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A Limit on the Applicability of the FCI MICHAEL VANDYKE, WILLIAM BASSICHIS, Texas A&M University — The Force Concept Inventory exam, FCI, has been widely used to measure students' knowledge of the conceptual basis of an introductory physics course. It has also been used to differentiate between different teaching methods, laboratory practices, textbooks, and curricula, as well as a measure of an individual instructor's teaching performance. This study examines the correlation between a student's performance on the FCI and their performance on midterm exams throughout a calculus-based mechanics course. The course is designed specifically for first year engineering students. It is found that, despite significant gains on the FCI, the correlation is extremely small for the first exam and even smaller for later exams. This lack of correlation persists whether one considers the FCI score at the beginning or at the end of the course. While this does not necessarily reflect adversely on the FCI as a measure of students' conceptual understanding, it strongly suggests that its use as a determinant of the most effective method of teaching physics to engineering students should be quite limited.

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