



IMPACT ASSESSMENT STUDY

Executive Summary

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Background:

Science Journal for Kids (SJK) is a US-based non-profit which produces an open-access online science outreach and teaching resource called [Environmental Science Journal for Kids](#). SJK adapts recent environmental science research published in high-impact peer-reviewed journals making it accessible to the general audience, in particular K-12 students. SJK publishes on average 50 adapted science articles per year. A foundational assumption is that if young readers are exposed to original scientific research presented in accessible manner, they will develop a better understanding of the scientific method and process.

Goal:

SJK's founder, in collaboration with a UC Berkeley Energy and Resources Group PhD student, developed this Impact Assessment Study to test the foundational assumption in practice. We looked for a quantifiable improvement in students' understanding of the scientific method (measured by College Board's AP Environmental Science exam) as a result of using SJK resources.

Study design:

We collaborated with three U.S.-based environmental science teachers who participated in the study with their eight high school science class sections (total of 127 students, aged 14 to 18).

- These eight sections were grouped in four "Intervention"/"Control" pairs.
- In the "Intervention" sections, the teachers used one of SJK's articles to teach and illustrate experimental design as a scientific method.
- In the "Control" sections, the teachers taught experimental design using an alternative popular science article with very similar content (e.g. from *Wired* magazine).
- Following the class, all students were given a quiz with a question about experimental design from the 2003 College Board's AP Environmental Science exam (see Appendix).
- The teachers blind-scored the quizzes (i.e. they were not aware if they were grading a student from their "Intervention" or "Control" section). They used College Board's published scoring guides.
- The quiz scores were collected and statistically analyzed using a t-test.
- The study was conducted between January and June 2017.

Results:

We measured a 40% improvement in the sections where teachers used SJK's resources. The results were statistically significant to above 99% confidence interval. (i.e. if there were no difference between control and intervention groups, there would be a less than 1% chance of observing the results we found.)

	Averaged score (out of 4 possible points)
"Intervention" sections	2.47
"Control" sections	1.77

Conclusion:

This Impact Assessment demonstrates a clear measurable improvement in young readers' understanding of the scientific process as a result of reading *Science Journal for Kids* in class. Follow up study with increased sample size is merited.