

A Test of Some Common Contentions About Educational Research

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In recent years, educational researchers have become consumed by arguments about the relative merits of different genres of research. Some researchers advocate experiments, others advocate ethnographies, and still others advocate narratives. Many genre advocates refer to teachers to justify their arguments, claiming that teachers need more authoritative knowledge (so we should conduct experiments), more dynamic portraits that reveal multiple truths (so we should write narratives), or more richly detailed accounts (so we should do ethnographies). This study examined a variety of contentions about research genres by asking teachers to read and discuss five examples of research, with each example representing a different research genre. Teachers' responses to these articles did not support any of the common contentions about research genres. I conclude from the study that genre is not the most important determinant of an article's value to teachers and that the genre argument is distracting educational researchers from other, more important research tasks.

Educational research has a long history of frustration and disappointment as both practitioners and policymakers have appeared to show little interest in the area. Speculations about the sources of this problem, and proposed solutions for it, fill our journals (for a review, see Kennedy, 1997). Many of these speculations are accompanied by admonitions for how we could improve the value and usefulness of education research. Perhaps, for instance, we could make our work more definitive by improving the rigor of our experiments, or perhaps we could better capture the nuances of classroom life by carrying out more ethnographies. Many of these admonitions have to do with the *form*, or *genre*, that research takes, rather than with, say, its content, and we now have a virtual catalogue of arguments for engaging in one or another research genre.

While debates about method and purpose are generally healthy, they can also become divisive, and some members of the education research community are beginning to complain about the divisive tone of the current debates (e.g., Cizek, 1995; Howe, 1985). Gage (1989) has referred to these arguments as “the paradigm wars,” and other authors have complained that the tenor of the arguments forces dichotomous thinking, such that one side or the other must prevail, with no detente possible.

The study reported here examined several of the contentions about the relative merits of different research genres by examining teachers’ responses to them. Teachers are not, of course, the only possible audience for educational research, but they are an important audience, and their presumed response underlies much of the debate on the question of research genres. Before describing the study, I review some of the most common contentions that have been put forward regarding research genres.

The first set of contentions developed along with enthusiasm for experimentation in education. These contentions include arguments that the goal of educational research is to develop statistically reliable, generalizable findings regarding a network of causal relationships that practitioners can use to improve educational outcomes; that experimental control of rival hypotheses is an important feature of sound research; that representative samples are important features of sound research; and that policymakers and practitioners cannot be expected to draw on educational research findings until we can provide them with dependable, verified principles. Advocates for experimentation may use any combination of these contentions to make their case.

The notion that researchers should engage in rigorous experimentation was especially popular from the 1940s through the 1960s when statistical techniques were being refined and increasingly complex experimental designs were being devised to cover myriad contingencies. The discovery of causal relationships was especially important, and experimental control was the route to sorting out multiple possible causes. This need for control was one of the main reasons researchers wanted to conduct their research in the laboratory. Design considerations were so central to the thinking of educational researchers that a chapter on research design that appeared in the first *Handbook of Research on Teaching* was reprinted as an independent monograph and

became required reading for graduate students for at least a decade. This was, of course, Campbell and Stanley's (1963) *Experimental and Quasi-Experimental Designs in Research on Teaching*. Campbell and Stanley brought to researchers' attention the notion of rival hypotheses and listed several of them that researchers needed to control for. Their admonitions made comparison groups important and made random assignment to groups one of the central criteria for sound research design. Early on in their paper, they define their premise as follows:

This chapter is committed to the experiment: as the only means for settling disputes regarding educational practice, as the only way of verifying educational improvements, and as the only way of establishing a cumulative tradition in which improvements can be introduced without the danger of a faddish discard of old wisdom in favor of inferior novelties. (Campbell & Stanley, 1963, p. 2)

Similarly, Geraldine Clifford (1973) advocated experimental research when she stated:

If the aim of research is improving effectiveness and promoting change, intervention data are probably the only kind worth reporting to teachers, counselors and administrators. The research reported should be of the kind with which professionals can do something obvious. There is little merit to status research—unless the point is, for example, to clarify differences among groups so as to encourage the teacher to intervene. (p. 45)

Although early experimental research was confined to laboratory studies, the decades of the 1960s and 1970s were characterized by a movement to field-based experiments or quasi-experiments, such as the Follow Through program (Kennedy, 1978). Over time, such studies proved more difficult than early advocates had imagined as the problems associated with sorting out competing causal influences; garnering cooperation from administrators, teachers, parents, and politicians; finding ways to adjust for natural disasters and other interruptions to the work; and so forth became more apparent.

Although experiments have proved to be difficult to manage, their importance as a means to justifiable knowledge has not lost its appeal, and many members of our research community continue to press for evidence that can provide more compelling guidance to the field. And their rationales continue to draw on roughly the same set of contentions they always have. Some note the need of practitioners for more solid evidence to justify education practices (see, e.g., Greene, 1998; Grossen, 1996; Hargreaves, 1997; Slavin, 1989), some stick to methodological details such as representative samples and comparison groups that do not introduce rival hypotheses (Pressley & Harris, 1994; Vinovskis, 1993), and some focus on the importance of experimenting in real-world settings.

Matched almost point for point with the contentions surrounding experimental research is another long-standing set of contentions that are used to

justify case studies and ethnographies. Included in this body of thought are contentions that educational events are governed not by universal laws of cause and effect but, instead, by human intentions and by multiple concurrent and interacting influences; that the meanings of these events can be understood only within their context; that detailed descriptions of the full range of these interactions and dynamics are the only way to accurately represent these events and their meanings; that the kind of complex dynamic knowledge represented in case studies and ethnographies is more like the kind of knowledge ordinary people use to store their own experiences (Bolster, 1983; Stake, 1978); and that such detailed and multifaceted descriptions enable audiences to see similarities and differences between the research setting and their own situations, thus enabling generalization by analogy rather than by statistical extrapolation.

Bolster's (1983) article illustrates how the audience of teachers is used in these arguments. Bolster noted that teachers' knowledge is ideographic and is verified through a continual process of testing actions by observing their consequences, whereas research knowledge is nomothetic and is verified through use of particular methods and through peer review. One result of this process is that the meanings of particular events are overlooked. Bolster continued:

I believe the fundamental requirement of any inquiry which hopes to be consonant with the teachers' perspective on teaching is that it must view human behavior as reflexive.... Significant knowledge of any social situation, therefore, consists of an awareness of the emerging meanings that participants are developing and the specific ways that these meanings are functioning to shape their endeavors and thus the characteristics of the situation itself. (1983, p. 303)

Bolster (1983) concluded that the genre of choice for educational research should be ethnography: "*thick, critical descriptions* of what is naturally and characteristically occurring as teacher and students go about their daily business in a specific classroom" (p. 304). By the time Bolster presented this argument, though, the turn to ethnography had become so pronounced that even its own advocates were concerned about its excessive popularity (see, e.g., Rist, 1980).

