ABSTRACT
         Although scholars and policy analysts both value
quality-controlled collections of research results, they evaluate
research according to different criteria. Nevertheless, an
examination of a pessimistic fictional research experience and a more
productive actual experience indicate that, although differences in
focus between scholars and policy analysts may make the interaction
of research collections and policy analysis difficult, a productive
match is possible through emphasizing the strengths of each. To
facilitate this effective interaction, policy analysts must
appreciate the need for theoretical context and recognize that it
often will be communicated in terms of specific empirical results not
useful in themselves; scholars and other data collectors must develop
indexing and research facilities capable of handling diverse
questions framed in different ways and of allowing users to browse in
the collection; rapid retrieval of detailed information must be
facilitated; and policy analysts must provide feedback to the
scholars and collectors responsible for the research collections.
Specific implications for REDUC (Red de Documentacion en Educacion
para America Latina y el Caribe) are that system development should
recognize differences between the system's contributors and users,
that considerable effort should go toward developing a thoughtful
user base, and that administrative and advisory mechanisms should
maximize informal communication between the producers and users of
educational research. (KM)

Educational Research and Decision Making:

The Special Case of Research Collections and Policy Analysis[1]

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"...I cannot guarantee that I carry all the facts in my mind. Intense mental concentration has a curious way of blotting out what has passed. The barrister who has his case at his fingers' ends and is able to argue with an expert upon his own subject finds that a week or two of the courts will drive it all out of his head once more. So each of my cases displaces the last..."

-Sherlock Holmes, in The Hound of the Baskervilles

Faced with this problem, aficionados of Conan Doyle will recall, Mr. Holmes maintained an elaborate set of notebooks and file boxes, in which he recorded all potentially useful facts about crime, criminals, and potential crimes that appeared in London newspapers. On many occasions, Dr. Watson reports, criminals found themselves in custody because Holmes was able to recover and use important facts from his files as needed -- facts that others, including Scotland Yard, found important only in retrospect.

The essential features of Holmes's files were that collection according to specified rules preceded use, and that a carefully designed

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[1]These remarks were prepared for a conference on REDUC (Red de Documentación en Educación para America Latina y el Caribe) held at the Organization of American States in Washington D.C., U.S.A., on October 16 and 17, 1986.

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index permitted access tailored to the problem at hand. These same

features define REDUC and similar collections of educational research

intended, in part, to inform policy decision making. But such collec-

tions differ from Holmes's in one key respect: whereas Holmes both

collected and used his data, scholars (or others following scholars'

procedures) place material into research collections for policy analysts

and other decision makers to use.

Scholars base current research on earlier conceptual and empirical

work. To facilitate this they develop systems for publishing, archiv-

ing, abstracting, indexing, locating, and retrieving earlier work. In

the interest of parsimony such systems retain good work and discard the

rest, and therefore require rules for evaluating research and maintain-

ing quality. Such rules figure prominently, albeit implicitly, in

mechanisms for creating collections of research results.

Policy analysts, meanwhile, increasingly use tools capable of incor-

porating research results into planning, particularly in education and

other social domains. Such tools prove particularly useful when

relevant, useful research results are readily available -- when, for

example, an existing collection of research results meets these quality-

control criteria. It follows that both scholars and policy analysts

value quality-controlled collections of research results.

If scholars provide policy analysts with collections of research,

and both groups value quality, it seems to follow that planning and

decision making will improve. This rarely proves true, I will argue,

largely because scholars and policy analysts evaluate the quality of

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information differently. Therefore, scholars do not produce the
collections policy analysts need, and policy analysts expect research
collections scholars generally will not produce. Let me illustrate the
argument -- I am instructed to be brief, which precludes full proof --
with a fictional, general, and somewhat pessimistic example, then
recount a related and more productive experience in the United States
(both dealing with enrollment policies in higher education), and finally
try to identify some principles for an effective integration of schol-
arly and policy interests in research collections. Without such
integration, I submit, there can be little productive interaction
between educational research and decision making.

It Can't Work...

Scholars review research according to principles established within
various methodological and disciplinary domains. A quantitative
sociologist, for example, might well evaluate studies of college
enrollment according to their representation of relevant sociological
theory -- on status attainment, say, which includes educational attain-
ment -- and according to their use of statistical techniques such as
regression analysis. Studies which score well according to both
criteria "pass", and constitute journals, indexes, ERIC, and so forth;
studies deficient in either or both "fail", perhaps to be revised and
"passed" later. It is most important, from the scholar's perspective,
that a study be done and set "right"; otherwise the rules of scholarly
discourse place it beneath notice.

