more engaged than students using their institution’s LMS discussion board as measured by various metrics, including how active students were throughout the term and how many posts they wrote overall.

Median and Average Posts Per Student

We were able to capture the first metric, how likely students were to post, by examining both the median posts per student and the average replies per post. As Table 1 shows, students using Packback score higher on both of these metrics than students using traditional LMS discussion boards.

Table 1

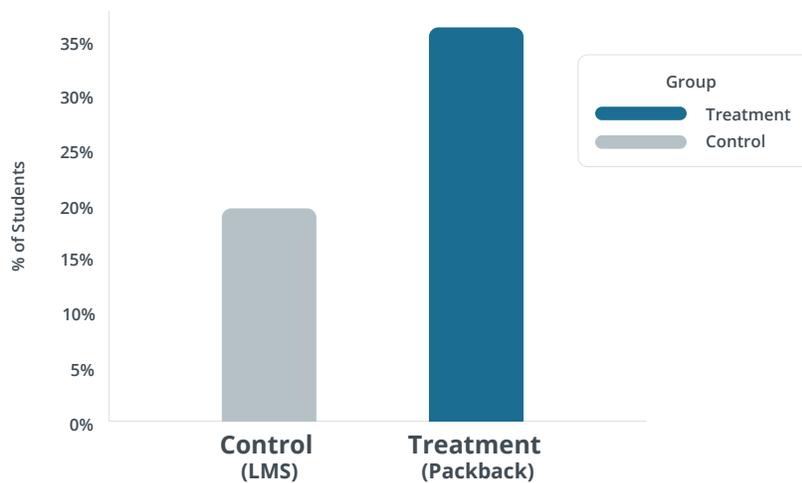
	Fall 2019		Spring 2020	
	Control	Treatment	Control	Treatment
Median posts per student	13	29	11	18
Average replies per post	2.20	2.87	1.86	1.90

Engagement Rates (Weekly Active Users)

In Spring 2020, students on Packback demonstrated more consistent engagement rates throughout the term than students using the LMS discussion board. Overall, Weekly Active User rates (WAU) in the treatment group were **1.83X** that of the control group. Weekly Active Users were defined by a student logging in and submitting at least one post.

Figure 1

Average Weekly Active Users %, Control vs. Treatment



At Florida State College at Jacksonville, for example, Scott Cason, Interim Department Chair of Humanities and humanities professor, noticed within weeks that students in his world religions course were interacting differently on Packback than they had on the traditional LMS he had used in the past. Students weren't posting to hit a class requirement, but were organically conversing about class topics that interested them. And he noticed more effort too, with 80% of posts citing sources. "This is more than a learning tool for the classroom," Cason says. "It improves the overall experience for students, both personally and academically."

This is more than a learning tool for the classroom. It improved overall experience for students, both personally and academically.

Scott Cason

Florida State College at Jacksonville

Cason's colleague at FSCJ, Patricia Crews, saw a similar difference in student engagement and in the level of connection among students. "I recognize my students more than I ever have before, and they know each other," she said. "I've never had a more personable class who genuinely wants to talk to one another about what we're learning."

Finding 2: Improved Discussion Rigor

The study found that students using Packback reflected more rigor in their writing than did the contributions of students using a traditional LMS discussion board. Students using Packback generally wrote more overall and cited sources more often.

At Florida State College of Jacksonville, for example, students wrote more, showed greater organization and effort, and were five times more likely to include sources. In instructor Troianne Grayson's course on human growth and development, an average of 94% of students posted each week, and their replies were longer than their own original questions, indicating real peer-to-peer engagement and back-and-forth interaction. 80% of posts in her course included sources. "I have enjoyed the quality and depth of thought that my students are displaying in their posts," Grayson said. "At first, some complained, a lot, about having to do so much work. However, at the mid-class check-in, students repeated over and over again that they were surprised about how much they were learning [on Packback]."

Students repeated over and over again that they were surprised about how much they were learning [on Packback].

