

everyday knowledge must prove useful in the lives of students. Learning must be valuable enough in their experience that they will learn as well to trust and respect the system of education. For that they need clear examples of good people doing their best to make a difference in human lives—local heroes as you have named them.

Bob We've come up again to the clouds. Since I share your vision on these points I won't call it cloud-cuckoo-land. What should we do? What actions might be worthwhile and make a difference?

WHAT TO DO?

Oliver Familiarity does not have to come from boring exercises. We need epistemologically oriented inventors of games—

Bob That's a job I've been trying to create for myself for years. Not easy.

Oliver It should be easy.

Oliver What single thing do you think is most important.

Oliver Reading.

Bob Well, so the child does that at three, five, six to—nine, whatever.

Oliver It's not whatever. It's forever. There's a door opener for you. There are other higher-level things too, like curiosity, like being able to challenge authority.

Bob I urge my kids to question authority, my own included—but don't teachers already have major problems in this area. They get no respect, have no authority of any importance.

Oliver Our role is to do best what we can, with respect to those parts of education we have some control over. We need to distinguish between those problems that can be solved or those processes that can be controlled and improved and all the others in the morass that confronts us. There isn't much that can be done in the short term. The really long vision requires improving schools of education.

Bob How?

Oliver By doing real research.

- Bob But real research in the soft sciences is very hard. And yet there is a lot of money in fact that goes for education research. How would you improve the overall situation?

AN APPROACH THAT WORKED

- Oliver In the early 1960s there was a panel—a Study Section—for NIH that gave away research money. We had a modest goal. We looked at medicine, specifically research in medicine, and almost nobody used computers. So it was said that it would be a very good thing for medicine to understand about information and to use computers. The country threw money at research doctors through several of the study sections. In our study section, we gave money to the schools of medicine. We gave them computer centers, and we gave direct money to support research using computers. Lots of it. We ran around hard, paying attention to quality in the projects. Fifteen years later, 85 percent of medical research throughout the country was using computers and finding it enormously profitable and useful. They were hooked. When it started, they got money for just using computers. But much more important, it paid off for them. They were hooked because computers helped their research. They did better research, and it was better recognized.

- Bob You threw money not at problems but at creative and energetic people who had the potential to make significant contributions and had the position to bring about dissemination of the ideas.

- Oliver Exactly, and those were all the best doctors who worked in medical schools. So they became the image of the healer. That's where you've got to start, for education too. You mentioned there weren't any heroes. Well let's get some heroes. Let's pay. Let's throw some money at the heroes, let's have some kind of a vision which points the way to go. And the heroes aren't just good teachers. Remember these doctors who are the heroes don't necessarily cure patients at a spectacular rate. They do medical research at a spectacular rate, and good research. You want to give such people with promise the chance to become heroes. That's what these medical researchers did, and then the patients got treated well.

Now I'm not sure such an approach would work directly in education, but it has some chance. You can't just support research to study classroom techniques, any more than medical people looked at the interaction between doctors and patients. By and large medical research never did that. But if you go to the teachers, that's what they're going to think research is about. You go to educators and they'll ask whether we give the exams right. That's why a Secretary of

Education should be someone who has a bigger vision of what education is about. But not so big as to be unworkable. Research should be done on the nature of knowledge and learning and the development of purposes. People should do experiments—in a very broadly construed sense—and trace sets of significant examples that can carry conviction in illuminating specific cases. Now in any case, you asked me; that's my answer, and that's what I mean by education research quite specifically.

Bob Your committee of grand old men—

Oliver We were younger in the 1960s.

Bob —would have to focus on people who are developing their own line of research with some novelty and potential for depth. The clannishness of academics is legendary. Isn't nepotism a significant danger?

Oliver Direction by old fogies may be the worst kind—except for every other kind. Would you rather have review panels made up of young turks who are competitors or who are perhaps antagonists to researchers whose grants were being reviewed?

Bob Perhaps your approach could be less pernicious than other kinds. If one were to make a program . . .

Oliver Doubtless it would be partial and imperfect because many purposes must be served. But at least we owe to our young friends two things: first, an honest clarification that distinguishes between problems that are social problems confronting educators and those problems that are educational; and second, funding for research that will support real education when social circumstances permit.

Bob The purposes are sure to get confounded.

Oliver To the extent that economic competitiveness is driving any reform, you should expect it to be biased in favor of quick fixes and shallow definitions of problems. For that very reason, those of us who can see how deep the problems go and how hard it will be to make improvements should argue for research that offers promise of long-term, stable progress.

Bob That's your should.

Oliver Well, it's certainly not a should-not. We can no longer let it be a never-mind.

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