

# Packback Deep Dives

## Results of the Fall 2022 Deep Dives Research Study

Packback Deep Dives is a platform for writing assignments that gives every student an AI writing tutor, and gives every instructor an AI grading assistant. Deep Dives was released for the Fall 2022 term. In its first semester of use, students using Deep Dives have reported receiving better grades, feeling more confident in their writing, and enjoying writing assignments more. Instructors reported significantly faster grading times, easier and more manageable grading overall, and greater satisfaction with the quality of student writing.

### Summary of Findings

#### 11% more A's compared to historical grades

11% increase in students reporting receiving A's on their Deep Dives assignments, compared to past writing assignments without Deep Dives ( $P=.0026$ ).

[View details on page 2](#)

#### 89% increase in instructor satisfaction with student writing

89% increase in instructors reporting that they were either "Very Satisfied" or "Satisfied" with their students' writing after using Deep Dives ( $P=.0003$ ).

[View details on page 5](#)

#### 88% of students found the AI writing feedback from Deep Dives helpful

88% of students reported that Deep Dives' AI Writing Assistant was helpful to their writing process, with 26% of students reporting that it was "Very Helpful" (5 on a 5-point scale).

[View details on page 4](#)

#### 30% faster average grading time per essay for instructors

After using Deep Dives, 75% of instructors were able to spend less than 10 minutes grading an individual essay on average, compared with 41% before Deep Dives. The average grading-time-per-essay decreased from 13 minutes to 9 minutes.

[View details on page 6](#)

# Student Outcomes with Deep Dives

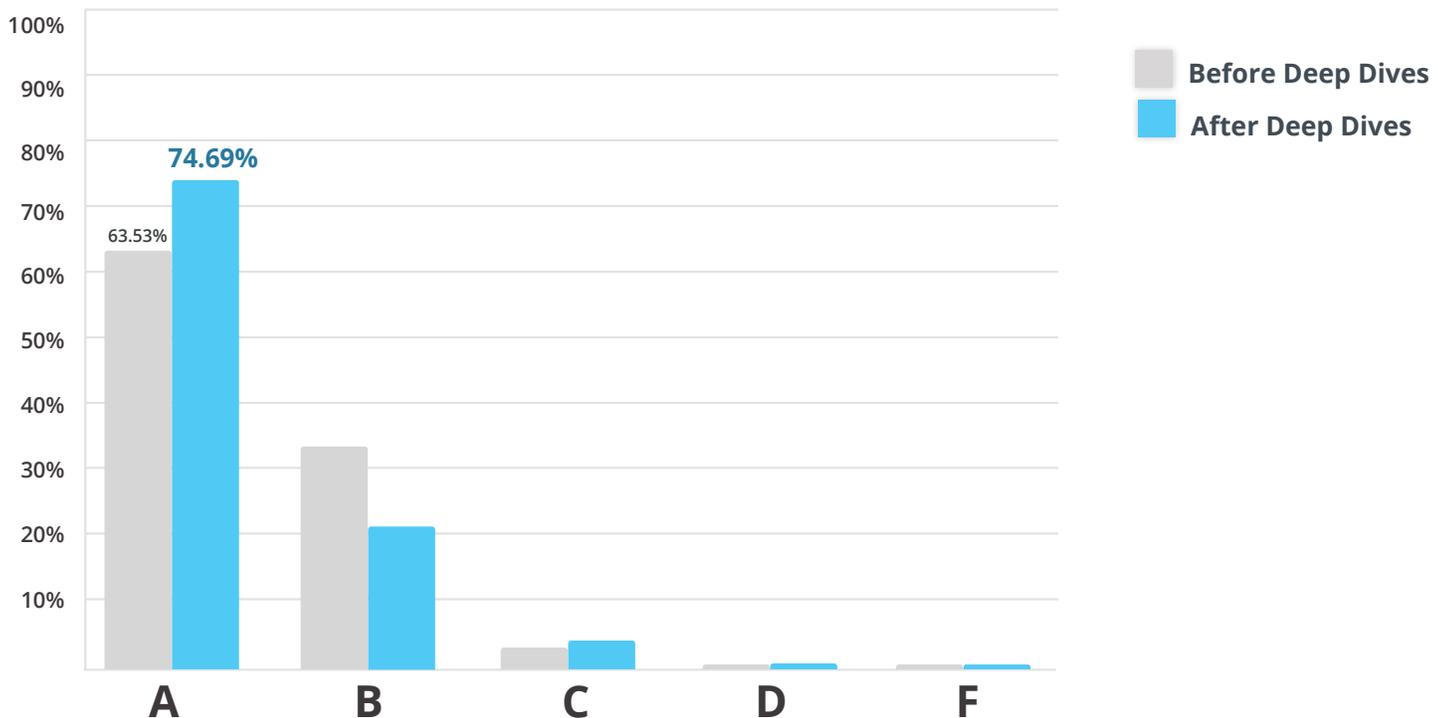
While Deep Dives is a powerful grading assistant for instructors, it is *first and foremost* a platform for supporting students with their written communication skills. Rather than students needing to walk across campus to the writing center, Deep Dives provides instant AI writing feedback on students' writing and research quality right *instantly*, helping them edit and submit their best possible work.

