

Remediation Remediates Obstacles to Inclusivity and Mattering

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“Do you offer remediation?” Day 2 of the semester. Genevieve, a student I know but have never had in class, interrupts my syllabus soliloquy about the quizzes and exams in *Biological Bases of Behavior*.

“What?” I ask, caught off guard by the interruption and the question.

“Do you offer remediation? If we do poorly on a quiz, can we remediate to get points back?”

“Oh,” I respond. “I have never done that before. Let me think about it.”

As I continue the syllabus overview, I invite students to talk to their neighbor about scheduled topics that most excite and most “don’t excite” them, and my mind whirs. I reuse quiz items. How could I offer remediation without undermining the integrity of my assessments? We go over quizzes in class. They know the right answers. It would be too easy, and my grades are already too high.

“She will realize that this won’t work and that she doesn’t need remediation once she takes a quiz,” I think. I let the idea go.

The semester progresses. Quiz 1: Historical and Modern Methods. Class average: 88%. Genevieve? 85%. See.

But...I look closely at the score distribution. Of 50 students, 6 have earned C- or lower on the quiz. Two of them have accommodations through our Students with Disabilities Services

office. Two have expressed concern on their Belongingness Survey at the beginning of the semester about mental health interfering with their class performance. Two are the only students of 50 who shared non-binary gender pronouns (“they/them”) on the first day of class. One is a Latinx student whose Belongingness Survey revealed her worry that her rigorous work schedule, necessary to finance her education, would interfere with her grades. This does not total 6; some of these students have intersectional identities placing them at double jeopardy.

Genevieve’s question about remediation lingers in my mind. “What might meaningful remediation look like?” I ponder. I want it to be more than a chance to simply earn back points. If I do this, I want the remediation to improve students’ study approaches and reinforce the content that they have not yet mastered. Each quiz precedes a reassessment of the same information on a later exam and on the final. How can I help all students, and particularly those who are struggling, be better students overall, learn more about the *Biological Bases of Behavior*, perform better on upcoming assessments, and find greater success in this class?

I had added study skills instruction at the beginning of the semester because students in high school during COVID tend to lack the study skills our pre-COVID cohorts had. For Quiz 1 remediation, I ask students to reflect on how they prepared, which study skills they used, what they thought worked or did not, and how they would improve their approach moving forward. 41 of 50 students earn “points back” for writing thorough and thoughtful responses.

Quiz 2—Neuroanatomy. Class average: 88%. Genevieve? 100%. Five students score C- or lower, two of which were in the group of nine who did not remediate Quiz 1 (sigh). I create a remediation assignment that includes topics on the quiz that will reappear on an upcoming exam. Students earn one point back for each two-point multiple-choice quiz item they missed by completing related remediation questions—drawing and labeling brain parts, listing brain regions, and describing their functions. I encourage them to answer each question first without looking at their notes and then correct their work and try a second time without notes (i.e., “test

yourself”). I post this remediation assignment on our learning management system platform as a study guide for all students to use as they prepare for Exam 1.

Quiz 3—Action Potentials and Between-Neuron Communication. Class average: 83%. Genevieve? 85%. 11 students score C- or lower. I create three “speed-dating”-like sessions outside of class time, assuring that everyone who wants to remediate can attend one. Students sit in pairs—one facing a power point and one with their back to it, with sets of questions that resemble parts of essays they will see on Exam 2 in their hands. Those with their backs to the screen answer the questions without utilizing their notes; their partners reference the power point answers while listening, prompting, and gently correcting errors. They switch places—the learner becomes the teacher—and answer the same questions again. Students rotate seats clockwise, partnering with a new student for the next set of prompts. They earn half the points they lost on Quiz 3 by participating. I post the power point and the answers and encourage students to practice answering these questions with each other in study groups or with their friends and family members as they prepare for Exam 2.

Quiz 4—Psychopharmacology. Class average: 92%. Genevieve? 90%. 7 with C- or lower. I create another assignment that contains four sets of questions. Each resembles part of an Exam 2 essay, and each can be answered multiple times — 7 ways substances are agonists; the mechanism of action of 5 different drugs and the effects of each on mood and behavior). Students earn one point back per missed two-point question on the quiz for each answer they provide, and once again I post the remediation assignment for all students to use as a study guide for Exam 2.

The semester ends. Among the 6 students who struggled on Quiz 1, one student earns a C- in the course; two, C+; one, B-; one, B+; and one, A. Genevieve? A. I document modest gains in overall learning: a 2 percentage-point improvement on Exam 1 and a 1 percentage point improvement on Exam 2 compared to a previous semester.

More striking, though, is how remediation contributes to students' sense of mattering. On the end-of-semester evaluations, my ratings on the "The instructor cared about student learning" question average 5.0 and 4.9 (5-point scale) across the two sections. In qualitative comments, 15 students spontaneously mention the remediation opportunities, and 20 explicitly say I cared about them and their learning—that I respected all students and wanted them to succeed.

...quiz remediations...ensured that I understood my initial misconceptions and made me feel confident in knowing the material overall.

[remediation] honestly was my saving grace. I have never done well on tests, quizzes, exams, but this gave me the time and skill to go back and make sure that I not only understand the material but also just have a better chance of succeeding on the exams.

...she cared more about us grasping the material than simply getting a good grade given all the remediation opportunities she would offer.

She offered feedback and remediations, taking way more time from her own life for us to do better in her class and actually understand the concepts.

So, even before my next "Genevieve" asks, I will say, "And, I offer remediation on the quizzes" to assure all students know they belong, they matter, and their learning and success is my primary goal no matter which identities, backgrounds, or obstacles they bring to the class. I will do this because, thanks to Genevieve, by remediating my own teaching, I transformed this primary goal from an aspirational statement to a lived reality for all students in my classroom.