

## Standardized Tests

A recent editorial [*Science* **142**, 1529 (1963)] on the subject of standardized educational tests requires comment. The burden of the editorial was that the target of the critics is wrong; that the main fault lies not with the tests but with the people who misuse the results of the tests.

I make two points. One is that when the editorial admitted that there is "considerable misuse" of the tests, it did not thereby immunize the tests against other, more direct censure; and it should have been careful not even to hint that the tests themselves are worthwhile instruments when used with the necessary care—unless it made the point clearly that the necessary care would seriously limit their use. In my book *The Tyranny of Testing* (Crowell-Collier, New York, 1962) I stress the importance of the side-effects of the tests. . . .

My second point goes to the quality of the tests themselves, and of the people who make and market them, these people exerting a substantial, perhaps controlling, influence on the manner in which we evaluate and sort the nation's intellectual resources. It is demonstrated in my book that even the best test-making organizations cannot satisfactorily defend their own sample questions and that in seeking to do so they make elementary blunders in science, and that important testers misuse words and statistics, thereby sharing responsibility for the misuse of tests.

. . . The central issues are the corrupting effects of multiple-choice tests on education, the manner in which the tests favor brilliant superficiality over depth, subtlety, and creativity, and the manner in which the very nature of the tests allows control of testing to fall into the hands of people whose approach to the admittedly formidable problem of testing is not so much that of the scholar as that of the cost accountant and the statistical technician. . . . There is need for a distinguished committee of inquiry to study the whole matter of testing in the national interest.

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Your editorial was timely and valuable. In Colorado we have found that the proponents of bills which would

emasculate testing in schools are selecting isolated questions—quite out of context—and using them to attempt to convince legislators and public that all tests are instruments of a brainwashing underground. Criticism here has not been of interpretation but of the instruments. Efforts are directed at eliminating from tests all questions having to do with family, sociology, religion, politics, history, and the like. It is argued that the tests are used to inculcate heresies in the minds of innocent children. The movement smacks of book-burning.

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Your editorial seems to accept one of the less effective defensive arguments used by the upholders of "standardized educational and psychological tests"—that the tests are proper but the users are weak. That defense is too pat. . . . You point out the dangers of reading too much into the results of tests, but it would be hard to find one, good or bad, that does not have a heavy social impact because too much is read into it, even when used by experts. Often the enlarged interpretation is the experts' own.

You point out the strong popular appeal of such tests, but you do not add that this appeal pulls most strongly on the experts themselves. They are most susceptible to the appeal and are certainly not always the most cautious in their use. . . .

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You said succinctly some important things about educational tests and their use (and misuse). No conscientious person engaged in the development and distribution of educational tests can justify smugness or complacency about the use of such tests, no matter how high their technical and professional quality. Indeed, he will stress their limitations as well as their possible values, but he probably cannot anticipate, much less assume responsibility for, all the possible misuses of the test results by untrained and overzealous persons.

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## TV Program for Junior Scientists

In the hope that a letter in *Science* may do more good than a more direct complaint, I am writing to you about the television program "Science All Stars," that was presented on the ABC network on 12 January and advertised in your magazine [*Science* **143**, 83 (10 Jan. 1964)] as the first of a weekly series.

The basic idea of the program is excellent. It is to direct public attention and recognition to the scientific achievements of talented youngsters in the same way that athletic prowess, for example, is recognized in our culture. The mechanism chosen for this purpose is showing the winners of science fairs and their projects.

But except for the timely and well-chosen closing remarks by Glenn T. Seaborg, the first program was to my mind a disservice to science. It manifested the same confusion of science with technology that already exists in the minds of the general public, a confusion that needs to be clarified, not compounded, especially for the younger generation.

There was, for example, a brief discussion with a 16-year-old from which we learned that he had constructed a television camera (that worked) for \$40—a noteworthy accomplishment, but the best the master of ceremonies could do with it was to keep emphasizing its low cost. There was no mention of the scientific principles involved, and nothing that might stimulate a youngster's scientific curiosity. A discussion with a 13-year-old licensed "ham" was confined to his having talked by radio with an Air Force plane about to pass through the sound barrier. The remainder of the program, with two younger children, was too rushed. The whole tone of the program was too "gee whiz". . . .

The program has a potential which I hope it does not discard in a Madison Avenue wastebasket. . . .

Just as *Science* has a book review section to keep its readers informed of what to read and what not to read, so might it have a television column, which might help to raise the quality of programs that are produced under the general headings of science and education.

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