There is also a set of contentions about education research that tends to lead researchers to prefer *narrative* as the best genre for the field. Responding in part to postmodern arguments about the culturally constructed and relative nature of knowledge, and in part to the realization that findings from case studies and ethnographies are difficult to justify, advocates for narrative have put forward a set of contentions that lead them to conclude that narratives are the most appropriate genre for education research. Included in this body of thought are contentions to the effect that human beings tend to store their own knowledge in narrative form (Bruner, 1985; Connelly & Clandenin, 1990), that narratives capture life in the way that it is experienced (i.e., through time and through intentions), and that narratives permit multiple interpretations and

meanings and thereby reflect the indeterminate character of most situations. Walter Doyle's (1997) recent article advocating narratives represents this school of thought; Doyle claimed that "teaching can only be known through story, that is, through a rendering of the events within which teachers, students, and curriculum are mutually engaged" (pp. 98-99).

Interestingly, advocates for narratives often aim not for authoritative findings but, in fact, for just the opposite. Barone (1990), for instance, suggests that the fictitious nature of a report can help readers expand the range of possibilities, and Mitchell (1985) has suggested that research might be better received by teachers if it were presented more tentatively rather than authoritatively.

Yet a fourth set of contentions leads its advocates to conclude that *teacher research* is the preferred genre for educational research. Advocates for teacher research also put forward a variety of contentions that lead them to conclude that teacher research is the most appropriate genre. Teacher research is frequently advocated as a form of professional development, a way for teachers to learn to examine their own contexts and their own practices more critically. But it is also advocated as a way to improve the larger body of literature on teaching, because the failure of academic researchers to consider teachers' point of view has led to a schism between what researchers claim to know and the practices that appear in our schools (Cochran-Smith & Lytle, 1990), because teacher research is more likely to address the practical problems that teachers actually have (Lytle and Cochran-Smith, 1994) or because teachers' voices have been excluded from the research process and from the official literature on education and hence have become marginalized. Involving teachers in the research process is a way of recognizing their unique professional knowledge, of learning from them, and of rectifying the extant power imbalance.

This overview of some of the more common contentions about research genres does not give justice to the depth or complexity of any of these lines of thinking or to the subtle ways in which particular contentions have been woven together to generate arguments for a given genre. Nor does this quick review capture the depth of feeling that has accompanied many of the arguments or the variety of rebuttals and counter criticisms that have been put forward. Still, it is sufficient to indicate the extent to which this field has become divided over questions of method and purpose.

Two observations are important about these continuing debates. First, despite the wide chasms that seem to separate the various genre advocates, these diverse groups also share at least two important assumptions. One assumption is that the bridge between research and practice can be found in a particular genre of research. That is, if only we can find the right research method—the experiment, the case study, the narrative, or some other genre—we will be able to produce research that teachers will find compelling and useful. The other assumption shared by advocates in this debate is that teachers are a homogeneous group that responds to research in essentially similar ways, so that once we find the best genre, it will be equally compelling

and useful to all teachers. Advocates rarely express this latter view, but it follows from the very idea that there is something inherent in a genre that renders it either fit or unfit for duty, and it follows from the very idea that there is something inherent in the way teachers think about their practice that renders some genres appropriate or inappropriate to that thought process. If there is something inherent in genre, then that inherent quality will render the genre equally persuasive or relevant to all teachers, and if there is something inherent in the way teachers think about their work, then that quality must also apply to all teachers.

The second important observation about these debates is that they have been carried out largely at the level of rhetoric, with little real evidence being brought to bear on the issues. This article describes a study designed to test some of these assumptions and contentions about research genres. The Research and Teacher Learning Study addressed three important questions:

1. Does research genre make a difference? That is, do teachers find some research genres more persuasive or more relevant than others, or are some genres more likely to influence their thinking than others?
2. If differences exist, what features of each genre contribute to its persuasiveness?
3. If differences exist, what features of each genre contribute to its relevance?

The Research and Teacher Learning Study

The Research and Teacher Learning Study entailed interviews with more than 100 teachers, each of whom was asked to read, respond to, and evaluate five articles describing research of one sort or another. All teachers were enrolled in some form of professional development.

The Sample

Volunteer teachers were sought from eight programs that provided some form of teacher education or continuing professional development for teachers. The programs themselves were selected to represent different approaches to professional development, but each also included attention to research, so that all teachers in the sample had had some exposure to the methods and logic of research. The programs varied considerably. Some introduced teachers to research by engaging them in action research in their own classrooms, while others provided master's-level courses on reading research. Some worked with experienced teachers, while others worked with novices. **Table 1** lists the programs and the number of elementary and secondary teachers from each program who participated in the study. Most of the programs were relatively small, so that the participating teachers represent between 70% and 100% of the available cohorts.

The Interviews

The interview consisted of two parts. In the first, we asked teachers about their own teaching—the subjects they liked and disliked, their approach to teaching,

Table 1
Study Sample

Study	Elementary teachers	Secondary teachers	Total
Experienced teachers pursuing continuing education			
Taking a course on reading research as part of a traditional MA program			
Eastern State University	8	1	9
Midwestern State University	8	5	13
Conducting an action-research project for an MA thesis			
Abernathy University	7	4	11
Conducting action research in a district-sponsored program			
Wellington School District	9	7	16
Fairlington School District	9	8	17
Preservice teachers pursuing MA programs with thesis requirements			
Biltmore University	11	0	11
Tungsten State University	0	10	10
Jasper University	0	14	14

their ideals, and so forth—and we asked whether or how they expected research to contribute to their practice. At the close of this first interview, we gave them a package of five articles to read in preparation for the second interview. During the second interview, we asked them to discuss each of the articles in their package. For each article, we pursued their understanding of what it actually said, their views of the persuasiveness and relevance of the study, and whether the study had any implications for their own practice. After discussing each article individually, we asked them which of the five articles was most persuasive, which was most relevant, and which influenced their thinking most.

All of the questions were open ended, and we gave teachers a list of the topics we would cover in advance of the interview so that they would have a chance to think about these issues prior to the interview. The interview regarding the individual articles was organized into four parts, and the main questions in each part were as follows:

Part 1: General orientation. What did you think of this study? Was there anything particularly difficult or confusing about it? Why do you think the author wrote this piece? Overall, did you find the article persuasive? Why, or why not?

Part 2: Persuasiveness. I want to list several things that might contribute to the persuasiveness of the article and ask if these made a difference to you: What about the author as a person? What about the quality of the writing? What about the sample? What about the comparison? Did it seem fair to you? What about the evidence?

Part 3: Conclusions and critique. What would you say the author's main conclusion was, and do you agree with that conclusion? Why, or why not? Did you see any flaws in his/her reasoning?

Part 4: Relevance to teaching. Does this study seem relevant to you? Why? What implications does it have for your teaching? Do you think your response to this study might have been different at some earlier time in your career? (When, why the change?) Do you think this study helps teachers in the way that research should?

Interview responses were transcribed and a system of categories was developed to capture the main types of responses teachers gave to each question or issue. Some categories were relatively easy to develop (e.g., favorite subjects, years of experience), while others required multiple passes through the data (e.g., What implications, if any, does this study have for your own teaching?). Each interview transcript was read and coded by two researchers, and disagreements between them were discussed until a particular coding category could be agreed upon.

The Articles

We developed two packages of articles, one focusing on language arts and the other attending more to mathematics and science. However, the second package included one language arts study so that at least one study would have been read by all teachers. Each package included five articles describing research projects, with the projects being selected to represent different genres of research. In the language arts package, for instance, we included an experiment, a teacher autobiography, a survey, a history, and a disciplinary study. The math and sciences package included the language arts experiment, a nonexperimental comparison of different approaches to teaching mathematics, a case study, a teacher narrative, and a disciplinary study. All of the studies were widely recognized as important by the research community and were considered to be relevant to teaching as well. That is, they were not just any studies; they were studies most researchers believed had made important contributions to the field.

