Effective Personalized Feedback: Developing Resources, Practices and Capacity to Provide Personalized Feedback to Students at Scale, Across Disciplines

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The Feedback Challenge

Instructors and students alike are generally unsatisfied with the current model in which feedback is given and received (Bohnacker-Bruce, 2013; Mulliner & Tucker, 2017). Due to growth in class sizes and an ever-diversifying student body, tailoring feedback to students' individual learning needs has proven to be a challenge, especially when accounting for the emerging concerns regarding feedback consistency and resources available to instructors.

Feedback Using Learning Analytics

Learning analytics tools (LA) are well-positioned to address these issues, including reaching students in large classes. The capacity to incorporate data from university learning management systems and provide feedback based on individual learning needs supports the delivery of personalized feedback, encouraging students to take responsibility for their own learning (Fritz, 2017). Targeting feedback at scale enhances its impact, further encouraging student motivation, participation, and academic achievement (Vigentini et al., 2017; Pardo et al. 2019).

Methodology

Instructors in Sociology, Soil Sciences, Physics, Asian Studies/Modern Languages, and Writing classes were invited to pilot a LA tool called OnTask with their students (Sept. 2019 – April 2022).

Undergraduate students were sent pre- and post-course surveys (N=425) by the instructors to explore their perspectives of effective feedback practices, including the method of delivery, the modality, content/language of written feedback, timeliness, and usefulness of OnTask. The survey data was analyzed using Qualtrics and SPSS while open-ended responses underwent a thematic analysis.

In addition, a series of one-hour-long interviews were conducted with the course instructors to gain their perspectives on the use of OnTask, and to confirm whether the tool supported their ability to provide more effective personalized feedback at scale. All interview audio was transcribed and analyzed using thematic analysis to identify overarching themes.
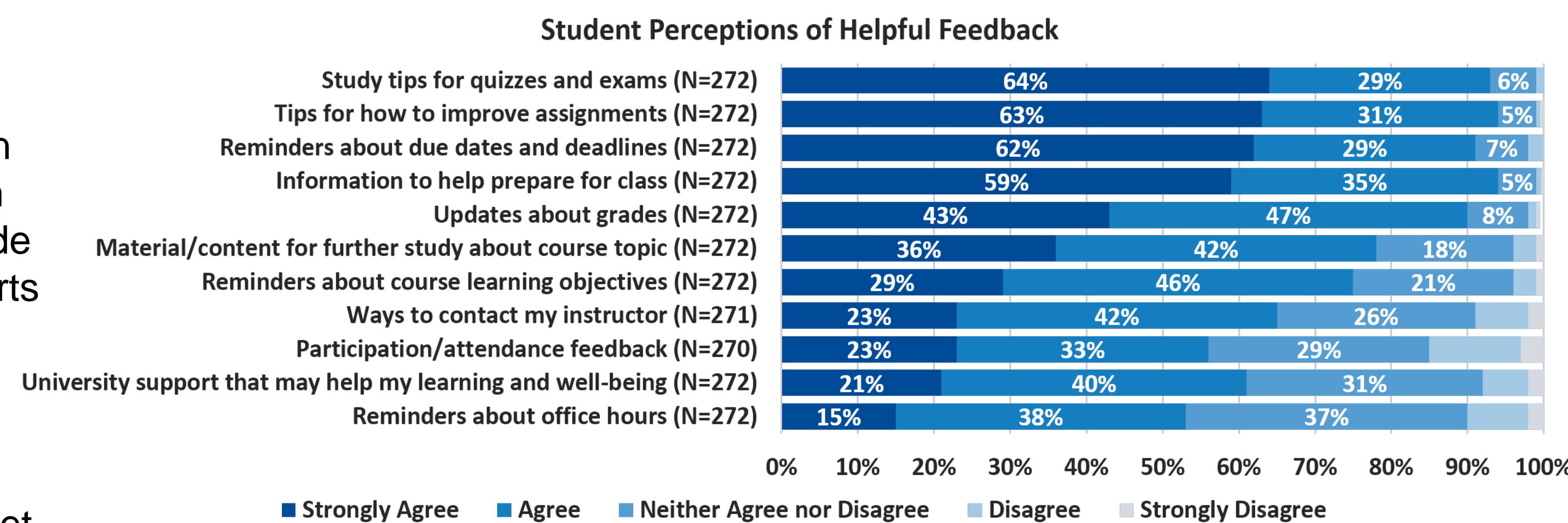
Student Perceptions of Effective Feedback