**Student Survey Methodology:** Students using Deep Dives in Fall 2022 were sent a single survey that contained questions asking about their experiences before and after using Deep Dives. The survey received **612 responses**.

## Student Finding 1: Improved Student Grades

**Key Takeaway:** 11% increase in students reporting receiving A's on their Deep Dives assignments, compared to the grades they received on past writing assignments without Deep Dives (P=.0026).

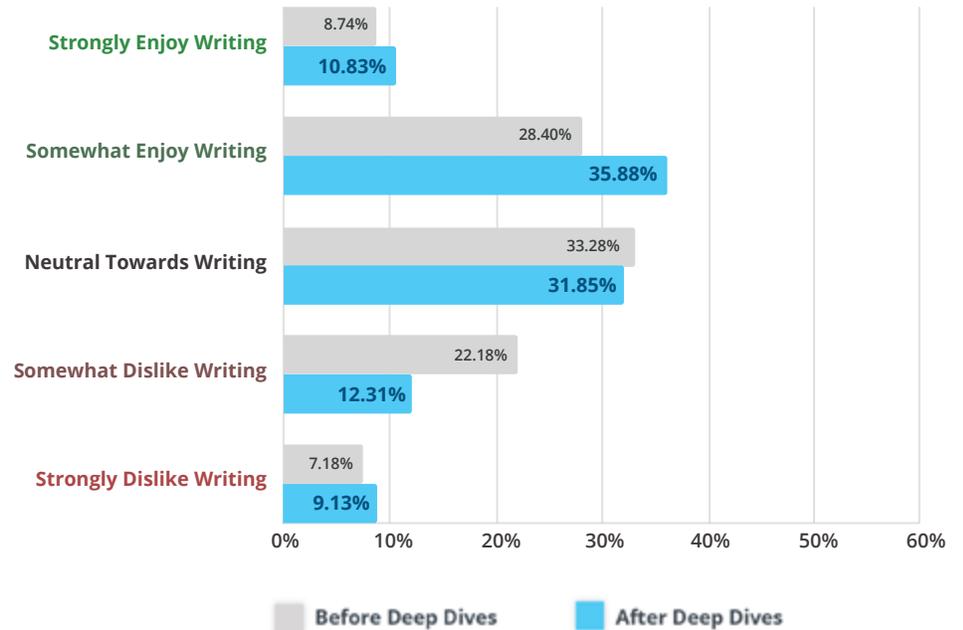
Student Average Grades Received on Writing Assignments



## Student Finding 2: Students Enjoying Writing More with Deep Dives

**Key Takeaway:** 26% increase in students reporting enjoying writing assignments (P=.0008), and a 27% decrease in students reporting they dislike writing assignments (P=0.0013) after using Deep Dives, compared to baseline responses prior to using Deep Dives. See student quotes for more detail on page 4.

