Another area to which the panel closely attends is technical soundness—the appropriateness, coherence, and fit between the research question or issue applicants are addressing and the research design and the measurement and analysis procedures they are proposing, according to Kaufman. "The burden of responsibility to make that connection is on the applicant."

The division encourages applicants to collaborate with the affected communities. DID's ability to stimulate communication and collaboration is what Kaufman describes as the most compelling part of its work.

"One of the exciting things for us as we look ahead is to try to develop new formats for communication between different audiences, communication that produces the right level chunks in the right format for the right audience. You need refineries to put it all together, to make the whole greater than the parts.

"Our dollars can leverage and induce action that creates the refineries," he adds, "and that provides the linkages for making the different cultures more compatible. The end is not to produce articles but to get change."

Kaufman says that past competitions have funded projects related to restructuring that "try to achieve a greater unity holistically in the schools." These interventions, he says, are inclusionary. They bring special education students in as part of, not separate from, the rest of the students. "What we are trying to produce is curricular and instructional choice, so schools don't set up single ways of doing things that don't deal with the diversity of kids."

Kaufman believes that the way to promote linkages is "to create a community capacity of researchers, knowledge appliers, practitioners, program policymakers, and the professional community to generate a knowledge base, skills, and competencies to affect practice and programs.

"We are writing priorities that say you have to go out to the 'bargaining units' of the associations and be sure they are part of the research. We believe that if we are going to make a difference and have a great effect on practice, those perspectives are valid. That's not just communication; that is culture. In this agency, we recognize and value the role of disciplined theory and methodology, but in this program they need to be joined with the perspectives of the consumer."

In the higher education community, where 90% of the research projects are based, Kaufman believes these linkages would stimulate better communication on campuses between general education, special education, education psychology, curriculum instruction, and school psychology. But they would also go outside the campus.

"What is most exciting is the question of how to create not interdisciplinary perspective but intercommunity collaboration, not just in doing work, but in defining and solving problems. This would pull together all the people from the foundations departments of colleges of education and from the cognate areas on campus to work with their special education faculty and collectively link to the practice communities."

There is a balance that must be struck between providing information that informs as opposed to providing assistance, says Kaufman. "Because of where we are at, there is no doubt in our minds where the accountability lies." There is useful knowledge and usable knowledge. "We've got to get to *usable*."

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A Slice of Advice

This column is the third in a series presenting the advice of veteran educational researchers aimed at their junior colleagues. Each invited contributor will be asked to offer one or more career-relevant guidelines for beginning educational researchers, developers, and/or evaluators. The column's function is to serve as a repository for the experience-based insights of our field's senior members—insights that, if not shared, must be rediscovered.

The quality of your research and the career you are able to build for yourself are intimately related. What you are able to say in print and how people regard what you have said will be significantly influenced by the ways in which you think about research and how you choose to pursue it. What follows is a set of guidelines that are distilled from my own experience both as an empirical researcher and as a scholar whose major intellectual efforts have focused on the conceptualization and analysis of educational problems. These guidelines are efforts to identify the beliefs that had been important to me as I have tried to build a career for myself in the field of education and to do the kind of intellectual work in which I could take some pride.

Guideline 1

Have confidence in your own convictions about the aims of your research, what you believe to be important, and the methods you intend to use.

Make no mistake about it; the educational world is filled with pressures on young researchers to conform to existing doctrine. In fact, since their graduate days, educational researchers have been socialized into beliefs about method that are seldom questioned. The result is a strong tendency to define problems or to frame questions that fit into existing methodological canons. It is in this sense that method and content are in a state of mutual definition. When you have a conviction about what you believe is important to study or how you think it should be studied, my advice to you is to pursue that conviction. Try to realize that vision even when all around you people have doubts about your sanity. It wasn't very long ago when the idea of using narrative to account for the way in which the educational world turned was regarded as essentially outside the world of knowledge. Impressionistic! Subjective! Unreliable! Undependable! A think piece! (Somehow the negative connotation of *think piece* has

always escaped me.) Yet today, narrative and other forms of qualitative inquiry are regarded as legitimate, indeed most appropriate, ways to address particular kinds of problems and issues.