Secondary teachers were given packages appropriate to the subjects they taught. If they taught either mathematics or science, they were given the mathematics and sciences package; if they taught English or social studies, they were given the language arts package. Elementary teachers were asked during their first interview what their favorite school subject was, and they were then given the package that matched their personal interests. Of the 101 teachers for whom we have complete data, 65 read the language arts package and 36 read the math-sciences package. The studies are listed in **Table 2**.

The last studies listed in each package described research that had been carried out by disciplinarians rather than educationists and may not be familiar to many educational researchers. The language arts study was Dennis Baron's *Grammar and Good Taste (1982)*, a history of efforts in the United States to prescribe language conventions. Baron's tale begins at the time of the Revolutionary War, when many citizens wanted to create an American language

Table 2
Packages of Studies Given to Teachers

Genre	Topic	Citation
Package 1 (language arts package) (n = 65)		
Experiment	Compare two approaches to teaching writing	Collins, Brown, Holcum (1991); Scardamalia, Bereiter, & Steinbach (1984)
Survey	Student achievement in writing	Applebee, Langer, Mullis, & Jenkins (1990)
Teacher narrative	Difficulties of ensuring that kids learn writing	Delpit (1986)
Conceptual analysis	Different meanings of equal educational opportunity	Coleman (1975)
Disciplinary study	Efforts to reform American English	Baron (1982)
Package 2 (math and science) (n = 36)		
Experiment	Compare two approaches to teaching writing	Collins, Brown, & Holcum (1991); Scardamalia, Bereiter, & Steinbach (1984)
Nonexperimental comparison	Compare Asian and American approaches to teaching mathematics	Stigler & Stevenson (1991)
Teacher narrative	Difficulties of ensuring that kids understand science	Roth (1993)
Case study	Benny's understanding of mathematics	Erlwanger (1973)
Disciplinary study	Methods for estimating number of species	May (1992)

distinct from the English language, and extends through the recent introduction of the feminine title Ms. into the language. Baron uses his evidence to argue that such efforts are ultimately futile, since language evolves through its use, not through prescriptions. The disciplinary study in science appeared in *Scientific American* (May, 1992) and describes a variety of efforts to estimate the total number of species on the planet. Each method of estimation is described, illustrated, and critiqued. Both disciplinary studies reveal something about the content of subjects that are taught in school as well as something about how knowledge is developed within these disciplines.

One other study deserves mention: The experiment in writing was originally published by Scardamalia, Bereiter, and Steinbach (1984), but it was later referred to in an article by Collins, Brown, and Holcum (1991) in which they introduced the term “cognitive apprenticeship” and used the Scardamalia and Bereiter study as an illustration of their point. Instead of using the original article, we chose to use the Collins et al. rendition of the study, which introduces this term as a way of conceptualizing the teaching method being tested.

Perhaps the most controversial decision we made was to write our own summaries of these studies rather than ask teachers to read the original texts. Many people believe teachers should be willing and able to read original research texts, regardless of their language and tone. However, we wanted teachers to read multiple genres so that they could compare them and discuss the differences with us, and we had to find a way to reduce the burden on the teachers. Two of the pieces we wanted to include were book-length pieces, and several of the articles were either lengthy or dense or both. These considerations led to a preference for a summary of the original works. At the same time, we did not want to give teachers superficial abstracts or lists of bullets with conclusions. We wanted teachers to understand the full line of reasoning and the kind of evidence that was drawn upon in these various genres. This consideration meant that even our summary articles could not be overly brief.

The articles we eventually developed ranged from 6-8 single-spaced manuscript pages, and they retained all of the important features of the original texts. That is, they used the author’s original language, quoted heavily from the original texts, and included the entire line of reasoning from the original document. They covered the premises, quandaries, methods, findings, interpretations, and caveats that were discussed in the original texts and did so using the original authors’ language. The Appendix provides sample passages from two of the articles in the language arts package. In retrospect, this decision turned out to be a good one, since even these summaries were a burden for most teachers, who were volunteering to read them in their free time. Some complained that even these articles were too long. Some said they would not have taken the time to read them on their own but did so because they had agreed to participate in this study.

Moreover, we were able to test the effect of third-person authorship through some of the interview questions. For instance, when discussing each

article with teachers, we went through a list of features that might have made the article seem more or less persuasive to them. Two of these features were the author’s voice and the quality of the writing. The questions were asked in an open-ended fashion: “What about the author as a person? Did that make a difference to you?” and “What about the quality of the writing? Did that make a difference?” **Tables 3** and **4** show teachers’ responses to these questions for all studies from both packages.

Even though all of the articles were written by us, teachers’ responses to these questions suggest that they understood the difference between us, as authors of these articles, and the original researchers and that they could evaluate the original researchers through the texts we had presented. Table 3, for instance, shows the percentage of teachers who perceived the original authors as either trustworthy or untrustworthy, based on their reading of these texts. It lists the studies in order according to the teachers’ perception of the author’s trustworthiness. The first two articles listed both describe teacher narratives, a genre that tends to be written in a highly personal tone. Note that the majority of teachers perceived these authors to be personally trustworthy. In contrast, when discussing the two studies shown at the bottom of Table 3, only a small fraction of teachers felt the author was either trustworthy or biased. Most did not notice the author when they were reading the article. These differences in author perception, then, appeared even though teachers were reading summaries written by us.

Similarly, teachers perceived differences in the quality of the writing of these articles (Table 4), even though all articles had the same author. In most cases, teachers said they had not really noticed the writing; however, those who did notice it evaluated it differently from one text to the next. For instance, many perceived the quality of writing in the survey to detract from the article’s persuasiveness, and many perceived the quality of writing in the teacher narratives to add to the persuasiveness of the article.

Table 3
Perceptions of Author Credibility

Study	Teacher perception (%)		
	Author was trustworthy	Author was biased	Didn’t notice author
Teacher narrative: writing	80	15	5
Teacher narrative: science	64	8	28
Experiment: teaching writing	44	14	42
Conceptual analysis: EEO	37	11	52
Survey: NAEP	39	22	39
Disciplinary study: American English	30	7	63
Disciplinary study: species	19	11	69
Case study: Benny	17	11	72
Nonexperimental comparison: Asia	11	11	78

Table 4
Perceptions of Quality of Writing

study	Teacher perceptions (%)		
	Writing quality contributed to persuasiveness	Writing quality made it less persuasive	Writing was OK or wasn't noticed
Teacher narrative: writing	29	8	63
Teacher narrative: science	17	6	77
Experiment: teaching writing	13	10	77
Conceptual analysis: EEO	21	14	64
Survey: NAEP	11	24	64
Disciplinary study: American English	16	11	88
Disciplinary study: science	0	11	88
Case study: Benny	3	8	88
Nonexperimental comparison: Asia	0	11	89

Finally, even though we did not directly ask about this, many teachers volunteered during the interview that the statistical material or jargon in particular articles was off-putting in some way—it made the article more difficult or less comprehensible (or, in a small number of cases, made the article more persuasive by adding a technical veneer). We kept records of these voluntary remarks and show their distribution in **Table 5**. The studies are rearranged again in this table, to reflect the percentage of voluntary comments about the difficulty of technical jargon. The first three studies listed in Table 5 were most often cited for off-putting jargon or statistics, and they represent very traditional social science genres (experiment, survey, and dense, jargon-rich conceptual analysis). Conversely, the two teacher narratives are at the bottom of this table, since none of the teachers mentioned anything about difficult terminology or statistical analyses when discussing these articles.