*Troianne Grayson
Instructor at Florida State College of Jacksonville*

Source Citation

Overall, discussion posts in the Packback group were over twice as likely to include a source as posts in the control group using LMS discussion. Both sources in the "source" field and source links extracted from the body of posts were considered in this analysis to account for differences in user interface across the treatment and control groups.

Figure 2

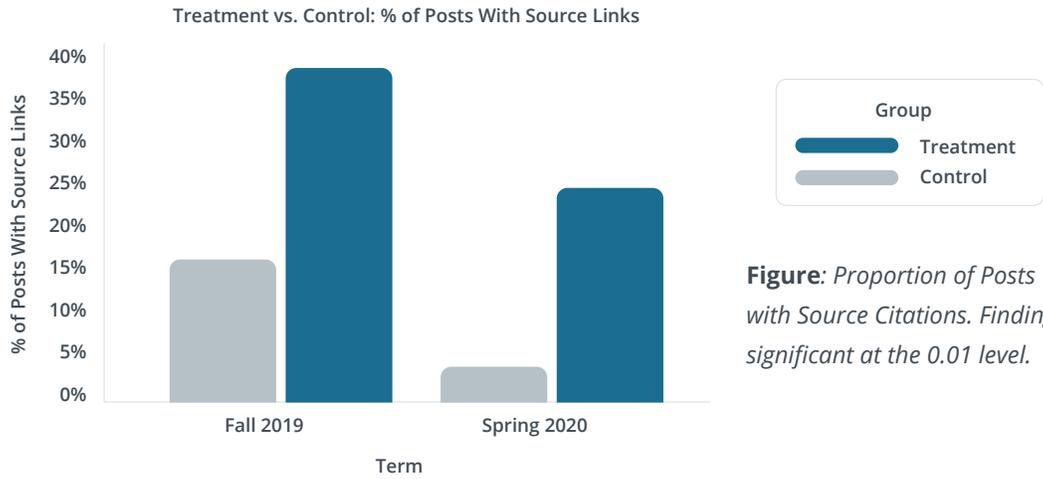


Figure: Proportion of Posts with Source Citations. Finding is significant at the 0.01 level.

Word Count

As Figure 3 shows, in both Fall 2019 and Spring 2020, students using Packback were more likely to create posts that were over 120 words in length. Figure 4 shows the overall distribution of word counts for all the posts in both the treatment and control group. The posts from the Packback group are centered at a higher median word count; in the Spring 2020 term, median word count in the treatment group was 5.88 % higher than the control group. The distribution of median word count is also tighter, demonstrating less variation in post length.