My point here is that the unexamined acceptance of conventional methods is the surest way to generate conventional research. Having the courage to stick to your personal vision is the most promising way I know of doing work that will capture the attention of others. You will, of course, need to be willing to take on the critics. Yet, nobody ever moved confidently into the future concentrating on their behind. As long as your convictions about your aims and your methods are supportable, your own rationality will provide the deepest source of your security.

Guideline 2

Don't forget that the conduct of research is an artistic activity and the writing up of a research study an aesthetic problem.

We often tend in our thinking about inquiry to dichotomize science and art. Science is hard and art is soft. Science is objective and art is subjective. Science provides an understanding of the way things are; art provides a personal interpretation. Scientific research is methodical and pre-planned; artistic inquiry is adventitious and without method. These dichotomies are unfortunate. The conduct of research is never as tidy as textbook renditions. Those who seek recipes or rules to follow are likely to hamper their own sensitivity to emerging possibilities and to suppress their imagination in the interpretation of the results.

My point here is that in the context of investigation, scientific inquiry is an art. There are no algorithms to follow in either the conduct of research or the interpretation of the results. One always needs to exercise imagination and employ one's sensibilities. Scientific research, in the end, is a construction and the more artistic in character, the better.

For writing up results, this principle means that it will be necessary at times to chuck some data in the interest of coherence. It means that in writing, matters of pacing, tempo, the connotations of language, the allusions employed, the metaphors used, the ways in which a crescendo emerges in the preparation of a research report all matter. It means that the reader of your work should not be encumbered by language that seems to roll like a square-wheeled cart across a brick road. Your writing needs to make it easy for the reader, for without a reader, in a certain sense, there is no text. Thus, the shaping of language with attention to its unabashedly aesthetic features is an aspect of research that may very well determine whether it goes read or unread; hence, the willingness to address the aesthetic quality of text is no marginal consideration. In the end, it is among the most important features of a research study.

Guideline 3

Try to situate your inquiry in a social and historical context in order to increase its meaning and significance to the reader.

Almost all educational problems of any importance are problems that have a history, that have been addressed in the past, and that have import for the current state of affairs in education. Enabling the reader to understand the importance of the problem you are addressing means helping them understand the way it has been addressed before and how it connects to problems that people care about today. What I refer to in the foregoing is not merely a review of the literature, but the creation of connections between the history of educational thought and practice and the problem you are addressing.

Consider, for example, questions having to do with curricular integration and whether the integration of subject matter increases meaningfulness for students. Integration of curricula is a topic with a history, and it is a history that is replete with competing perspectives. The progressive educators of the 1920s and 1930s placed a premium on the use of thematically oriented projects. In their view, the fragmentation of curricula into disciplinary boundaries created conditions that made it difficult for students to see the relationships between the subjects they studied. It also decreased any practical meaning those subjects could have in the lives that students led. Hence, the approach that was advocated by many progressives was one in which integration of content was a primary aim.

With the publication of Jerome Bruner's *Process of Education* in the 1960s, and the funding of disciplinary-oriented curricula, another vision emerged. Disciplinary structures that centered around what Bruner called the *structure of the disciplines* became important precisely because they facilitated both the storage and the retrieval of knowledge and because they retained the methodological integrity of the subject. With Bruner's notion about appropriate curriculum development, an approach was advocated that was at least orthogonal to the approach taken in the twenties. Addressing the topic of integration with what might be regarded as a portrait of the intellectual history of the idea is a way of contextualizing a research problem so that its significance and meaning are increased for the reader. There is virtually no educational question that a research project addresses that does not have a similar set of conditions. Context is always present, and the placing of a problem in its context is one way to capture the reader's attention.

The foregoing guidelines, as I'm sure you understand, do not guarantee high-quality research, but I do believe they increase the probability that the research undertaken will be meaningful and important. Pursue what you have strong convictions about. This is a part of your strength, and it always pays to play to your strengths. Recognize that the shaping of a research proposal, the conduct of research itself, and its preparation in text form a significantly artistic and aesthetic undertaking. Don't shy away from the artistic features of inquiry or the aesthetic qualities of its product. Do not assume that readers understand the intellectual history of the problem you are addressing or fully appreciate its magnitude. By situating the problem in a historical context and by framing it in a way that whets the reader's intellectual appetite, you increase the likelihood that receptivity to your work will also be increased. Without a reader who has the desire to stay with what you've written, the research that you do—even when published—is unlikely to make any difference. Conviction, aesthetics, and context. Pay attention to all three.

Reference

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