Failure Analysis

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The philosopher and educational reformer John Dewey argued in 1933 that “failure is not mere failure. It is instructive.” But 80 years later, we still don’t know a lot about why things fail in higher education. We know failure happens: students drop out or don’t achieve passing grades, and occasionally academics don’t deliver the intended curriculum or don’t do it well. But the causes go largely unstudied.

Elsewhere, however, learning from failure is well established. It dates, at least, from the construction of the “Bent” pyramid in Egypt, dating from about 2,600BC, which was modified after the collapse of the nearby Meidum pyramid.

The infamy, costs and visibility of structural failures make identifying causes and learning from them an important part of engineering education. Case studies of bridge and building failures are pored over in structural engineering courses. The education sciences do not yet have such a disciplined, codified approach to identifying or analysing failure.

Why not? It may be simply issues of time and scale. Higher education as a mass phenomenon is under 100 years old and its failures have been largely observed in individual increments – the student who does not “pass”. Despite years of attention to inequities in college access, it is only recently that national higher education completion rates in the US have attracted political scrutiny, because economic competitiveness has been at stake as other nations have achieved better graduation rates.

A bridge collapse understandably will attract more popular attention than university dropouts. Yet the latter failure costs more when we consider lost productivity and opportunity, social utility and the unhappiness individuals experience when their education fails them. The scale of this loss means we should search for lessons from failure in other disciplines, which might in turn improve educational quality.

Educators, Dewey’s successors, can learn from engineering about how to study failure to improve practice. One simple illustration: structural engineers routinely use “safety factors” to anticipate uncertain but identifiable reasons for building failure. A floor will have a “failure load” – the weight at which it bends or breaks. This weight, divided by expected normal loads, produces a number, of pounds or people. That little sign in the corner of the lift that says “No more than 12 people at a time” is a product of a safety factor.

We have nothing like “safety factors” in education. But it is not difficult to imagine that the resources applied to educational intervention might be increased to take into account safety factors that recognise economic aspects and other elements that could impede success.

Where are the famous case studies of failure to meet expectations in education? And where are the lessons from these laid out and applied? In the academy, we have plentiful studies on the impact of income-contingent loans on student participation and research that tracks the destinations and progression of graduates over time. But there is still much to be done.

Researchers can contribute to the systematic accretion of a body of knowledge on what failed and why in education programmes and policies. Making those lessons publicly available would be a great start to building a field. Hopefully, Dewey would have thought of this as a genuine attempt to learn from experience so as to create “securely tested knowledge”.

https://www.timeshighereducation.com/comment/opinion/failure-analysis/2006962.article