Teachers' responses to these articles, then, suggest that they could perceive differences in authorship, in the quality of the writing, and in technical terminology, even though all articles were in fact written by us. The data suggest that we succeeded in maintaining the original authors' tone and language in these summaries, as well as the original argument and evidence.

Findings

Does Genre Make a Difference?

To address the first question, I focus on three comparative questions asked at the end of the second interview: Which study was most persuasive? Which was most relevant? and Which influenced your own thinking the most? The first two questions—about persuasiveness and relevance—directly address many of the contentions in the literature about the relative merits of different research genres. The third question, about influences on thinking, provides an important

Table 5

Percent of Teachers Who Volunteered That Statistics or Jargon in an Article Were Off-Putting

Study	Teachers (%)
Experiment: teaching writing	22
Survey: NAEP	13
Conceptual analysis: EEO	6
Disciplinary study: estimating species	6
Disciplinary study: American English	2
Case study: Benny	0
Nonexperimental comparison: Asia	0
Teacher narrative: writing	0
Teacher narrative: science	0

additional possibility. A teacher might say that a study is not persuasive (for a variety of legitimate methodological reasons) and perhaps not relevant to her teaching situation and yet still claim that the study provoked an extensive amount of thought.

If genre were irrelevant to teachers, one might expect their nominations for most persuasive, most relevant, or most influential to be roughly equally distributed among the articles. Since each teacher read five articles, one might therefore expect approximately 20% of teachers to nominate each article. **Table 6** shows the proportion of teachers who nominated each article as most persuasive, most relevant, or as most influencing their own thinking. The articles are listed in rank order, according to how frequently each was nominated. Nomination frequency is shown as a percentage, since the number of teachers who read a given study differed across studies.

Table 6

Nomination Frequencies Across All Studies

study	No. reading study	Nominations (%)		
		Most persuasive	Most relevant	Influenced thought most
Nonexperimental comparison: Asia	36	56	56	47
Experiment: teaching writing	100	48	47	40
Teaching narrative: science	36	39	50	39
Teaching narrative: writing	64	33	30	41
Conceptual analysis: EEO	64	20	13	23
Survey: NAEP	64	17	16	3
Case study: Benny	36	8	14	14
Disciplinary study: American English	64	11	6	3
Disciplinary study: species	36	0	0	0

Note that the nomination frequencies on these three criteria are highly correlated, so that the articles appear to have approximately the same rank order across all three criteria. It is therefore possible to discuss the studies in terms of their general value to teachers without making a distinction among the three criteria. There are clear differences in teachers' perceptions of the value of these articles, with the percentages of nominations ranging from 0% to 56%. The data in **Table 6** allow examination of some of the common contentions about genres in educational research.

Importance of experimental methods. Some researchers (e.g., Pressley & Harris, 1994; Schrag, 1992; Slavin, 1989) have argued that the rigorously controlled experiment is the only genre that can provide justified evidence for educational practice. Teachers have also argued that they need stronger justification for their practices (Greene, 1992; Grossen, 1996). Because experiments are a dominant genre in all fields of research, and because they are a relatively controversial genre today, we wanted to include at least one experiment in this study. Our choice was a comparison of two approaches to teaching writing (Scardamalia et al., 1984, as portrayed by Collins et al., 1991). The nominations in Table 6 suggest that this study was indeed well received by teachers. It was second most frequently nominated as most persuasive, it was nominated far more often than the chance nomination rate of 20%, and it was widely nominated not only as most persuasive but also as most relevant and as most influencing teachers' own thinking. The widespread response to this study is especially remarkable in light of the fact that the study also received more voluntary comments to the effect that the technical jargon and use of complex statistics made teachers uncomfortable. More teachers reported that the jargon or statistics reported in this study were off-putting in some way than made such comments about any other study. Yet, despite their negative responses to the technical veneer of this article, teachers were still highly likely to nominate it as most persuasive, most relevant, or most influencing their own thinking.

At the same time, other evidence in Table 6 suggests that experiments are not the only genre that teachers appreciate, nor are experiments necessarily the genre that teachers prefer *most*. For instance, this experiment was not the most frequently nominated of all of the studies teachers read. It was second, following a nonexperimental comparison of Asian and American classrooms. Moreover, the third and fourth most frequently nominated studies were both teacher narratives, a genre of research that tends to offer much less experimental control. Thus, although the frequency of nominations for the experimental study suggests that experiments are important to teachers, the contention that experiments are the only genre that can be persuasive, or even that experiments are more persuasive than other genres, does not hold up.

Importance of narrative. Just as there are authors who advocate experiments, there are also authors who advocate narratives. The argument for narratives is that human beings naturally think in terms of events that play out over time, so narratives better match the natural way in which human beings—in this case, teachers—think about their work and their experiences. Moreover,

teaching itself is a dynamic, interpersonal process involving mutual influences, plots, and subplots. Narratives are better able to capture that reality than are more traditional research genres.

The mix of studies we gave teachers enabled us to examine these contentions. Each package contained a teacher narrative; the language arts package included a teacher narrative about the dilemmas of teaching writing, while the mathematics and sciences package included a narrative about the difficulties of teaching science. Both outlined a variety of issues, but neither offered an authoritative or conclusive statement about the solutions to the problems they outlined. Both were personal accounts and included language of intentionality.

Table 6 provides some evidence to support these contentions. It shows that these two studies both received far more nominations than we would have expected by chance. The two articles were ranked third and fourth in teachers' perceptions of their importance. That is, they were nominated as most persuasive by 30%-40% of readers, as most influencing thinking by about 40% of readers, and as most relevant by 30%-50% of readers. They were also nominated more often than the disciplinary studies, the survey, the case study, and the conceptual analysis. Many teachers volunteered that they found these authors inspiring and that the narratives resonated with their own experiences, or that they were excited when they read these narratives, thus lending further support to the value of narratives to teachers.

Still, these narratives were not nominated as often as were the comparative studies. They were not as persuasive, not as relevant, and did not influence these teachers' thinking as much as the comparative studies did. Narratives are not, then, necessarily more persuasive than comparative studies, nor are they necessarily more relevant. And they do not necessarily even influence thought more than do comparative studies.

Importance of in-depth case studies relative to universal propositions. Arguments about genre apply not only to formal experiments and teacher narratives but also to case studies and surveys. Some authors believe that large samples are necessary to produce reasonable generalizations (e.g., Vinovskis, 1993), while others argue that we learn more by close examination of individual cases, including detailed descriptions of all nuances and dimensions of the cases.

The articles included in the study enabled us to examine these contentions. Included in the language arts package was a survey—the National Assessment of Student Progress in Writing (Applebee, Langer, Mullis, & Jenkins, 1990)—and included in the mathematics and sciences package was an in-depth case study of a particular child's understanding of some central ideas in his mathematics curriculum (Erlwanger, 1973). The survey and case study offer an interesting contrast. One examined 18,000 students, and the other examined 1 student. Both described what students have learned about particular school subjects, but they differed in the particular school subject addressed and in how student knowledge was described. A comparison of teachers' responses to these two studies, therefore, should be instructive.

