FROM THE PUBLISHER'S DESK

the relevance of science fairs

Each year, over one million high school and elementary school students participate in science fairs: competitions which are based on the quality of science projects done by the students, the results of which are presented through exhibits at the fairs.

For older students, particularly those in high school, these projects involve laboratory, field or theoretical investigations with an orientation quite different from classroom work or routine laboratory exercises. The activities are more complex, take place over a long period of time, are usually about real problems or questions, are open-ended and are usually done with little supervision.

In view of the demands which such activities make on both students and their adult advisers (often teachers), it is important for us to ask ourselves what role science fairs, like the International Science Fair this week in Detroit (see p. 474), play vis-a-vis the formal curriculum.

The usual answer is to reply that we want students to participate because it teaches them what research is really like, because it motivates them to a greater interest in science and because it permits them to go into subjects more deeply than they could in regular courses.

I should like to agree with all of these. They are indeed important. But the report on "Creativity" by Patricia McBroom in this issue of "Science News" (see p. 479) touches upon research suggesting that science fair programs have other and extremely important educational characteristics which should receive far greater attention than they have to date.

In essence, this research indicates that there is no relationship between academic achievement and adult occupational performance. In other words, good school grades do not necessarily predict a successful adult, in science or in any other field.

The reason for this is that there are abilities which influence adult success which are not tested for by grades or I.Q.-type testing, and this group of abilities is far wider and far more important than has generally been accepted.

I do not mean to imply that knowledge, as indicated by grades, is now irrelevant in the light of this new evidence. Obviously, one cannot be a good scientist without scientific background. But knowledge alone is not enough. Beyond this point, other abilities enter into and influence success.

What does this mean for science fairs? First, many of the abilities which influence success are of the type which are nurtured and developed by the kind of investigative activities on which science fair projects are based. Successful science investigations require talents different from those necessary in classroom instruction and routine laboratory exercises. They require independence and self-reliance, originality, initiative, persistence, and ability to learn from mistakes, to name but a few.

The second point concerns the selective aspects of the competition. Here the role of the science fair is in identifying young people who have done good projects, projects which indicate a knowledge of content, but which indicate originality, persistence or initiative in solving the problems involved.

It is not surprising, therefore, to note that all of our major national educational testing organizations are looking at extracurricular achievements, such as science fair awards, as a source of insight unavailable from traditional tests.

In short, the research suggests that we may look at science fairs as being within the educational process though outside the curriculum, and as making a unique and unduplicated contribution to the development and identification of the creative student.

Such importance places a great responsibility on those individuals and organizations concerned with the quality of the science education of young people today. I trust that all of us will continue to develop and improve science fair activities in order to take advantage of the remarkable potential which these activities offer.

E. G. Sherburne Jr.