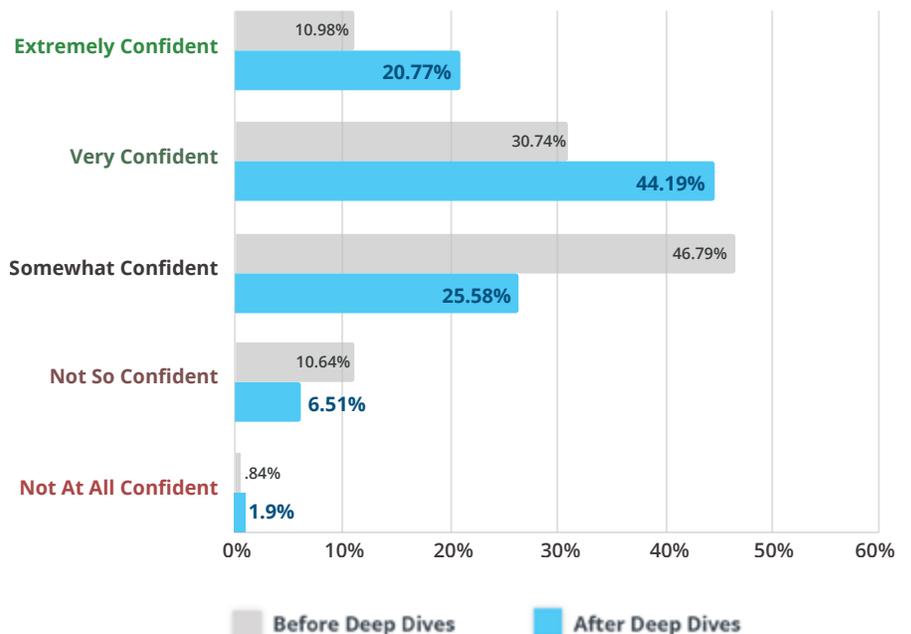
How much do you enjoy writing assignments?



## Student Finding 3: Improved Student Writing Confidence

**Key Takeaway:** 55% increase in students reporting that they feel confident when completing writing assignments (“Extremely confident” or “Very confident”) (P<0.001), and a 26.39% decrease in students reporting that they don’t feel confident (“Not so confident” or “Not at all confident”) (P=.0428)

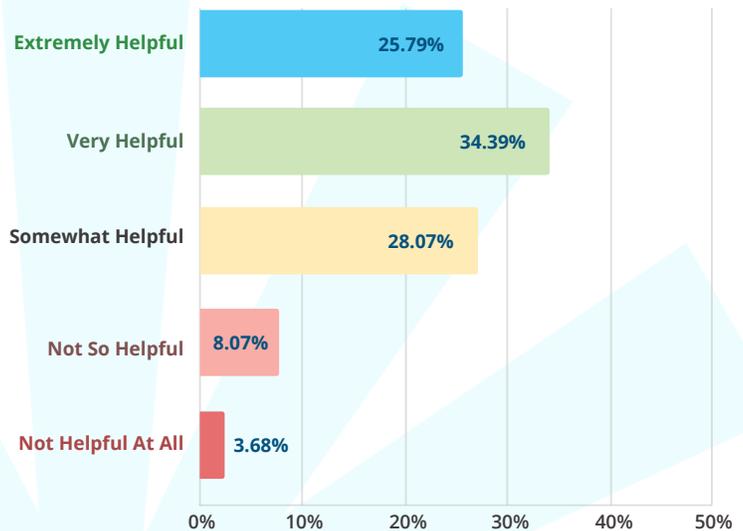
How confident do you feel when completing writing assignments?



## Student Reactions to Deep Dives

**Key Takeaway:** 88% of students report that the Packback Deep Dives AI feedback was helpful (either “extremely helpful”, “very helpful”, or “somewhat helpful”).

