2023 Technology Fee Full Proposal Submission Form

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Title: Packback: The A.I.-enabled Feedback Discussion Tool to Enhance Online Discussions

Proposer:

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Sponsoring Organization: UF CALS Center for Online Learning & Technology (COLT)

Purpose and Specific Objectives: **Impact/Benefit**:

Packback Questions is an ADA compliant, inquiry driven, A.I. enhanced, discussion platform. In Packback, students pose open-ended questions pertaining to weekly lectures and readings, providing students a space to develop critical thinking skills, take an active role in learning, and practice writing. Packback's instant A.I. feedback and moderation ensure that students' discussion posts stay on track, ensure they correctly complete the assignment and help instructors spend less time managing the discussion and more time engaging with their students.

Within the courses where it has been implemented, both students and faculty alike have preferred Packback Questions (Packback) over Canvas Discussions (Discussions). Moreover, students have achieved overall higher grades within courses that utilized Packback over Discussions. (white paper)

For example, Lecturer Elizabeth Diehl RLA, HTM, Horticulture Therapy, Director of Horticulture at Wilmot Gardens, University of Florida, College of Agriculture, Institute of Food and Agricultural Sciences notes this:

"Visually, Packback reads like a social media app and its colors, layout, and personalization provide a dynamic, motivating, and upbeat environment. Each week in the course, students are expected to formulate an open-ended question related to the course material (inquiry) and to respond to two other questions; one posed by the instructor and one of choice posted by a fellow student (autonomy). As the student is crafting their question or response, Packback's A.I. coaches the student on how to increase the quality of their post (mastery learning). Packback's A.I. focuses on four key areas including ensuring open ended inquiries, exploring detailed ideas, incorporating relevant sources, and checking grammar. Because this is happening in real time, the student is given the opportunity to strengthen their post before submitting. In addition, Packback assigns curiosity points based on the degree to which the student achieves each of the four key areas. I require that student posts achieve a minimum number of curiosity points for full credit, and this further motivates them to create a higher quality post."

Student Feedback:

"I have never used Packback in any other classes before and I loved that I could learn a vast amount of information just by looking at questions my classmates had posted. Further, the fact that these questions were related to the course material that week truly cemented my understanding of the materials."

"Packback helps ensure my writing is strong."

"I like the student engagement that it provides"

"It [forced] us to think outside the regular course material."

"Questions raised made me research material further because I felt compelled to provide additional resources."

Professor Ashley S. MacSuga-Gage, Ph.D. (she/her/hers), Clinical Associate Professor of Special Education, University of Florida | College of Education - School of Special Education, School Psychology, and Early Childhood Studies:

"Packback allows for dynamic and natural flowing dialogue between students and instructors. The ability for instructors, teaching assistants, and other students to provide real-time reactions, feedback, and coaching creates an authentic discussion versus static discussion post boards typically utilized in online coursework… Further the A.I. features of Packback are successful at encouraging students to write meaningful contributions that are more substantive than traditional discussion posts."

The Packback dashboard is game-like and displays an individual's total creativity points earned, how many sparks (likes) they have received from peers and highlights how many of their posts the instructor has selected to feature.

The A.I. framework used within Packback is grounded in solid pedagogical theory and practice (Bloom's taxonomy of cognitive learning, inquiry-based learning, self-efficacy, social learning, etc.) and implements approaches that support active engagement, improved motivation, community building, curiosity, critical thinking, and scholarly research through deep, rich discussion. Packback promotes students' interest while cultivating their critical thinking skills, which enhances engagement with the course material and peers. Unlike Canvas Discussions, Packback's embedded scaffolding and immediate feedback loops decrease the burden on faculty to provide these services so that they can improve student learning outcomes. Additionally, Packback has not only built in anti-plagiarism programming, but it also has filters to detect and flag A.I. produced text (ex. ChatGPT). These innovative tools are superior to what is currently available in Discussions.

However, the student fee associated with Packback creates hesitancy in adoption among faculty concerned about the potential financial burden upon students. If this grant application is approved, the funds would waive the student fee and expand the tool's adoption among faculty, allowing students to engage in the superior learning environment Packback fosters. Increasing Packback's use at U.F. will increase student engagement by allowing faculty teaching larger courses to scale their opportunities for student-student and student-content interactions. While doing so, the faculty who adopt Packback will also find that their students express greater satisfaction, experience increased engagement, and achieve higher grades. (white paper)

Sustainability:

This project's goal is to spread the innovation of Packback's built-in A.I. student coaching and A.I. grading to a wider number of courses, targeting larger enrollment online courses. This proposal asks for two years of funding for a pilot project to expand PackBack's use by covering the fees for students. If the pilot is successful, central funding will be sought to continue covering the student fees so that the tool may remain free for UF students.

Timeline:

PackBack is currently being used in UF classes by 1,494 students per year. Currently students each pay a fee of $29.95 per class to utilize the tool. We propose free access for all students during Fall 2023-Summer 2025. During the summer of 2023 UFIT and UF eLearning will collaborate with the vendor to implement the availability of the tool for UF students. Instructors will learn of the tool becoming available for free through UF Canvas announcements, emails, and instructional design units. Data will be gathered from both students and faculty to determine if the tool improves learning outcomes and student satisfaction. At the end of two years, this data will be analyzed to determine if the pilot was successful, and if a proposal for expanded central funding is appropriate.

Budget:

With this funding request we are proposing to start a 2-year pilot program at the beginning of Fall 2023. In year 1, the license agreement (5-10K students) effectively reduces the per-student cost to $6.60. In year 2, access will be available for all students and the license agreement further reduces the per-student cost to $1.98.

40-50k FTE	Year 1 - 5k-10k Pricing	Year 2 - Institutional Pricing
Base Cost	$88,000	$440,000
Base $/student	$8.80	$8.80
Rollout Discount	20%	72.50%
Multi-year discount	5%	5%
Cost Savings	$22,000	$341,000
Effective $/student	$6.60	$1.98
Total Per Year Investment	$66,000	$99,000
TOTAL REQUESTED AMOUNT: $165,000		