Despite the remarkable differences between these genres, there are only small differences in how often the two studies were nominated in response to our three questions (see **Table 6**). The survey was more often nominated as most persuasive, whereas the case study was more often nominated as most influencing teachers' thought; the two were comparable in their perceived relevance.

The differences between teachers' responses to these two studies lend some support to the claims made by advocates of each genre. For instance, more teachers nominated the survey as persuasive than nominated the case study, a difference that could reflect the importance of large samples. Moreover, teachers' comments as they discussed each of these studies suggested that the samples made a difference. Teachers often indicated that the large number of students assessed in the survey increased the study's persuasiveness; on the other side, they commented that the case study was limited because it included only one student.

Conversely, the proportion of teachers who nominated each study as most influencing their own thinking indicated the value of the case study. More teachers nominated the case study than nominated the survey in response to this question. And in their discussions, some teachers delved deeply into the mathematical thinking of this student. These responses, then, lend some support to the contention that detailed case studies might be more valuable to teachers than more superficial quantitative studies.

But the differences between these two studies are relatively small in comparison with their similarities. Neither received as many nominations as the teacher narratives, the comparative studies, or the conceptual analysis. Moreover, neither received as many as 20% of the nominations for any of our questions; that is, they received fewer nominations than we would have expected if the nominations were randomly distributed among the studies—fewer than chance for persuasiveness, relevance, and influencing thinking. The relatively low frequency of nominations for these studies, combined with the higher frequencies of other genres, suggests that neither the survey nor the case study was particularly persuasive or influential to these teachers. Whatever the differences between case studies and surveys, then, they are not as important as their combined difference from other genres.

Importance of disciplinary knowledge. In addition to contentions about genres of social science research, some authors suggest that teachers should be learning more about the subjects they teach, rather than learning more about pedagogy per se. This argument is more often made in the context of defining the undergraduate curriculum for prospective teachers, but it nonetheless presumes that knowledge of the subject is more important than social science knowledge of teaching. The contention here is that pedagogical decisions are based on a sense of the content that needs to be taught and a sense of what is important about that content. To see whether teachers perceived disciplinary studies as persuasive or relevant to their teaching, or as influencing their thinking, we included such a study in each of our packages (these are described in conjunction with Table 2). In Table 6, these two studies

occupy the bottom two rows. The studies were nominated only a handful of times as most persuasive, most relevant, or most influencing teachers' thinking. Teachers' discussions of the studies provide some clues as to why these investigations were less valuable to them. Most were unsure of what to do with the knowledge these studies provided. Some thought they might include the content in their curriculum; none reported that the articles suggested anything about the nature of the subject matter or that there might be pedagogical implications beneath these findings.

None of the popular contentions about research genres, then, adequately account for the patterns of nominations shown in Table 6. The experiment was persuasive, but it was not the only genre that was persuasive. In fact, it was less persuasive than the nonexperimental comparison. Teacher narratives were also persuasive, but again they were not the only genre that was persuasive, and in fact they were less persuasive than the comparative studies. The case study and survey, despite their many differences, were both less persuasive than either of these other genres and less persuasive, even, than the conceptual analysis.

Even though our most cherished contentions about genre seem not to account for teachers' preferences, there are nonetheless clear differences among these various articles. Some were rarely nominated, while others were nominated by more than half of the teachers who read them. Clearly, the genre of a research study is not the central determinant of its relative persuasiveness, relevance, or provocativeness. But something is. Before turning to the features of the genres themselves, let me offer another variable for consideration.

Importance of the substance of the study. One hypothesis that has received only passing attention among educational researchers is that the questions we choose to study greatly influence the persuasiveness or relevance of our work. By questions, I do not mean the stipulated subject matter of the study, such as teaching writing or teaching mathematics, but rather the main relationships that the study examines. Teaching entails considerations of subject matter, student learning, and the teacher's own behavior. Much of our research addresses one or another of these domains without addressing the relationships among them. The hypothesis that best fits the data in Table 6 is that teachers find value in articles that address the relationship between *what they do* and *what students learn*. Consider the nine articles listed in Table 6. The first two explicitly address the relationship between teaching and learning by comparing alternative approaches to teaching in relationship to what students learn. The next two, the teacher narratives, also focus on this relationship. While neither provides authoritative evidence of the relationship between teachers' actions and what students learn from those actions, both discuss the difficulty of developing pedagogies that will accomplish the kind of student learning the authors desire. In that sense, both address the problem of the relationship between teaching and learning.

The next article listed in Table 6 describes Coleman's (1975) analysis of the concept of equal educational opportunity. The number of nominations this article received was very close to what we would expect from chance alone;

that is, the study was nominated as most persuasive by 20% of teachers and as most influencing thinking by 23% of them. Slightly fewer teachers rated it as most relevant. This article did not describe a survey, an experiment, or a case study but, instead, presented a history of societal definitions of equal educational opportunity. It is the sort of article often assumed to have almost no value for teachers, in that it is very abstract and makes no specific recommendations about practice. Still, many teachers connected it to their own teaching and interpreted it as talking to them about alternative definitions of equal educational opportunity *within their* classrooms. The article lies in the middle, less often nominated than the comparative studies or teacher narratives but more often nominated than the last four studies.

The four articles at the bottom of Table 6 were all nominated less often than one would expect by chance, and none of them addressed the relationship between teaching and learning. Instead, each addressed only one or another corner of the triangle connecting teachers, subject matter, and learners. The survey and the case study both focused on student learning, and both provided detailed information about student learning. But neither provided much detail about the teaching that led to that learning, and many teachers commented on this omission, saying that it was difficult to interpret student performance without more knowledge of what these students' teachers were doing.

Finally, the articles perceived to be least valuable were the two disciplinary studies. Each was conducted entirely within its discipline. Neither says anything about teaching or learning the subject, let alone about the relationship between teaching and learning. We had included these articles in order to learn what teachers would find valuable about subject matter knowledge per se, and many said that, although the studies were interesting, they had very little direct bearing on their teaching except, perhaps, as an additional curriculum topic. These findings, then, suggest that the genre of the research is not as important as the questions it asks. Experiments and teacher narratives—genres that we think of as worlds apart—can be equally useful to teachers, provided they help teachers understand the relationship between teaching and learning. Surveys and case studies—again, genres that we think of as wildly different from one another—really do not differ much in their value to teachers if neither gives teachers a sense of the relationship between what teachers do and what students learn.

This should not be surprising. The relationship between teaching and learning is the most central issue in teaching, and it is also the most perplexing and least understood. Teachers often feel that learning outcomes are unpredictable, mysterious, and uncontrollable. It should not be surprising, therefore, to learn that teachers find studies valuable when the studies give them a deeper understanding of this fundamental relationship. Perhaps this finding is so obvious that it need not even be mentioned, but the prominent genre wars that currently characterize our field suggest that researchers are not thinking much about the issues they should study but instead have been captivated by questions about the genre they should use.

Universality of genre preferences. Although most of the authors engaged in this “paradigm war,” as Gage (1989) calls it, do not explicitly discuss the possibility of variations in teachers’ receptivity to different types of studies, most tacitly suggest that their favored genre would be *uniformly* more persuasive, more relevant, or more influential to teachers’ thinking. Such claims of universality are necessary if one is to make a claim of genre superiority at all, since claims of genre superiority generally presume either an inherent truth value to the knowledge that derives from a particular genre or an inherent compatibility between that knowledge and teachers’ natural thought processes.