**How helpful do you find the feedback you receive from the AI Writing Assistant in Packback Deep Dives?**



**“Deep Dives give me a sense of confidence when writing. It reassures me that I’m following the prompt. The live feedback I receive is also a game changer when writing, because it prevents me from the minor mistakes I may have not noticed without Deep Dives.”**

~ Student feedback, Fall ‘22 Deep Dive survey

**“The feedback I get from using Packback doesn’t just tell me what to correct, but instead tells me why what I wrote could be misinterpreted and gives me reasons for why the feedback is being given.”**

~ Student feedback, Fall ‘22 Deep Dive survey

**“I enjoy that I can get feedback while I am writing my essays. I have been able to become a stronger writer by reading the feedback.”**

~ Student feedback, Fall ‘22 Deep Dive survey

**“The writing assistant has been very helpful in sharpening my writing skills and improving my use of English.”**

~ ESL Student feedback, Fall ‘22 Deep Dive survey

# Instructor Outcomes with Deep Dives

**Instructor Survey Methodology:** Instructors using Deep Dives in Fall 2022 were sent a “pre” survey before the start of classes, which received 53 instructor responses in August ‘22. The same instructors were then sent a “post” survey at the midpoint of the term in October ‘22, which received 40 instructor responses. All raw data is available on request.

## How did the instructors included in this survey use Deep Dives?

### 3.72 Average Assignments

Instructors in this survey assigned an average of 3.72 Deep Dives assignments per course in Fall 2022.

## What kinds of assignments are represented in this survey sample?

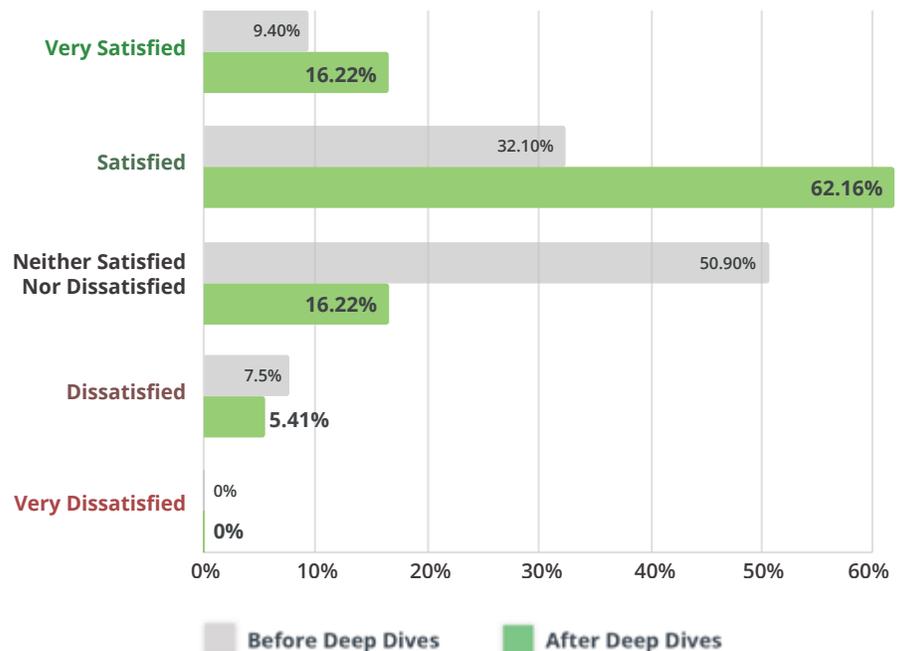
- Lab reports
- Research papers
- Rhetorical analysis
- Personal reflections
- Case analysis



## Instructor Finding 1: Improved Satisfaction with Student Writing

**Key Takeaways:** 89% increase in instructors reporting that they were either “Very Satisfied” or “Satisfied” with their students’ writing after using Deep Dives (P=.0003), compared to the writing in the past 3 years before using Deep Dives. After Deep Dives, **78%** of instructors report being Very Satisfied or Satisfied with students’ writing, compared to **42%** before using Deep Dives.