Figure 3

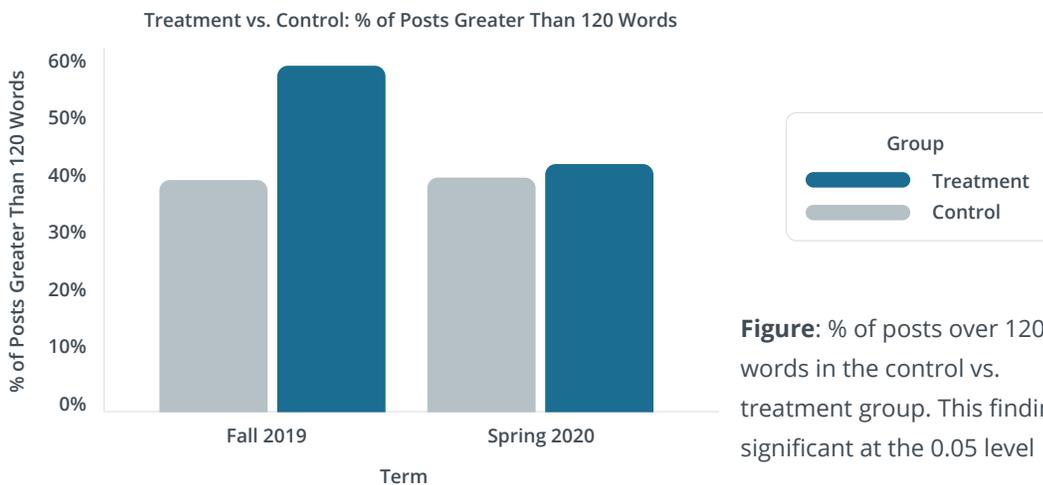


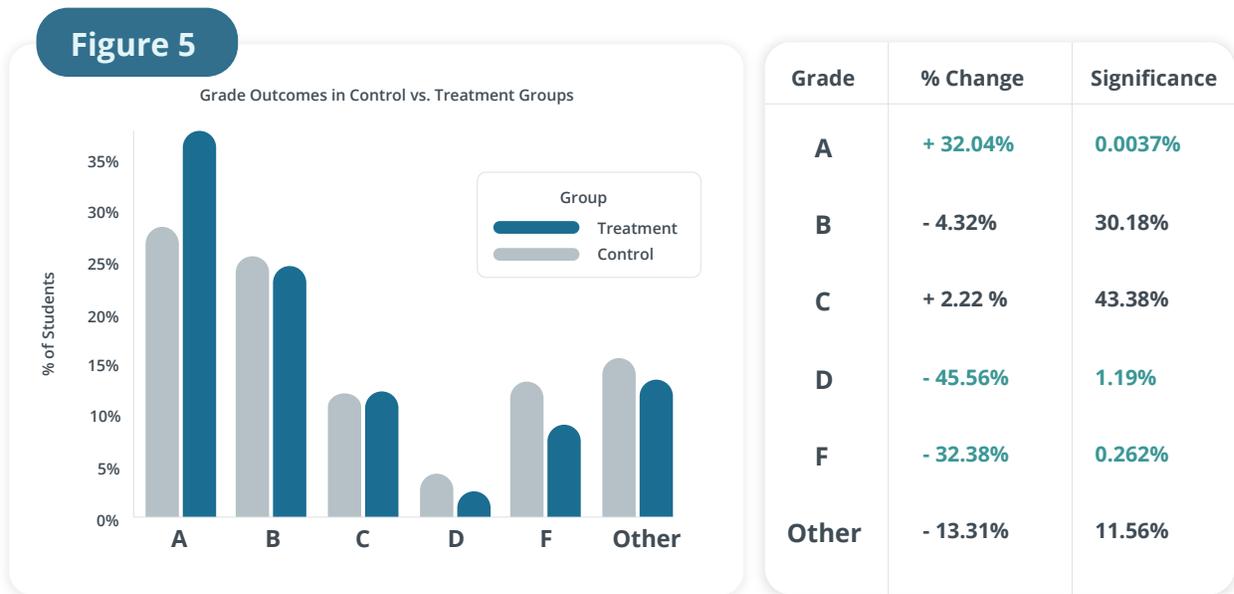
Figure: % of posts over 120 words in the control vs. treatment group. This finding is significant at the 0.05 level

Finding 3: Improved Grade Outcomes

Evidence indicates that Packback’s approach to inquiry-based discussion has a more positive impact on student grade outcomes.

Treatment vs. Control Group Grade Data

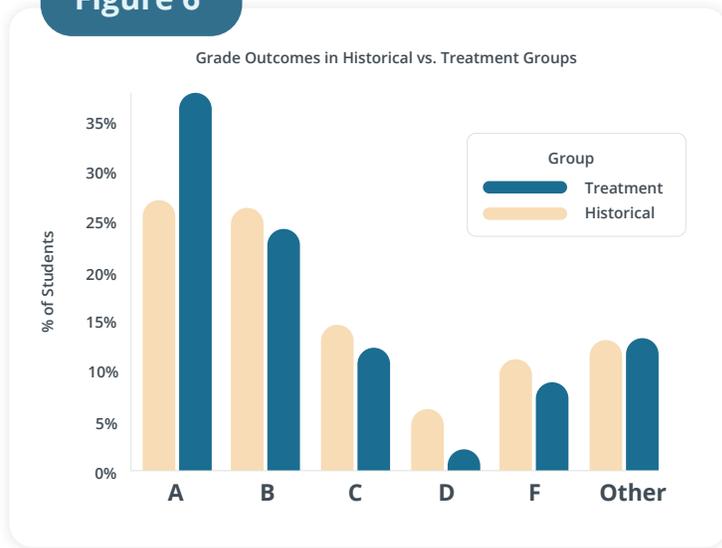
Students using Packback in the treatment group were more likely than those using other discussion tools to have earned an A in their courses, and were less likely to have withdrawn or earned a D or F than students in the control group.



