



Performance of students using Introduction to Statistical Investigations (ISI)

At the end of your course, are students still asking you whether the p-value should be large or small?

Can your students tell you what a p-value is actually measuring?

How can you help your students learn statistical concepts using simulation approaches without students getting bogged down writing computer code?

Instructor's Resources

Wiley.com

[Author Blog](#)

[Author Companion Resource Site](#)

The ISI curriculum uses active learning pedagogy and meaningful technology to improve student understanding of key statistical concepts.

In multiple published studies, students using the ISI curriculum have ended the course having improved their conceptual understanding of key statistical concepts, especially with regards to statistical inference, compared to students at the same institution, with no decline in other topics. These findings and comparisons hold when comparing to students in national samples using numerous different curricula and teaching styles. Furthermore, these students retained their conceptual understanding of key statistical concepts six months after the course².

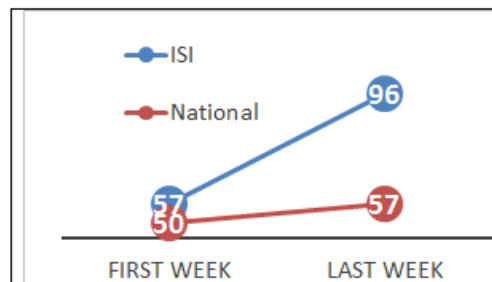


Figure 1. Percentage of students correctly interpreting role of p-value in establishing research evidence

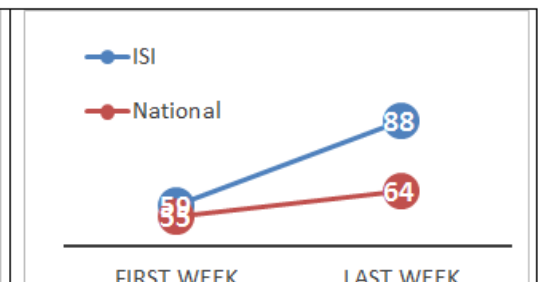


Figure 2. Percentage of students correctly identifying, in context, the definition of a p-value

First time instructors of the ISI curriculum see their students do nearly as well on these metrics as more experienced instructors – and they have fun doing it! Should there be any question about the utility of understanding p-values, the ASA statement on p-value has been viewed more than 150,000 times <http://www.amstat.org/ASA/News/ASA-P-Value-Statement-Viewed-150000-Times.aspx>.

The ISI curriculum makes use of conceptually focused, platform independent, free web-applets to appropriately scaffold student learning.

Visit <http://math.hope.edu/isi> for a complete list of freely available, peer-reviewed publications of assessment data on the ISI curriculum and teaching with simulation-based inference along with a wealth of additional teaching resources and information.

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