One could argue that the contention of uniformity has already been found wanting, in that teachers nominated many different genres as most persuasive, relevant, or influential to their thinking. If the uniformity contention had merit, teachers should have overwhelmingly selected the same genre, and they did not. But given that no genre dominated teachers’ preferences, we can still ask whether the patterns of preferences were comparable across different types of teachers. Perhaps novices are more attracted than are experienced teachers to studies that document effective practices, for instance. To test this idea, I grouped teachers in different ways and compared different groups’ nominations for the most persuasive study. I compared elementary and secondary teachers, teachers with different amounts of teaching experience, and teachers participating in different types of programs. For these analyses, I restricted myself to the language arts package, since it was read by a larger group of teachers to begin with. I also compared teachers who read the language arts package and those who read the mixed subjects package in regard to how frequently they nominated the writing experiment, which both groups had read.

Most of these distinctions among teachers were not associated with their preferences for different types of genres, with one important exception: The perceived value of the experiment comparing methods of teaching writing was much higher among secondary English teachers than it was among elementary teachers or among secondary teachers of other subjects, even though the study itself took place in a fifth-grade classroom. The difference suggests that the subject matter context of a study might be more important than its grade level context in determining the study’s value to teachers. Similarly, those teachers who read the language arts package were more likely to nominate the experiment. Teachers who read that package included not only secondary English teachers but also elementary teachers who indicated that language arts or social studies was their favorite subject to teach.

I also contrasted teachers who had participated in different types of programs, since the programs themselves conveyed differing messages about the importance of genre in educational research. Almost all preservice teachers at Tungsten State, for instance, produced master’s theses that reflected traditional social science genres: surveys, for instance, or small-scale experiments. Preservice teachers at Biltmore, on the other hand, nearly all produced master’s theses that entailed close observations and analysis of classroom interactions or

of student work. The genre similarities among studies within each institution suggest that programs encouraged one genre more than others. Similar differences in teachers' own research efforts were apparent among the programs offered at the in-service level.

The comparison of program groupings suggested that programs did, indeed, promote particular genres more than others. Teachers at Tungsten State were more likely to nominate the experiment or the survey as most persuasive than other groups were, while teachers at Biltmore were more likely to nominate the teacher narrative as most persuasive. Programs, then, appeared to alter teachers' perceptions of the persuasiveness and relevance of these different genres.

What Features of Each Genre Contribute to Its Persuasiveness or Relevance?

Knowing that teachers nominated different studies as most persuasive or most relevant tells us that many common contentions about research genres do not hold up. But we still do not know what features of a particular genre made it more persuasive or more relevant than others. To examine this issue, I draw on data from an earlier portion of the interview in which we asked teachers a number of questions about each individual article. For instance, one question asked whether teachers thought the study was persuasive and, if so, why. Teachers offered a number of different responses to this question, and I have grouped these responses into seven broad categories, as follows:

1. The study was not persuasive. I disagreed with it or thought it was seriously flawed or thought the author was biased, etc.
2. The study tells me something I already knew, is self-evident, or confirms ideas already held.
3. The study is persuasive because my own experience reinforces these findings.
4. The study is persuasive because the author is credible, trustworthy, sincere, dedicated, etc.
5. A particular portion of the evidence was especially persuasive.
6. The logic of the overall argument or the story line was persuasive.
7. The descriptions of teaching or of student work were sufficiently detailed that I could envision them and see how this would be so.

These categories were developed in response to the reasons teachers actually offered, but they were also devised broadly enough that they could capture the gist of remarks made about any of the articles. For instance, the general idea that the logic or story line was persuasive could apply equally well to a case study, a survey, an experiment, or a teacher narrative, just as could the idea that the descriptions of teaching were detailed or vivid or the idea that the author was especially trustworthy. Use of a common set of reasons for finding an article persuasive enabled us to compare genres to see which reasons are most likely to be mentioned in response to each one. The results of this analysis are shown in **Table 7**.

Table 7 intersects nine articles with seven reasons why an article might be persuasive. The first two columns include people who essentially were not

Table 7
What Makes an Article Persuasive?

Study	Reason for persuasiveness (%)						
	Not persuaded	Already thought this	Reinforced by experience	Author is trustworthy	Particular piece of evidence within the larger study	Overall logic or story line	Description of teaching or of student work
Nonexperimental comparison: Asia	17	8	3	0	42	25	3
Experiment: teaching writing	10	18	4	1	14	23	23
Teaching narrative: science	11	17	8	19	8	22	6
Teaching narrative: writing	20	2	12	37	2	23	2
Conceptual analysis: EEO	12	11	12	0	14	31	0
Survey: NAEP	25	6	6	2	22	20	5
Case study: Benny	19	6	11	0	33	8	17
Disciplinary study: American English	17	9	9	0	16	18	0
Disciplinary study: species	31	14	0	3	6	31	0

persuaded, either because of problems they saw in the study itself or because they already believed what the authors were saying in the first place, so there was nothing for them to be persuaded about. The second two columns include reasons that are tangential to the study itself—the author’s perceived credibility or the teachers’ own experiences—and the last three columns include reasons that reflect something from within the study itself. The list of articles retains the sequence shown in **Table 6**; that is, articles are listed in order of the frequency of their nominations.

The first important observation that can be made about **Table 7** is that teachers’ reasons for finding the studies persuasive varied across the genres, and they varied in ways that many genre advocates might have predicted. Author trustworthiness, for instance, is mentioned more frequently when teachers discuss the persuasiveness of teacher narratives than it is for any other genre. Particular pieces of evidence were more likely to be mentioned when teachers discussed the nonexperimental comparison, the survey, and the case study, all of which included numerous specific details in their presentations. Detailed descriptions of teaching or student work were mentioned more often in response to the case study, which of course provided a great deal of such information. (Detail was also mentioned more often in response to the experiment, although descriptive detail is not usually considered to be an essential feature of the experimental genre.)

Recognizing these tendencies that are consistent with the contentions of genre advocates, however, it is important to add that most genres were persuasive for a variety of reasons, with different teachers commenting on different aspects of each study. Thus, even though the patterns suggest that different genres may have different kinds of appeal, the patterns do not suggest that any particular genre has cornered the market on any particular form of persuasiveness.

The next important observation about the data shown in Table 7 is that most of the teachers’ reasons for being persuaded, if they were persuaded at all, appear in the last three columns. That is, these teachers were more likely to point to aspects of the studies themselves than they were to their own prior beliefs or experiences or the author’s credibility. This is not to say that prior beliefs and experience are not important; rather, the evidence and the logic of these articles were also very important to teachers and were more often mentioned.

Finally, Table 7 shows that, regardless of genre, a notable proportion of teachers (ranging from 10% to 30%) were not persuaded by the study. Moreover, the “not persuaded” responses do not fall into any patterns that seem related to the genres themselves. The differences between articles within a given genre are about the same as those between genres.

When teachers responded as to what, if anything, made the study persuasive, they did not have to compare the study with others. That is, we simply wanted to know what their response was to this particular article. Because teachers also eventually compared the various genres, nominating one as most persuasive, it is possible to ask whether some of these reasons

for persuasiveness were more likely to lead teachers to nominate a study as most persuasive. To determine whether this was the case, I grouped teachers according to their reasons for finding a study persuasive and then looked to see how many teachers in each group nominated that study as most persuasive. **Table 8** shows this analysis for two studies, the experiment comparing methods of teaching writing and the teacher narrative on teaching writing.