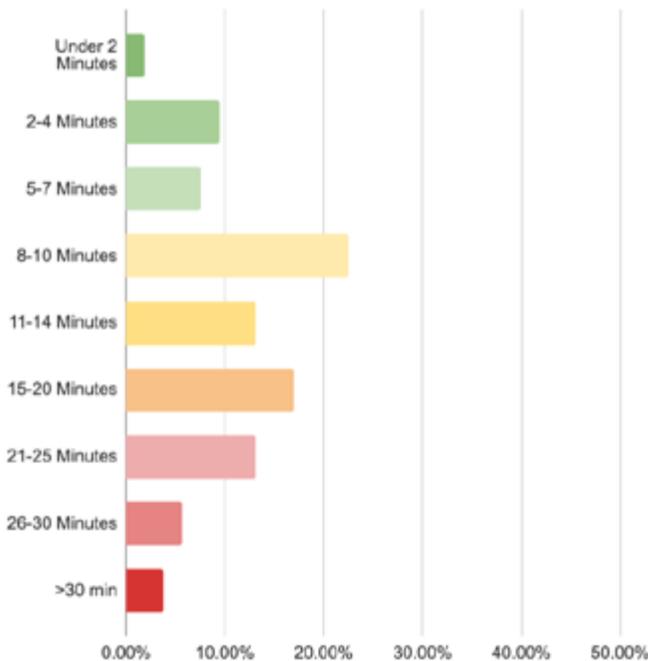
### How satisfied are you with the quality of your students’ writing, on average?



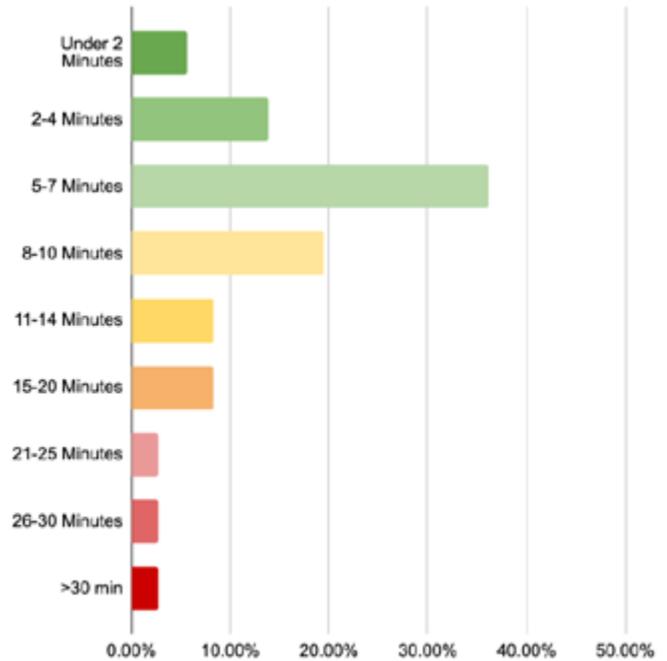
## Instructor Finding 2: Faster and More Manageable Grading

### Less Time Spent Grading an Individual Essay on Average

**Key Takeaways:** 30% Average Grading Time Savings: Before Deep Dives, the average time instructors spent grading an individual essay was 13 minutes. With Deep Dives, the average time spent grading an individual essay is now 9 minutes.