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Thus have there developed two major bodies of work on postsecondary educational choice. One draws on sociological theory and data to argue that social class and social context contribute mightily to early academic achievement, which joins its precursors to influence postsecondary choice. The other body of work draws on economic investment and consumption models to argue that social class, social context, and academic experiences jointly produce various tastes for education in individuals, and that to decide whether to enter university prospective students weigh the economic and other returns education brings, including the satisfaction of tastes, against its costs and the relative costs and benefits of other choices[2]. The relevant studies in both domains tend to rely on longitudinal surveys of student backgrounds and choices, using various statistical techniques for evaluating different variables' effects and interactions, or on detailed case studies of individual choices. These bodies of work are well documented in standard collections of sociological, economic, and educational research.

Now, to move from scholarship to policy analysis, consider a Minister of Education committed to increasing the number of citizens

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[2]For reviews of these literatures as they bear on the United States, see G. Jackson, "Public efficiency and private choice in higher education", Educational Evaluation and Policy Analysis 4 (1982) 237-47, or D. Terkla and G. Jackson, "The state of the art in student choice research" (1984), soon to be available (a chronic problem) as an ERIC document. A classic exemplar of the sociological approach is to be found in W. Sewell, R. Hauser, and D. Featherman, Schooling and achievement in American society (New York: Academic Press, 1976), and of the economic approach in C. Manski and D. Wise, College choice in America (Cambridge MA: Harvard, 1983). The most recent work is my "Workable, comprehensive models of college choice", a 1986 report to the U.S. Department of Education not readily available except directly from me.

with bachelor's degrees, perhaps in economically important fields such
as science, engineering, and agriculture. She wants to know how
university students differ from other individuals of like age, and
particularly how the Government can modify those differences and thereby
(she hopes) increase enrollments. Is access the problem, in which case
creating new institutions in underserved areas might help? Or should
the Government work to reduce financial barriers at existing institu-
tions? What about curriculum reform, faculty salaries, and athletic
facilities?

An advisory panel of sociologists, using its established research
data base, informs the Minister that an array of variables -- social-
class background, academic experience in high school, and the availa-
bility of nearby colleges or universities, in particular -- work
together to affect enrollment decisions; they provide her with abstracts
of well-respected articles demonstrating just this in several different
contexts. The Government Statistical Bureau, relying on its various
data archives, provides tables of university-age individuals by social
class, distributions of high-school grades, and maps of population and
university locations.

Everything appears to be working just fine. The data look impres-
sive, and rich conceptual descriptions of educational choice abound;
much of this has come from established research collections, some of

them spanning national boundaries[3]. After some thought, however, the

Minister finds herself dissatisfied. She must choose among possible

policies and justify her recommendations in terms of relative cost and

benefit, but neither the sociologists nor the statisticians will make

comparative projections: the sociologists require individual data on

interactions among variables to use their statistical models properly,

while the Statistical Bureau offers only aggregate data and avers that

its job is to document, not to guess. Consulting economists yields the

Minister different articles and concepts, but the same unsatisfactory

result.

Ultimately the Minister asks her staff and consultants to assemble

useful data, however informal and ad hoc, so that she can make her

decision and justify it. They do this through anecdotes, calls to

administrators involved with student choice, and some organized guess-

work. The Government's policy analysis draws only marginally on the

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[3]It bears noting in this company that ERIC identifies a socio-
logical counterargument based on Chilean data, where Ernesto Schiefel-
bein and Joseph Farrell have found that educational variables may
influence social attainment more than family variables, and that
educational quality is more important than educational attainment. J.P.
Farrell and E. Schiefelbein, "Education and status attainment in Chile:
A comparative challenge to the Wisconsin model of status attainment",
Comparative Education Review 29 (1985) 490-506; E. Schiefelbein and J.P.
Farrell, "Educational and occupational attainment in Chile: The effects
of educational quality, attainment, and achievement", American Journal
of Education 92 (1984) 125-62; E. Shiefelbein and J.P. Farrell, Eight
years of their lives: Through schooling to the labor market in Chile
(Ottawa: International Development Research Centre, 1982). The authors
attribute the difference between Chile and the United States to the less
stable socioeconomic structure in Chile, and the Minister might well
want to consider her own country's situation as she proceeds. Identify-
ing such cross-cultural variation is a major service research collec-
tions can provide.

carefully collected wisdom of scholars in relevant disciplines, and extensively (but untraceably) on the assumptions, insights, and preju- dices of numerous civil servants. The problem is that scholars' emphasis on design and focus meshes poorly with policy analysts' need for breadth and timeliness.

