

Editorial

A Little Research

In his *An Essay on Criticism*, Alexander Pope (1666) wrote, "A little learning is a dangerous thing; Drink deep, or taste not the Pierian spring; There shallow draughts intoxicate the brain, And drinking largely sobers us again" (Part II, line 15). Although Pope was making the point that it is better for one not to dabble, but preferably to learn as much as possible to have a complete and informed viewpoint, the same argument can be applied to research. It seems that often as a society we are ready to accept the latest findings of research without considering either a broader context or without requiring additional study. One of the first assignments I prescribe in my graduate research courses is the preparation of an extensive literature review on a particular topic. Besides the obvious relationship to the requirements of a thesis or project, most students also appreciate that the literature review shows clearly what has been researched, how it has been researched, and perhaps more important, what has not been researched or not researched adequately. Unfortunately, much of the general public appears either ignorant of or not disposed to undertake such inquiry or demand it of others.

In a previous editorial (Buck, 2003) I described the effects of the United States Defense Education Act of 1958 (Columbia University Press, 2003) and Rickover's (1963) condemnation of North American public education based on his opinions and observations. Although many individuals and policymakers were convinced that education in the Soviet Union and the Eastern Bloc was superior to that in North America, little research was conducted at that time to examine the veracity of the claim. Nevertheless, in the manner of the intoxication described by Pope, many individuals were happy panicking and changing curricula and methods of instruction to ensure that students would be prepared for the future, even if that future was the aftermath of a nuclear conflict. Parenthetically, I recall vividly the weekly drills we had in elementary school in response to the perceived imminent arrival of nuclear war. Upon hearing an alarm bell or air raid siren and an announcement over the public address system, each of us crouched underneath our desks, putting our heads between our knees and placing our arms over our heads as best we could. The purpose of this "duck-and-cover" exercise was to protect us in the event of a nuclear attack. We were also told repeatedly that in the event of a nuclear detonation, we should not look at the flash from the explosion, for if we did, we would probably become blind. Given that the school was a wooden frame building with a brick façade, if the shock wave did not flatten the building, not to mention the stamped steel and wooden desks we were beneath, then the heat generated would probably have set any combustible material alight. The gamma radiation emitted would not have been deterred by our body positions either. In retrospect the assumptions and exercises appear ridiculous, and upon further research and reflection, such as considering the footage made of the effects of above-ground nuclear tests, this point became clear to school admin-

istrators. Without announcement or fanfare, the drills were quietly dropped even though the cold war threat remained.

Similarly, the panic about catching up with Soviet education gradually diminished when as the result of research, it became clear that in most respects North American education was as good as what was being done in the Soviet Union. Had the time been taken to do additional research initially, both of an analytical and an empirical nature, then it is possible that at least some of the more ridiculous changes might not have been made. For example, Skinner (1983), the US psychologist who was influential in the development of the teaching machine and programmed instruction craze in much of North America during the 1960s, claimed that Soviet educators only became aware of programmed instruction after Skinner's visit to the Soviet Union in 1961. Skinner's claim, however, flew in the face of the arguments advanced by Rickover and others. Nevertheless, Skinner's contention proved to be accurate, as several Soviet researchers stated that teaching machines began to be developed in the Soviet Union during 1962 (Landa 1973; Plugin, 1970; Tikonov, 1970). It has also been contended that apart from a few showcase examples such as their space program, Soviet technology, as well as their education system, lagged behind much of North America. Similarly, if sufficient research had been conducted at the outset of the cold war, instead of huddling under our desks, we might have spent the time more productively by engaging in more demanding forms of physical exercise. This would probably have been of greater benefit than studying how much dust and detritus was on the floor.

There are many recent examples of where large-scale changes have been made on the basis of little research, and not all of these involve education. Some changes have occurred in relation to diet. Whereas some popular diets at the moment condemn the consumption of carbohydrates, but allow the consumption of eggs, a few years ago eggs were considered taboo because some studies showed elevated cholesterol levels in participants who ate eggs. Similarly, concerns have been expressed recently over the detrimental effect of some medications that received approval for general use on the basis of few but favorable research reports (Krasnovsky, 2004).

Clearly there has been, and continues to be, a tendency for segments of society to adopt some research findings quickly, especially those that are either novel or that are championed by one or another proponent. The point is, however, not to eschew change, nor to be cynical about research findings. Rather, as researchers and educators we must strive to educate our students at any age about the necessity of considering both the context and extent of research. By promoting and providing "research literacy" in students, we may contribute to an eventual state where most of the general public will be able to consider research critically and realize that research is an ongoing and changing process.

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