**Grading Time Before Deep Dives**



**Grading Time After Deep Dives**

**19%** of instructors spent < 8 min grading an individual essay on average before Deep Dives.

**56%** of instructors spent < 8 min grading an individual essay on average after Deep Dives.

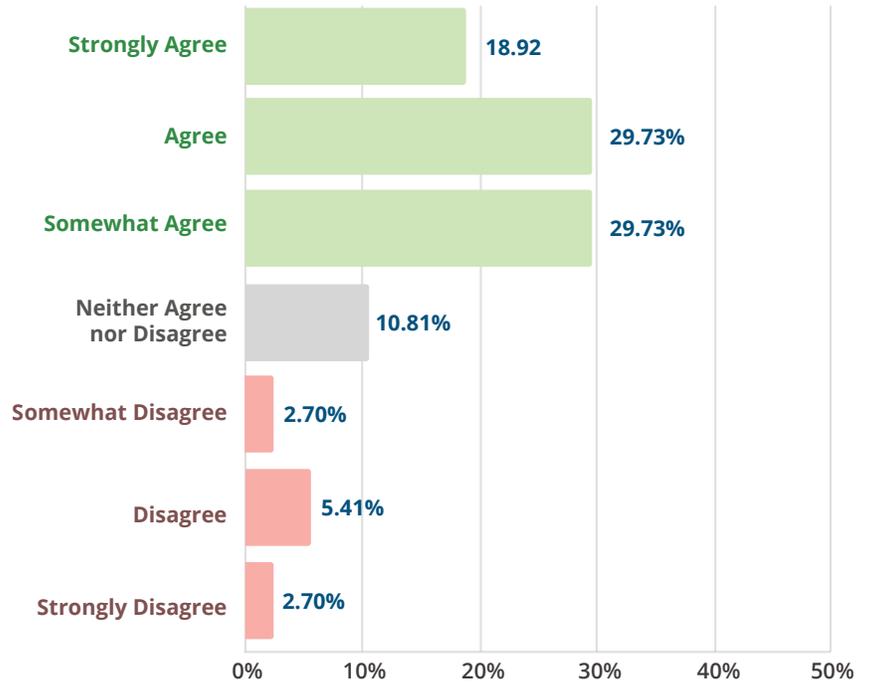
**41%** of instructors spent < 10 min grading an individual essay on average before Deep Dives.

**75%** of instructors spent < 10 min grading an individual essay on average after Deep Dives.

Results showed a 55.60% increase in instructors spending less than 8 minutes grading an individual essay submission on average (P=. 0002), and a 75.04% increase in instructors spending less than 10 minutes grading an individual essay submission on average (P=. 0009). Both findings are significant at the .05 level.

**Key Takeaways:** 78% of instructors agreed that assigning writing is more manageable when using Deep Dives, than in classes without Deep Dives.

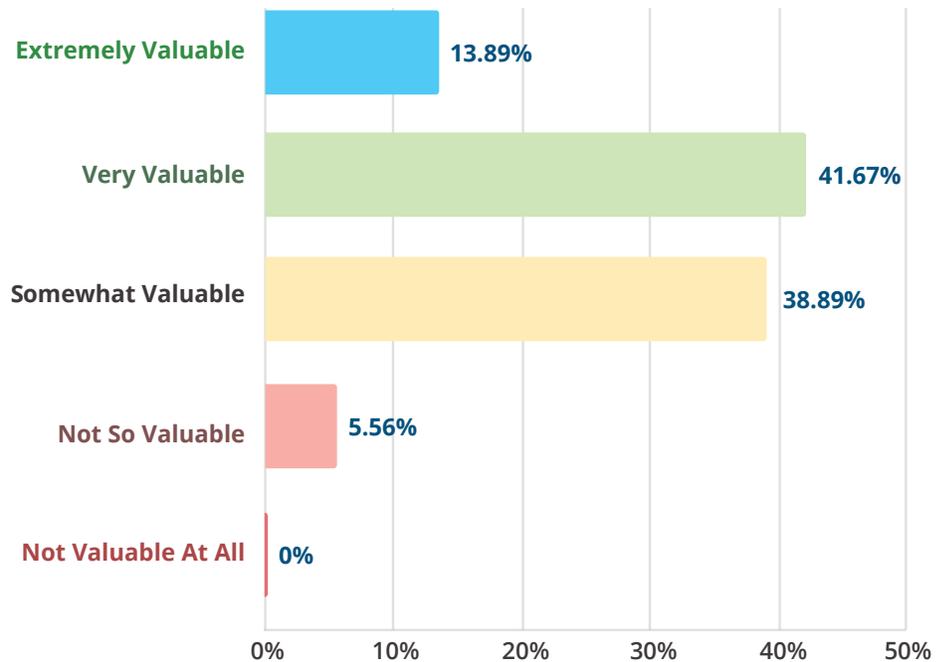
Do you feel that Deep Dives makes it more manageable to assign writing, than in classes without Deep Dives?