Neither side is behaving unreasonably here; each seeks data which meet its criteria for quality. For scholars these involve theory and method, and lead to an emphasis on longitudinal or intensive research. But longitudinal research is almost by definition not timely, while intensive individual research, however insightful, is difficult to generalize to larger populations with any statistical accuracy. For policy analysts the criteria for useful research are timeliness, comprehensiveness, accessibility, and extrapolability. Studies which meet these criteria often gloss over important theoretical distinctions, blur individual or subpopulation differences, and draw inferences about individual-level phenomena from aggregate data. However reasonably the sides behave, in view of these incompatibilities they probably will not collaborate effectively through a research collection. If my example represents reality, the prospects for ERIC, REDUC, policy-analysis journals, and similar services which seek to serve both audiences appear bleak, and educational research will have little influence on decision making[4].

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[4]This approximates the conclusion Jean-Pierre Vielle reached in his study of educational research and policy in Mexico, J.P. Vielle, "La capacidad y el impacto de la investigación educativa" (Mexico: Programa Nacional Indicativo de Investigación Instructiva, Reuniones de Informa-

...But It Can...

Let me move quickly to a true story about higher-education policy
analysis in the United States, one which augurs better for the role of
research collection in policy analysis. During the mid-1970s the United
States Congress expanded federal financial-aid programs for post-
secondary students and institutions, including scholarships, loans,
various forms of loan guarantees, support for specific institutional
activities, and in a few cases general institutional support. Combined
with growth in the number of potential students, this produced sharp
increases in federal expenditures on higher education. These expendi-
tures clearly were headed for unsustainable levels, so budget cuts were
inevitable.

Since many of the federal financial-aid programs involved entitle-
ments or guarantees it was difficult to estimate the savings various
cuts might entail or to compare these in light of their political costs.
David Mundel, once a colleague of mine at Harvard but then working at
the U.S. Congressional Budget Office, was asked to develop a simulation
model capable of estimating the effects of likely changes -- such as
needs tests, institutional exclusions, award limits, debt limits, or
emphasis on certain majors -- on enrollment patterns by region, on

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ción Educativa, 1979, mimeo) -- a conclusion strongly disputed by Carlos
Muñoz Iglesias in an editorial, Revista Latinoamericana de Estudios
Educativos 10 (1980) v-xiv. Vielle and Muñoz were arguing about the
relative merits of scholarly and action research, but the same issues
speak to the relationship between research collections and policy analysts.

overall program expenditures, and on the distribution of program

benefits by region, socioeconomic and minority groupings, and so forth.

Mundel began by consulting "the literature" -- not, as it happens,

through ERIC, but through an essentially equivalent search involving

other indexes and bibliographies. His conclusion essentially matched

the Minister's in the fictional example above: existing research was

"good", in the scholarly sense, but provided too inconclusive a base for

his assignment. Theories were, Mundel observed, more detailed and less

inclusive than he required, and most statistical models were too

specialized to be usable with existing demographic and distributional

data. Controlling his instinct to abandon the scholarly approach and

start from scratch[5], he tried to extract specific effect estimates from

the diverse studies. Matters looked up. On several points, such as the

response of prospective students to price and financial aid and the

effects of college or university proximity, he discovered great consis-

tency across studies, particularly after adjustment for methodological

differences. Moreover, the broad features of the postsecondary-choice

process varied little from study to study, even though some studies

ignored effects others found important. Gradually Mundel developed an

outline of the choice process and a general sense of variables' relative

impacts.

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[5]Mundel was, as it happens, co-author of a seminal work on college
choice: M. Kohn, C. Manski, and D. Mundel, "An empirical investigation
of factors which influence college-going behavior", Annals of Economic
and Social Measurement 5 (1974) 391-419. This may explain his persistence.

Search-based model in hand, Mundel built a statistical model, bringing in available demographic data and specific estimates where possible, making reasonable assumptions in other cases, and repeatedly testing the sensitivity of his model's predictions to changes in assumptions. Before long he had developed an ad hoc model responding to the Congress's needs, and could assert safely that it represented both current scholarly research and the specific policy interests which motivated it. Mundel's model eventually evolved into one used by the Department of Education, where it continues to influence policy; its longevity stems, in part, from a relatively sound theoretical base.