"Supportive feedback is when an instructor actually provides tips, ideas, and resources to help me improve on areas I struggle at."
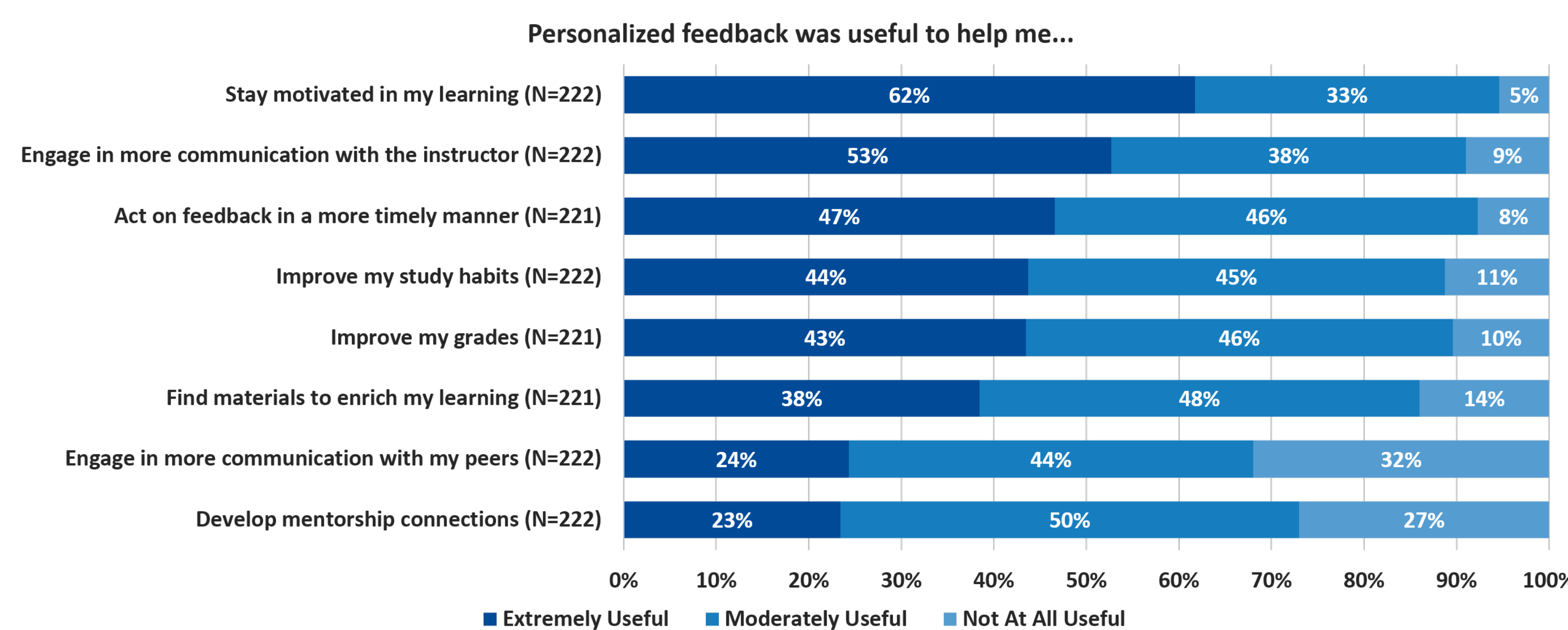
Helpful Feedback

"It is unhelpful when marks are taken away but there is no feedback or corrections for why."

Unhelpful Feedback

Student Perceptions of Helpful Feedback

	Strongly Agree / Agree	Neither	Disagree
Study tips for quizzes and exams (N=272)	64%	29%	6%
Tips for how to improve assignments (N=272)	63%	31%	5%
Reminders about due dates and deadlines (N=272)	62%	29%	7%
Information to help prepare for class (N=272)	59%	35%	5%
Updates about grades (N=272)	43%	47%	8%
Material/content for further study about course topic (N=272)	36%	42%	18%
Reminders about course learning objectives (N=272)	29%	46%	21%
Ways to contact my instructor (N=271)	23%	42%	26%
Participation/attendance feedback (N=270)	23%	33%	29%
University support that may help my learning and well-being (N=272)	21%	40%	31%
Reminders about office hours (N=272)	15%	38%	37%

■ Strongly Agree ■ Agree ■ Neither Agree nor Disagree ▪ Disagree ▪ Strongly Disagree

Student Perceptions of OnTask and Personalized Feedback

Personalized feedback was useful to help me...

	Extremely Useful	Moderately Useful	Not At All Useful
Stay motivated in my learning (N=222)	62%	33%	5%
Engage in more communication with the instructor (N=222)	53%	38%	9%
Act on feedback in a more timely manner (N=221)	47%	46%	8%
Improve my study habits (N=222)	44%	45%	11%
Improve my grades (N=221)	43%	46%	10%
Find materials to enrich my learning (N=221)	38%	48%	14%
Engage in more communication with my peers (N=222)	24%	44%	32%
Develop mentorship connections (N=222)	23%	50%	27%

■ Extremely Useful ■ Moderately Useful ■ Not At All Useful

How did the use of personalized feedback through OnTask affect your learning experiences in this course compared to other courses?

"I felt more like a student in a small class rather than just a number and name in a large class. The personalized feedback made me feel as though the instructors truly cared about my learning and well being."

"Since this was an online class, the feedback encouraged me to branch out and learn beyond the material. I feel like it's quite hard to improve and push yourself in an online course, but the personalized feedback at least gave me some sort of motivation and direction on how to better my learning experience."

Instructor Perceptions of OnTask: Interview Themes

Incorporating Feedback

✓ Supports standardized assignments
✓ Precise targeting possible
✓ Attention to communication nuances

"I think when you're writing a message to 350 students, you have to be very careful and deliberate on how you phrase things. Incorporating a growth mindset and giving them enough hope to continue... it's certainly made me communicate more effectively with my students."

Augmenting Feedback

✓ Content-specific feedback
✓ Wider dissemination
✓ Enhances existing practices

"It takes time to write thoughtful messages, but they are reusable when teaching the course again. There's no way I could email this feedback to all of these students separately. OnTask helps me reach them one on one."

"Students have reached out to me saying they appreciated getting updates on their course standing which is hard for them to check. It shows how OnTask gets that encouragement message to them and encourages them to respond."

Time Savings

✓ Reduced burden accessing student performance data
✓ Reduced burden designing specific feedback
✓ Increased timeliness for student reflection and response

"I think I catch more students falling through the cracks with OnTask. They sometimes have to withdraw, but the fraction of engaged students increases by pulling back students I would have lost if I didn't reach out."

"I do get various emails from students about the feedback. When it first goes out, I get a lot of responses back, so students are looking to those suggestions. I do see evidence that students are engaging more with the materials."

References

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Acknowledgement