### Instructor Finding 3: Instructors find Packback Deep Dives valuable

**Key Takeaways:** 94% of instructors found Packback Deep Dives valuable (either Extremely valuable, very valuable, or somewhat valuable), compared to 5.56% of instructors who did not find it valuable (either Not so valuable, or Not at all valuable).

How would you rate the value of Deep Dives in your class?



## Instructor Reactions to Deep Dives

**“My grading experience with Deep Dives has been good. It definitely improves my grading efficiency and quality compared to writing assignments that don’t use Deep Dives. I am able to provide better feedback to students. I also like that students are able to improve their writing while they complete assignments with the AI grading feature, which is super helpful for both me and the students.”**

~ Instructor feedback, Fall '22 Deep Dive survey

**“The suite of available tools to aid students in a more real time environment to help them understand the value of a properly written piece of work; from the base dynamics of formatting and grammar to the aspects of writing flow and quality of sources.”**

~ Instructor feedback, Fall '22 Deep Dive survey

**“Deep Dives also helps lessen my stress while grading. I also like how DD makes it easier for me to use a filter so I can see who submitted by the deadline and those late. I’m also glad I can tweak the settings so that students can submit after the deadline. I also really like how the assignment with rubric feels more integrated than in my LMS. On top of everything, I know that it’s probably easier for my students to access Packback on all platforms than it is to access/use the LMS to do their longer writing assignments.”**

~ Instructor feedback, Fall '22 Deep Dive survey

**“The Deep Dive is part of a system where students are already practicing their writing. They get used to the AI mentoring with weekly prompts so that they can take advantage of the support on longer writing assignments.”**

~ Instructor feedback, Fall '22 Deep Dive survey

**“I feel that Deep Dives helps streamline my grading process. I can better focus on the content as I keep in mind the algorithm suggestions. The support feels nice and the rubric works well for my current classes.”**

~ Instructor feedback, Fall '22 Deep Dive survey

# Conclusion

Packback Deep Dives was designed to be a platform that provides value to students by helping them develop as writers and researchers, and to instructors by reducing grading workload and improving their satisfaction with student writing. Early results from Deep Dives are showing promising results around each of these hypotheses. Raw data from this study is available upon request.

The screenshot displays the Packback Writing Assistant interface. On the left, under the 'Drafts' tab, a document titled 'Preventative versus reactive treatments for asthma' by Jessica Tenuta is shown. The text discusses the connection between gut microbiome health and asthma rates in children. On the right, the 'Writing Assistant' panel provides 'Overall Feedback' with a smiley face icon, stating that the biggest opportunities for improvement are in 'Research Quality' and 'Grammar & Mechanics'. Below this, a 'Grammar or Spelling Issues Found' section has a 'View' button. The 'Research Quality' section shows a score of 20 points out of a required 4 sources, with two bullet points indicating that more sources are needed and that the academic quality of sources can be improved. At the bottom, a 'Wordcount & Depth' section is partially visible with a bar chart icon.

## Learn more about Packback for your courses

Packback Deep Dives is just one part of the complete Packback writing platform. Packback brings your course's writing assignments and student peer-to-peer discussion together in one platform to deepen writing practice, strengthen students' critical thinking skills, and streamline grading.

### Get Started Today

Create your Packback Course:

[App.packback.co/communities/create](https://app.packback.co/communities/create)

OR

### See a Live Demo

Send us an email to schedule a call:

[curious@packback.co](mailto:curious@packback.co)