Treatment vs. Historical Grade Data

Figure 6 further examines this finding, comparing the Packback treatment group students with historical trends. In both comparisons, students using Packback were more likely to earn an A in their class and less likely to earn a D or an F. While withdrawal rates were slightly higher than historical data (+ 0.59% change) this result is not significant (P-value = 47.32%).

Figure 6

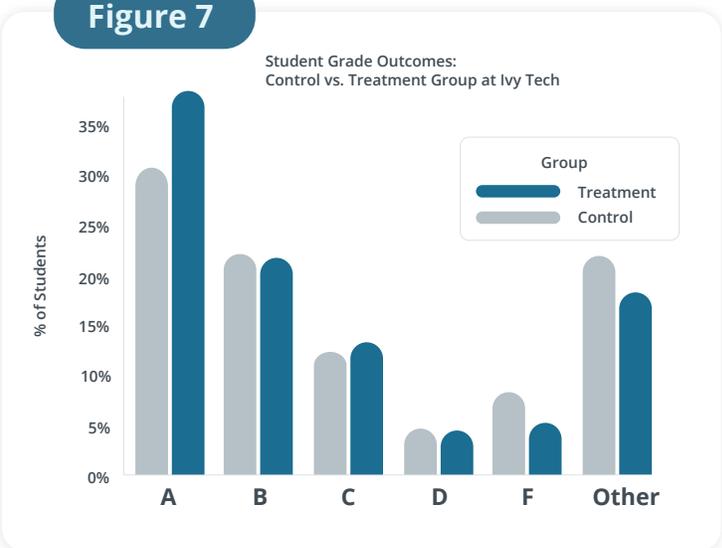


Grade	% Change	Significance
A	+ 39.19%	< 0.001%
B	- 7.06%	12.04%
C	- 17.16%	2.24%
D	- 62.48%	<0.001%
F	- 20.98%	1.78%
Other	0.59%	47.32%

Preliminary Findings from the Fall 2020 Term

Preliminary findings from the Fall 2020 and Spring 2021 that show equally promising results. In figure 7, grade outcomes for the control and treatment group are shown for the Fall 2020 term at Ivy Tech for the Fall 2020 term. Further data is forthcoming.

Figure 7



Grade	% Change	Significance
A	+ 24.21%	<0.001%
B	- 1.59%	39.02%
C	+ 6.9 %	29.5%8
D	- 12.53%	17.85%
F	- 39.37%	0.004%
Other	-18.7%	0.052%

Finding 4: Improved Satisfaction

Faculty are responding to students’ curiosity and the quality of discussion with increased engagement of their own, and they report high levels of satisfaction.

Lise-Pauline Barnett, an English professor at Harrisburg Area Community College, found her students’ enthusiasm to be contagious. She’d used online discussion tools before, but never with the same results. “I’m seeing a real engagement with my students in how they’re enjoying responding to each other’s questions,” she said.

