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Student Responses to a Flipped Physics Class Environment with Built-in Feedback Quizzes DESPINA NAKOS, ROBERTO RAMOS, University of the Sciences — We analyze student responses to several Introductory Physics classes in a university setting, taught in a "flipped" class format. The classes span algebra- and calculus-based physics courses. Outside class, students viewed over 100 online video lectures on Classical Mechanics, Electricity and Magnetism, and Modern Physics prepared by this author and in some cases, by a third-party lecture package available over YouTube. Inside the class, students solved and discussed problems and conceptual issues in greater detail. A pre-class online quiz was deployed as a built-in mechanism of feedback and validation. We report on the student reactions to the feedback mechanism, student responses using data based on anonymous surveys, as well as on learning gains from FCI/CSEM inventory pre/post tests. Students preferred the online quizzes as a mechanism to validate their understanding. The learning gains based on FCI and CSEM surveys were significant.

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