

*Senator Jeffords would like your views on the role of experimentation in the reauthorization of ESEA, if you would be willing to share them.*

## ESEA Re-authorization and Experimentation

Contrary to popular opinion, reform of our schools typically founders on lack of knowledge about what can improve student achievement. In order to introduce new programs in schools and to get them funded, programs are typically oversold. This overselling appears in terms both of what outcomes can be expected and what evidence supports the program. As a result, school policy makers and the public end up confused about what should be done. Correcting this problem — the lack of reliable information about program effectiveness— should be a national priority.

The re-authorization of the Elementary and Secondary Education Act, the blueprint for the federal government's involvement in schools, should — in my opinion — develop a strategy for improving our knowledge base. Nothing in the current bill is likely to do as much for the education of our nation's children as a concerted effort to improve information that can be used in future decision making. More specifically, an extensive program of educational experimentation, mirroring the social experiments of the 1960s and 1970s, could offer hope for true improvements in schools.

The contrast of education with medicine is startling. Few people would think of introducing new drugs without some study of effectiveness, side effects, and alternatives. The evidence on these issues typically comes from clinical trials involving both animal and human experimentation following strict protocols. The decision to permit general sale and use involves the judgments of experts who evaluate the scientific evidence. And, while attention has been given to the perhaps overly conservative nature of the process, the health of the population has without question been improved by the requirements for scientific evidence about drug therapies.

In education, it is common to argue that the urgency of the situation precludes taking the time to develop an extensive evidentiary base. Moreover, parents and school personnel argue that experimentation on kids is undesirable, if not amoral. Thus, new programs are introduced more on the plausibility of the underlying idea than on any hard evidence about their effectiveness in improving student achievement. As a result, the typical high school senior today achieves at essentially the same level as the high school senior of 1970 except that real spending per student is up over 80 percent.

It is common to proclaim the reliance on “research-based” educational reforms, but the unfortunate fact is that education research seldom is grounded in basic scientific principles. At the most basic level, research often even fails to look at any objective measures of student outcomes of interest. Moreover, it is typically unclear “what causes what.” For example, if we were interested in knowing the effect of a particular reading program designed for disadvantaged learners and we simply compared achievement of those in the program to those not in the program, we would have difficulty inferring the effectiveness of the program itself. The students in the program are selected for it because they need extra help, so are the differences in student performance a reflection of the program or the underlying selection mechanism?

The conventional way to circumvent such problems is to employ a random-assignment experiment, where students are placed into a program by chance (and not by underlying perceptions of need). This approach, widely employed in areas as diverse as agriculture and medicine, offers a method of identifying the true causal aspects of a program. It is also alien to education.

The rare use of random-assignment experiments in education is instructive. In the mid-1980s, the State of Tennessee conducted a random-assignment experiment with reduced class sizes—Project STAR. Because of some design and implementation problems, considerable controversy exists about the policy implications of the results. Despite this controversy, California is currently spending over \$1 billion per year, the Clinton administration has proposed \$1.4 billion for the upcoming fiscal year, and many other governors are chaffing at the bit to put their own money into class size reduction. These figures contrast with less than \$20 million to conduct a new experiment that could resolve the largest controversies.

The simple fact is that schools are continually experimenting with students. It is just that the experiments do not have an evaluation component to them, so that we never learn from them. Parents are told they are innovations, so that they do not revolt against experimentation, but they deep down are experiments. We should do this more systematically across a range of “reform areas,” so that we can learn something from them. A strategy for this in the re-authorized Elementary and Secondary Education Act could be truly revolutionary.

Nothing that I know of would have anywhere near the potential long term impact on education and on the U.S. economy that a serious and systematic program of experimentation would.

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July 8, 1999