If this story generalizes then the outlook for scholarly, policy-relevant archives like ERIC and REDUC is less bleak than it seemed in the preceding section. However, positive results seem to require a strong, thoughtful, judgmental, integrative user willing to evaluate and extend the product of research collections. In other words, whether a research collection is useful depends as much on the user as it does on the collection. This suggests a broadened emphasis on users among those seeking to advance research collections as policy-analysis tools, an emphasis generally absent in ERIC but, if this meeting is any guide, increasingly present in REDUC. Let me conclude with some comments on the appropriate relationship between users and research collections.

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...if Everyone Knows What to Expect...

Thus far I have concentrated on fictional and concrete stories illustrating the difficult interaction between policy analysis and research collections and pointing to the requirements for successful connection. Let me rehearse the three key points that emerge.

Scholars and policy analysts evaluate research according to different criteria.

Scholars determine whether given pieces of research meet accepted standards for theoretical foundation and research method in the appropriate discipline, attending to (and "keeping", in the archival sense) studies that do and ignoring those that do not. Ambiguity arises around paradigmatic changes within disciplines, and around disciplinary differences. Policy analysts. on the other hand, assess the relevance of research to their assignment (policy analysts virtually always are working on a legislative or executive assignment), its adequacy as a basis for projection (policy analysis very often involves projection), and its timeliness, often finding that only ad hoc research will do.

Neither policy analysts nor scholars like to compromise their notion of quality; each expects the other side to adjust.

This stems not from childishness, but from each side's reasonable desire to do its job before it does someone else's. Incentives lie at the heart of the difficulty: policy analysts are rewarded for producing the required analysis, not for synthesizing scholarly works; scholars are rewarded for being scholarly, not for modifying disciplinary

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conventions to meet someone else's needs. Exceptions appear only when

individuals in either camp derive satisfaction from working effectively

in the other: when policy analysts become interested in the theoretical

context for their work, and in the accretion of knowledge over time, or

when scholars become interested in the practical implications of their

work for improving practice.

A productive match between research collections and policy
analysis involves emphasizing the strengths of each: drawing
broad, theoretically sound models and rough estimates from
collections, and relying on ad hoc research to translate these
into useful answers.

Expecting scholarly research by itself to provide full, timely

answers to practical questions or ad hoc policy analysis by itself to

find robust theoretical ground is futile, but each is unexcelled on its

own turf. Integrating the two domains, however, is the exclusive

province of policy analysis, since the policy relevance of research

cannot be discerned or evaluated until a question appears. This has

implications for the necessary attributes of users and for search

facilities, to which I now turn.

...and Is Properly Equipped.

I recounted David Mundel's experience above because it illustrates

clearly what is necessary for research collections to function effec-

tively and to improve policy analysis.

First, the policy analyst must appreciate the need for theoretical

context, and recognize that this theoretical context often will be

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communicated in terms of specific empirical results not themselves
useful.

Second, scholars and other data collectors must recognize their
limited ability to foresee what questions will be asked of their data.
They must develop indexing and search facilities capable of handling
diverse questions framed in different ways, and of allowing interested
users to "muck around" in the collection. (In open-stack libraries,
readers may recall, this involves using the catalog to find the right
floor and shelf, and then seeing what else is shelved nearby; research
collections, particularly computerized ones, rarely provide analogous
forms of access.)

Third, it must be possible to retrieve detailed information from
collections rapidly; one- or two-week intervals between computer
searches for relevant database entries and the arrival of detailed hard
copies, typical for educational-research collections, often exceed
political tolerance.

Fourth, and perhaps most important in the long run, policy analysts
who manage to use research collections to good effect must provide
feedback to the scholars and collectors responsible; this can provide
not only guidance, but also the incentive otherwise lacking for schol-
arly work to serve policy needs.

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REDUC

If this argument contains morals for REDUC they are that system development should recognize differences between the system's contributors and users, that considerable effort should go to develop thoughtful users of its contents, and that administrative and advisory mechanisms should maximize informal communication between the producers and users of educational research. To be avoided are designs which reduce system responsiveness, which presume that decision makers will change their behavior to match REDUC's, or which evaluate quality according to either scholars' or policy analysts' criteria alone.

There is little question educational research can inform and improve decision making. But there is little reason, given the political and social importance of educational decisions, to expect research -- and particularly research collections such as REDUC -- to have overwhelming or immediate effects. Expecting too much, under these circumstances, entails receiving discouragingly little; hoping and designing for the best -- but not expecting it! -- may well yield success.

October 1986