



April 15 Reality Check

Fuzzy Numbers

Almost every college or university publishes a number called the student/faculty ratio as an indicator of undergraduate instructional quality. Among the many spurious data points exploited by commercial ranking agencies, this one holds a special place.

The mythology would have it that a low ratio, say 10 students per faculty member, indicates a university whose undergraduates take most of their instruction in small groups with a faculty instructor, and presumably learn best in those conditions. In contrast, a high number, say 25 students per faculty member, might lead us to think of large classes and less effective, impersonal instruction.

These common impressions represent mostly pure public relations. The ratio means none of this because the numbers used to calculate it are usually unreliable for comparing different universities or colleges and because the basic premise about small classes is flawed.

To illustrate the meaninglessness of the ratio, imagine two universities with exactly the same number of students, say 5,000, and the same number of faculty, say 500. Both institutions would report a student/faculty ratio of 10, and following common wisdom, we might imagine that both have the same teaching environment. The data do not show however, what the faculty do with their time.

Imagine that the first university has faculty of high prestige by virtue of their research accomplishments, and that these faculty spend half of their time in the classroom and half in research activities, a pattern typical of research institutions. Imagine, too, that the second university in our example has faculty less active in research but fully committed to the teaching mission of their college. Where the research-proficient faculty at our first institution spend only half their time in class, the teaching faculty in the second institution spend all of their time in the classroom.

Correcting the numbers to reflect the real commitment of faculty to teaching would give an actual student to teaching-faculty ratio of 20 to 1 for the research institution and 10 to 1 for the teaching college. The official reported ratio is wildly misleading at best.

The official student/faculty ratio is suspect for yet another reason. It appears as an indicator of something valuable in an institution's teaching and learning process. The reported ratio implies that having a small number of students in a class indicates high instructional quality and effective learning. It may be that in K-12 settings, small class sizes help struggling students learn. In reasonably high quality colleges and universities, however, the evidence is different.

In some classes, for example those that teach beginning languages or performance studios in music, students do learn better when taught in small to very small groups. In the core business curriculum, in basic economics, in art and music appreciation, in history and psychology introductory courses, and many other subjects, students learn as much in large classes of more than 100 as they do in small classes of fewer than 25. In real life, smart universities mix large and small classes so that students can get small classes when small size makes a difference and find a place in large classes when that format works just as well.

A Different Way?

If universities really cared to give students, prospective students, and parents a picture of the instructional pattern at their institutions, they would erase the unhelpful student/faculty ratio and instead, provide a more useful measure.

They could analyze the transcripts of their most recent graduating class and report the pattern of large and small classes actually experienced by graduating seniors.

How many courses did the graduates take in their major that had fewer than 20 students, how many general education courses did they take with over 50 or over 100? How many of their courses during their undergraduate years had a tenure-track faculty instructor, and how many had a visitor, a part-time faculty, or a teaching assistant as an instructor?

This kind of report would encourage institutions to explain why the nontenure track instructors teach as well as the tenure-track faculty, and it would give parents and prospective students an accurate understanding of the actual teaching mix they should expect during their undergraduate years.

Such accuracy might not be as good advertising as the misleading student/faculty ratio, but it would have the virtue of reflecting reality, and it would encourage us to talk clearly about the design and the delivery of the undergraduate education we provide.

— [John V. Lombardi](#)

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