

11.1: Statistical Education

Most American science students have a minimal statistical education – perhaps one or two required courses, or even none at all for many students. And even when students have taken statistical courses, professors report that they can't apply statistical concepts to scientific questions, having never fully understood – or simply forgotten – the appropriate techniques. This needs to change. Almost every scientific discipline depends on statistical analysis of experimental data, and statistical errors waste grant funding and researcher time.

Some universities have experimented with statistics courses integrated with science classes, with students immediately applying their statistical knowledge to problems in their field. Preliminary results suggests these methods work: students learn and retain more statistics, and they spend less time whining about being forced to take a statistics course.⁴¹ More universities should adopt these techniques, using conceptual tests to see what methods work best.

We also need more freely available educational material. I was introduced to statistics when I needed to analyze data in a laboratory and didn't know how; until strong statistics education is more widespread, many students will find themselves in the same position, and they need resources. Projects like [OpenIntro Stats](#) are promising, and I hope to see more in the near future.

This page titled [11.1: Statistical Education](#) is shared under a [CC BY 4.0](#) license and was authored, remixed, and/or curated by [Alex Reinhart](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.