California State University, San Bernardino

CSUSB ScholarWorks

Fall 2018

Evidence-Based Teaching Strategies for Behavioral Neuroscience and Biological Psychology Classes

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Courses in Behavioral Neuroscience and Biological Psychology were taught while implementing evidence-based teaching (EBT) practices and several additional innovations. Students engaged in think-pair-share activities, group projects, and novel innovations of assignments including incentivized exam re-earns and creating modern memes of neuroscience content. Students exhibited evidence of learning, enjoyment, and teaching effectiveness.

This activity was used to initiate class by prompting discussion first between students, and then among the class, and then guided ultimately by the instructor to shape the day's content coverage about the assigned topic. Students responded well to the think-pair-share activities, and were documented enjoying this learning exercise during press coverage of our class by UC Davis, which filmed these activities with student permission, and subsequently published these media coverages in a feature of our instructor and students for the UC Davis Alumni Awards, available at the following link: https://www.youtube.com/watch?v=gdzt-wpfjig

Assignments through the course included creating incentives for earning back points lost on exams due to poor retention of studied material. For this, innovations were created that provided half credit back to students on each exam question they had got wrong if they could subsequently write not just the question out in long hand, but also include why their answer had been wrong and why the right answer was correct. Importantly, credit was not awarded unless students also could provide documentation of which textbook page number the information had been originally provided in, or which time stamp of the lecture youtube videos the information was lectured about. This reinforced for students that the information was indeed presented in class materials and reminded them how it might be better studied for retention for future exams, e.g. building better study skills.

Later as a culminating project, student were invited to pursue extra credit by creating original "neuro memes", which motivated students to find the fun in science, neuroscience, and integrate it with popular culture memes that they already possessed an enjoyment of. This took advantage of forming connections with existing knowledge that students had, and used it to build new knowledge while consolidating prior information studied. Students reported really enjoying this project, learning a lot, and it measurably improved grades quantifiably.