Whereas Table 7 shows how often teachers mentioned different reasons for perceiving a study as persuasive, Table 8 shows how often those reasons led to a study being nominated as most persuasive. In some cases, this distinction turns out to be very important. For instance, only a small fraction of teachers said that either of these studies was persuasive because their own experiences reinforced the study’s findings, but of those who did, a large fraction also nominated the study as most persuasive. For those few people who depend mainly on experiential validation, then, such validation is a very important criterion in determining which study is most persuasive.

The relationship between reasons for finding a study persuasive and nominating it as most persuasive is somewhat consistent with the contentions of genre advocates. For instance, people who felt that the experiment was persuasive because of some feature of the study itself—a particular piece of evidence, for instance, or the study’s overall logic—were more likely to nominate the experiment as most persuasive. Those who thought the teacher narrative was persuasive because of some feature of the study itself were far less likely to nominate that study as most persuasive. Conversely, those who thought the experiment was persuasive because of the author’s credibility never nominated that study as most persuasive, whereas those who felt the teacher narrative was persuasive because of the author’s credibility frequently nominated that study as most persuasive. These patterns, then, suggest that different genres are perceived as persuasive for different reasons and that different people may assign different degrees of importance to these various reasons.

Table 8
Relationship Between Aspects of Article That Were Persuasive and Likelihood of Eventually Nominating It as Most Persuasive

Reason study was persuasive	Nominations (%)	
	Experiment on writing most persuasive (%)	Teacher narrative on writing most persuasive (%)
Not persuaded	0	8
Already knew this	31	0
Reinforced by experience	50	75
Author is credible	0	35
Particular piece of evidence	71	0
Overall storyline or logic	61	33
Descriptions of teaching or of student work	65	100

What Features of Each Genre Contribute to Its Relevance?

Just as we had asked teachers whether each study seemed persuasive to them, we also asked what implications, if any, each study had for their own teaching. Teachers could respond to this question in any way they wished, and we later reviewed their responses to generate a set of main categories of responses. The primary kinds of implications that teachers mentioned were as follows.

1. There are no implications for teaching, owing either to lack of persuasiveness or to lack of relevance.
2. There are no implications, because the study is mainly informative.
3. The study validates existing beliefs.
4. The study sharpens my thinking or deepens my understanding of this issue.
5. I will actually try this idea or method out in my own classroom.
6. This study is provocative: It raises questions, suggests that I need to change my practice, or offers me a new goal to strive for.

To see whether these implications were related to teachers' nominations of a study as most relevant, I again focused on nominations for the experiment on teaching writing and the teacher narrative on teaching writing. Table 9 shows the results of this analysis.

The patterns in Table 9 speak to the issue of authority and prescriptiveness that permeates much of the literature in the paradigm wars. Generally speaking, experiments are presumed to provide a more authoritative kind of knowledge about teaching and learning, while teacher narratives provide a more tentative and speculative kind of knowledge. Given these differences, it is not surprising to see that more than 60% of teachers who planned to try out the cognitive apprenticeship method of teaching writing also nominated that study as most relevant. Conversely, of teachers who said that the teacher narrative provoked thought and raised new questions, half nominated that

Table 9
Relationship Between Perceived Implications for
Teaching and Likelihood of Nominating the Study as Most Relevant

Perceived implications for teaching	Nominations (%)	
	Experiment on teaching writing most relevant (%)	Teacher narrative writing most relevant (%)
No implications	33	13
Informative only	0	0
Validates existing beliefs	52	21
Sharpens thinking	82	33
Will try this out	61	0
Provocative, raises questions, suggests need to change or new goals to strive for	38	50

study as most relevant. What is surprising here, though, is this: Among those who said the experiment sharpened their thinking or deepened their understanding, more than 80% also nominated that study as most relevant. And among those who said the experiment raised new questions for them, nearly 40% also nominated it as most relevant. This pattern suggests that even the presumably authoritative and prescriptive genre of experiments can make important conceptual contributions to teaching and that it need not be interpreted as prescriptive.

There is another side to the relevance question that also needs to be addressed. Much of the genre literature tends to assume that relevance is a characteristic of research that resides solely in the research itself, rather than residing within the teachers who read the study. To test this idea, we asked teachers, as they were discussing each study, whether the study was relevant to their own teaching and, if so, why. Their responses were sorted into the following categories.

1. The study lacked relevance owing to contextual differences (different grade level, subject, or social class of students).
2. All knowledge is potentially relevant (minimal relevance).
3. The study took place in my grade level or subject matter (contextual relevance).
4. I was able to draw an analogy between this situation and the situation in my classroom (personal relevance).
5. Coincidentally, I am working on this problem right now (direct relevance).

Table 10 sorts teachers according to their teaching responsibilities—elementary, secondary English, and secondary school subjects other than English—and shows how each of these groups of teachers determined the relevance of the experiment on teaching writing. Remember that this article was included in both packages, so all 101 teachers read it.

The first two rows in Table 10 capture responses of teachers who either

Table 10
How Teachers Found Relevance in the Experiment on Teaching Writing

How relevance was found	Teachers (%)		
	Elementary (n = 51)	Secondary English (n = 32)	Secondary, other subject (n = 17)
No relevance	10	18	6
Minimal relevance	4	6	6
Contextual relevance ^a	20	16	6
Personal relevance	31	31	47
Direct relevance	4	6	6

^aThe original study occurred in the subject matter context of writing, the grade level of fifth grade, and the SES context of a professional community.

found no relevance in the study or found it to be relevant in only the most minimal way. The third row includes teachers who said the study was at least contextually relevant, in that it was done in a context similar to their own working context. Since this study was conducted in an elementary grade level and within the subject matter of writing, it should not be surprising that relatively more elementary teachers and secondary English teachers offered this reason for relevance than did secondary teachers of other subjects.

However, the most revealing part of Table 10 is the fourth row, where teachers were placed if they described a particular analogy that they had drawn between the study and their own classroom situations. Such analogies render the study personally relevant to teachers, since they are making specific connections between the study and their own practice. Here we see the largest fractions of teachers, including almost half of all secondary teachers teaching subjects other than English. What this table suggests is that relevance does not need to inhere in the study itself and that studies need not provide thick ethnographic descriptions in order for teachers to draw analogies between the research and their own classroom situations. Analogical reasoning was the most widely mentioned factor in finding the study to be relevant across all groups of teachers. This is a particularly important finding in light of the common contention that teachers cannot draw connections between research and their own practices unless the research provides rich, detailed, ethnographic descriptions or narratives that capture the complex dynamics of classroom life. Those who advocate these genres as better enabling teachers to connect research to their own practices often justify their arguments by suggesting that they are trying to honor or even celebrate teachers' natural ways of thinking about teaching. Ironically, in so doing, they give teachers minimal credit for being able to generate their own connections between research articles and their teaching practices, regardless of research genre.

Conclusion

For decades, researchers have sought ways to make their work more compelling and influential to teachers. Numerous proposals have been put forward, and many of these involve identifying a particular genre for research—a genre that would be more persuasive, more relevant, or more provocative to teachers. The findings from this study cast doubt on virtually every argument for the superiority of any particular research genre, whether the criterion for superiority is persuasiveness, relevance, or ability to influence practitioners' thinking.

