

# Education Standards and the Role of Universities

by Christopher Essex

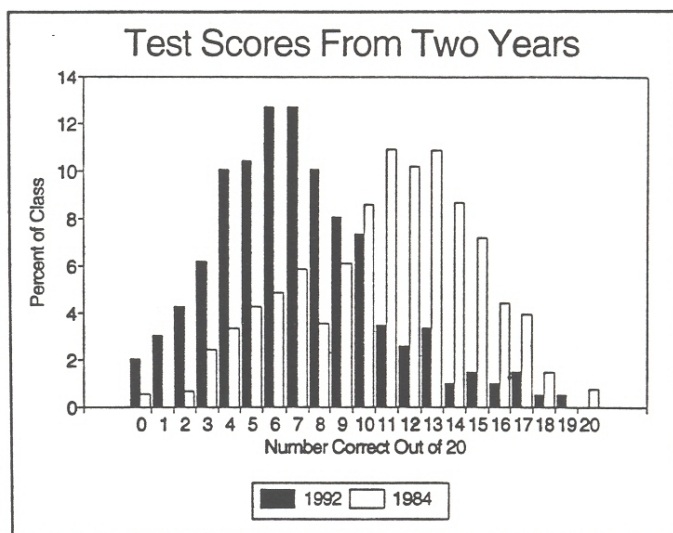
Regrettably, it is not widely understood that the source and the cure of many problems in education, at all levels, lie within universities. Where university standards drift, standards of the entire system follow.

Those of us who teach mathematics at university have been witness to many discouraging trends over the past 20 years from reductions in numbers of courses for degree requirements, to naked and relentless pressure from administrations to reduce failure rates in our courses. Class averages are going up, and said averages are viewed as a reflection of the quality of the course and the professor — naturally everyone is better than ever by this measure.

There are large or even record enrollments within universities, but growing shortfalls all over the province in science and mathematics courses. The more technical a subject is, the more severe the shortage of students is and the more likely non-technical programs are to have discontinued such subjects as a subsidiary requirement for a degree. The competition for the money students bring in is fierce, and subsidiary mathematics requirements are perhaps, more than any other subject, regarded in non-mathematics programs as a liability in that competition. One may now even get a university degree in biology in Ontario without any calculus.

Many of us have a growing problem in successfully covering the standard syllabus for the students that we do get. As many of us must regularly participate academically on the international stage, this standard syllabus is judged in terms of an international one, independent of local educational fads. Unfortunately, when we voice our concerns within the university or without, we are often dismissed as uninformed complainers.

The dismissals come from two directions. They come from the *apologists*, who continue to claim that we live in the best of all possible educational worlds in Ontario and that students are better than ever as we move away from the “bad old days.” The more senior the administrative position, the more likely one will hear opinions of this type. More nihilistic dismissals come from the *steady state theorists*, who like to inform complainers that elders decried the decline of the younger generation in ancient carvings.



Despite such denial, some of us have attempted to put together something concrete to demonstrate what we have been seeing. For some years we had been giving a short-answer, 20-question test to engineering students in the opening weeks of their first university course in mathematics. It was given for diagnostic purposes to help students recognize where they needed extra work on their high school mathematics. While we normally produced a fresh test every year, it occurred to us that we might simply re-administer an old test and compare the class performance to that of an earlier year.

In 1992 we re-administered the test from 1984, with only a new date at the top of the test paper. In both instances, approximately 300 students wrote the test. The figure is a plot of scores out of 20 against the percent of the class having a given score. The decline in performance indicated is so great that there is no need for intricate statistical tests to identify a trend — the difference is plain to see.

We were disappointed to find that the graph was dismissed, when not simply ignored. There *are* legitimate, less critical, alternative explanations for the differences that could be in play. However would such alternatives even be considered if the test had indicated an improvement in performance? My view is that the graph is sufficient evidence for supporting a larger scale study involving more extensive resources. If this graph is not sufficient to act upon in this sense, what is? For the apologists and the steady states no sufficient evidence apparently is possible.

Universities have long been funded in terms of numbers of attending students. If universities did not have, thus, a vested interest in lowering standards in the competition to keep their head-money counts up, they might base admissions solely on academic standards. This is an institutional conflict of interest between money and standards, which if fixed might well lead to the restoration of the entire educational system. If fixed, some graduating high school students would simply not make the cut. Then pressure to adjust would fall onto the high schools and on down.

As long as universities compete for students instead of students competing for universities, the entire school system can only decline.

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