Figure 8

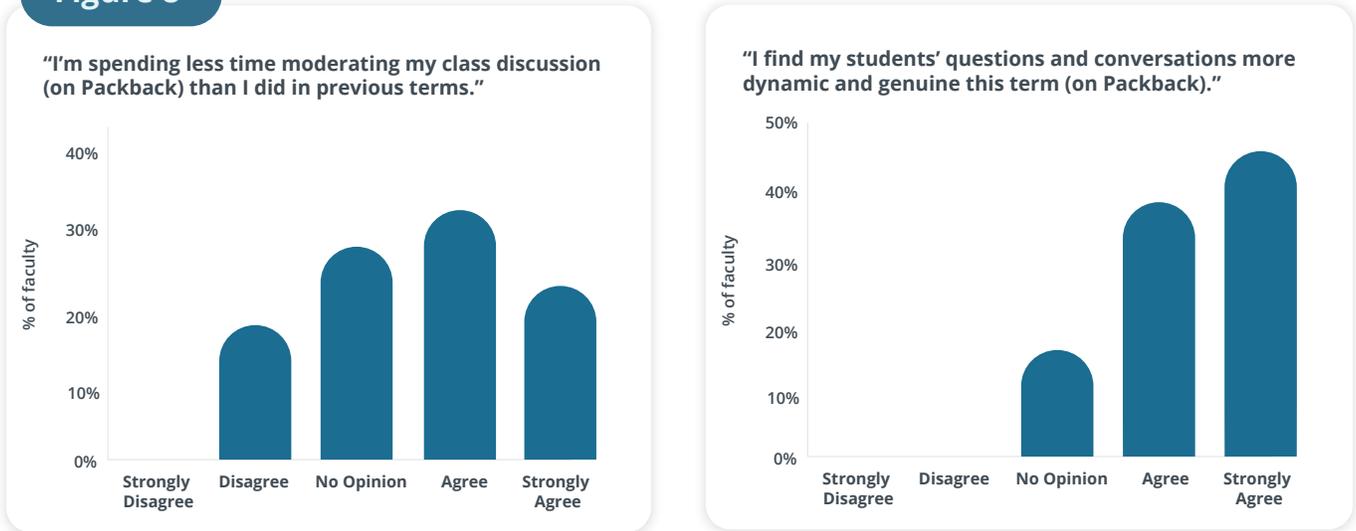


Figure: Survey included 44 responses from faculty participating in the study.

Faculty also proved highly receptive to Packback’s suggestions and coaching, with coaching leading to increased action on professors’ part and ultimately more engagement from students. And because the tool uses AI for routine administration of the discussion board, faculty members aren’t necessarily putting in more time. Instead, they are swapping administrative work for more meaningful—and higher impact—interaction with students. One of Barnett’s colleagues in the anthropology department

at HACC, Crystal Scheib, noted that she was able to spend more time privately coaching students and highlighting thoughtful posts, rather than being buried in administrative work.

Student satisfaction surveys further confirmed these findings, as students using Packback rated it higher than those using other tools across multiple dimensions, including engagement, knowledge retention, platform design, and whether they understood how to improve their posts.

Perhaps most important, Packback students were more likely to give high ratings on two additional questions in the post-survey, saying that the tool helped them feel more confident in their ability to formulate higher quality questions and that it helped them learn course material more effectively and retain concepts. And in open-ended questions, students regularly said that they enjoyed having more direct interaction with their peers in discussion, and that doing so kept them engaged.

As one student wrote:

“What I liked best was that I was able to ask the questions that I was curious about and have discussions with classmates, which was a more interactive way of learning.”

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

Crystal Scheib

Instructor at Harrisburg Area Community College

Conclusion

The conclusions drawn from this study extend the work of Garrison and contemporaries to further their assertions that the implementation pedagogy (interaction model) and specific platform selected for facilitating online discussion may drive significant differences in student learning outcomes resulting from the online discussion activity.

The findings from this study suggest that the Packback platform—and its inquiry-based discussion pedagogy—may play a significant role in boosting student engagement, increasing faculty satisfaction, and driving better academic outcomes across face-to-face and online courses, even compared to the impacts driven by online discussion hosted within the Learning Management System.



In the wake of the COVID-19 pandemic, online education has rapidly transformed from a “nice-to-have” for many colleges and universities to an absolute imperative. The coming months will bring many difficult questions for institutional leaders grappling with the need to both support students in the near term—and develop an effective distance learning infrastructure to prepare for future challenges.

Further research is needed to expand the study sample to include additional institutional profiles (4-year institutions, graduate institutions, and online institutions). Research on this study continues with a growing dataset from participating institutions. These results, taken alongside the context of existing research on effective online discussion, provide a guidepost for institutional leaders looking to design courses that take full advantage of current technology, improve instructor satisfaction, and increase student engagement.

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