Research Tips:
Validity and History

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The purpose of this article is to discuss the problem of illusion in research, especially in program evaluation. Currently, there are multiple research traditions in program evaluation. Nevertheless, all research orientations are concerned with the role of researchers, for example, how they interpret their data and what evidence they offer for their interpretation. A more experimental approach tends to be used when the researchers are verifying something (they know what they are looking for), whereas a more ethnographic approach tends to be used when researchers are exploring (they are not clear what they are looking for). Ethnographers call the problem of illusion "bias" whereas experimental researchers have used the terms "alternative hypothesis" or "threats." This article proceeds from a quasi-experimental approach and will use the term threat. A threat is any condition which blinds or misleads researchers when they interpret their results. Although there are many threats in research, a common threat for developmental education evaluators is called "history."

History can be defined as "events, other than the experimental treatment, occurring between pretest and posttest and thus providing alternate explanations of effects" (Campbell & Russo, 1999, p. 80); or to put it another way, things are going on, but the researcher is unaware of their influences (Ary, Jacobs, & Razavieh, 1990).

One example of the threat of history is ESL students making friends with native speakers outside of class and improving their English simply by conversing with them informally, regardless of the teaching they have received in class (Long, 1984). Another example is the evaluation of basic writing courses in which posttest scores of an experimental class using an innovative curriculum are compared to posttest scores of a control class using a traditional curriculum. If the mean scores from the experimental classes are higher than the mean scores from the control classes, the interpretation of the results is that the increase in scores has been caused by the innovation. Is that really the case? Could the researcher be unaware of an outside, alternative source of the improvement? For example, the increase in scores might be caused by some students going to the college writing center or perhaps by taking classes in which the instructor requires writing assignments and subsequently helps students with those writing assignments. Either of those situations would constitute a threat to the research hypothesis that the innovation was causing the improvement in student writing.

The threat of history is pervasive and dangerous because many researchers are often blinded by personal bias, by prejudice, and by the condition of frequent ignorance of what is going on in the life of students outside of class. The instructors involved in a study may be unaware that one of their students has a roommate or a friend who is a good writer and tutors the student informally and thereby causes the student to receive a high score as a result of this tutoring, which in turn raises the average score level. If that student happens to be in the experimental class, the higher average scores may be attributed to the innovation when, in fact, the innovation is not responsible for the score increase. If that student happens to be in the control class, researchers may think the innovation is not working, when in fact it is.

This particular prejudice may come into play as a result of an attitude that developmental students would never of their own accord seek help. "My students, you must be kidding!" Bias may be activated by personal infatuation with any current innovation and the strong belief that this teaching is effective. The threat of history is especially powerful because it relies on the implicit and thereby hidden beliefs and desires. The way to deal with the threat of history is to make the implicit explicit.

In a strange kind of way, threats can be useful in program evaluation. Nobody does or can know everything that goes on in the lives of these students, but educational investigators can at least think about the threat of history before conducting evaluation. Thinking about threats is helpful because threats can be anticipated, and thus, at least to some extent, can be taken into account before evaluation is initiated or conducted rather than have threats pointed out by an external reviewer after the research is complete and impossible to change or even investigate the situation.

When one first conceives of an evaluation project and thinks about a potential research design, the threat of history can be addressed by brainstorming possible effects external to the planned innovation. A researcher can ask him or herself as well as others the question, "in addition to this innovation and my teaching of it, how else might my students be improving their writing outside of class unbeknownst to me?" At times it may be important to make a judgment as to the plausibility of some of the possible actions. Is it plausible that many students are meeting secretly at night to discuss and revise their writing? Perhaps not. Is it plausible that some students may be going to the campus writing center? Given that the writing center advertises their services, is on campus, accepts manuscripts over the internet, and is a free service, perhaps yes.

In the evaluation on basic writing curriculum mentioned previously, two threats were considered: (a) the possibility of students going to the writing center and (b) students taking classes that required writing for which the instructor was actively helping them. The first threat was dealt with by assigning all students, both those in the control classes and those in the innovative curriculum classes, to go to the writing center. In fact, one meeting for all classes in this evaluation study was scheduled and held at the writing center. By assigning all students to go to the writing center, the threat that some students might be going to the center was neutralized. The second threat, that some instructors were helping students, was dealt with by interviewing all students to see if that was the case. No such cases were reported.

When writing the results of an evaluation, particular threats of history may be identified and the actions taken described in detail. If space is limited, a brief mention may be made. By thinking about history and reporting thoughtful responses to it, research is strengthened and increased in validity.

References
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