At the same time, these findings suggest two other avenues that might be more fruitful for researchers who wish to pursue questions of the relationship between research and practice. One involves the role of the substantive questions addressed by research studies. The studies that teachers found to be most persuasive, most relevant, and most influential to their thinking were all studies that addressed the relationship between teaching and learning. Those that they perceived to be least persuasive, least relevant, and least influential addressed only one aspect of teaching—only the subject matter, for instance,

or only student learning—without speaking to the relationship to teaching practice itself. The importance of the substantive questions we choose to study may seem so self-evident as to not even bear mentioning, but what little literature exists regarding important substantive questions is overwhelmed by an avalanche of literature advocating genres.

The second avenue that might be more fruitful for researchers to address has to do with how teachers connect the articles they read to their own classroom situations. It was clear from these interviews that teachers forged analogies between the studies they read and their own situations or practices and that they were able to do that for the experiment as well as for other genres of research. That is, they did not need ethnographic studies or narratives to make these connections themselves. How teachers go about developing such analogies and rendering research—or any other source of new ideas—relevant to their own teaching situations might contribute to larger questions about how teachers learn and how they develop their practices.

In addition to challenging virtually all contentions about genre superiority, these findings raise doubts about two important, though tacit, assumptions that underlie much of the genre debate. First, they raise doubts about the shared assumption that research in general is not persuasive or relevant to teachers. The teachers in this study were diverse both demographically and ideologically. Yet, a majority of the teachers found most of these articles to be persuasive and relevant to them. Many drew analogies between the studies and their own classroom practices, many used the studies to reinterpret their own experiences, and many volunteered that they had already made copies of one or more of the studies to share with colleagues. Many reported that participation in this study had been an intellectually stimulating and rewarding professional experience for them.

Second, these findings raise doubts about the tacit assumption that teachers are homogeneous in their perceptions of the value of research. That is, advocates of experiments, case studies, ethnographies, and teacher narratives all make their cases by arguing that knowledge from their favored genre will be inherently more persuasive or more relevant to teachers, either because of some quality inherent in the genre itself or because of some quality inherent in teachers. In either case, the argument implies universality. Yet, no genre in this study had monolithic appeal to teachers, and no genre was uniformly rejected by all teachers. Teachers varied in their reasons for perceiving studies as persuasive and relevant, and they varied in their nominations of which study was most persuasive or relevant. And most teachers found multiple genres to be persuasive, multiple genres to be relevant, and multiple genres to influence their thinking.

This is not to say that genres do not have characteristics that produce predictable responses from teachers. Teachers were more likely to find the experiment relevant because it offered a specific teaching strategy that they could try out in their own classrooms, and they were more likely to find the teacher narrative relevant because it provoked thought and raised questions for them. To the extent that advocates try to characterize the benefits of their

avored genre, they are not necessarily wrong. But they are wrong in concluding from these distinctions that their favored genre has a monolithic importance because of its distinctive features.

Nor is it the case that the underlying issues that genre advocates are concerned about are not important. Educational research has always been, and probably always will be, plagued by these important, enduring, and unresolvable dilemmas: how we transfer research findings from research settings to practitioner settings, how we conceptualize and represent causes and influences, how we acknowledge both continuity and variety in classroom dynamics, and how we balance the points of view of researchers and practitioners in our research reports. These are indeed enduring problems for educational researchers, and they require continued thoughtful attention. But the resolution of these issues does not require us to embrace or to reject any particular research genre.

APPENDIX

Portions of Text From Two Summaries

Collins, A., Brown, J. S., & Holcum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6-11, 38-46.

Scardamalia, M., Bereiter, C., & Steinbach, R. (1984). Teachability of reflective processes in written composition. *Cognitive Science*, 8, 173-190.

The authors of the above articles are interested in helping students learn the kind of reasoning strategies that experts use when they acquire new knowledge or solve complex or real-life problems. Students typically do not have models of how experts (including teachers) in subject areas approach problems. Instead, students learn formulas for solving "textbook" problems or they learn low-level skills. These authors were interested in helping students learn to write. Collins, Brown, and Holcum (1991) argue that expertise can best be taught through what they call a *cognitive apprenticeship*. They draw on other studies (e.g., Scardamalia, Bereiter, & Steinbach, 1984) to illustrate their view that students can acquire writing expertise from teachers who provide them with a cognitive apprenticeship in writing.

What Is Cognitive Apprenticeship?

Traditionally, apprenticeships have served to teach children in a number of areas. Through apprenticeships, for example, children learned crafts such as tailoring or carpentry, and they learned to plant, grow, and harvest crops. Formal schooling has replaced most traditional apprenticeships, but Collins, Brown, and Holcum (1991) suggest that a different type of apprenticeship, a cognitive apprenticeship, can be adapted to fit the framework of a typical public school classroom. There are three essential differences between traditional apprenticeships and the kinds of cognitive apprenticeships the authors believe can occur in schools....

Delpit, L. D. (1986). Skills and other dilemmas of a progressive Black educator. *Harvard Educational Review*, 56, 379-385.

The author of the above article, Lisa Delpit, was taught by teachers who used a skills approach to writing. In her progressive teacher education program, however, she was taught that she should use a writing-process approach with her students. Based on descriptions of her own experiences as a minority teacher,

Delpit analyzes the dilemmas progressive Black educators face when teaching writing. In conclusion, she strongly recommends that leaders of the progressive movement listen to and consider the views of minority educators who have a different perspective on the process approach to writing.

Educational Dilemmas Rooted in Personal Experience

Lisa Delpit has often wondered why “we hear so little representation of multicultural voices which comprise the present-day American educational scene” (p. 379). This question resurfaced after Delpit had completed graduate school and worked as a university professor for 3 years. Delpit’s family, rooted in Louisiana, is extremely proud of her accomplishments, but they still find her “rather tedious.” They often question why she comes home, when “she just got here and she’s locked up in that room with a bunch of papers talking about she’s gotta finish some articles” (p. 379).

Delpit shared her family’s doubts about academia in her first few months of graduate school. She felt that the educational theories she was learning rarely seemed connected to her....

Notes

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References

- Applebee, A., Langer, J., Mullis, I., & Jenkins, L. (1990). *The writing report card, 1984-1988*. Washington, DC: Office of Educational Research and Improvement.
- Baron, D. E. (1982). *Grammar and good taste: Reforming the American language*. New Haven, CT: Yale University Press.
- Barone, T. E. (1990). Using the narrative text as an occasion for conspiracy. In E. W. Eisner & A. Peshkin (Eds.), *Qualitative inquiry in education: The continuing debate* (pp. 305-325). New York: TC Press.
- Bassey, M. (1980). Pedagogical research: On the relative merits of search for generalizations and study of single events. *Oxford Review of Education, 7*, 73-94.
- Bolster, A. S. J. (1983). Toward a more effective model of research on teaching. *Harvard Educational Review, 53*, 294-308.
- Brown, A. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of the Learning Sciences, 2*, 141-178.
- Bruner, J. (1985). Models of the learner. *Educational Researcher, 14*(6), 5-8.
- Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs in research on teaching*. New York: Macmillan.
- Carter, K. (1993). The place of story in the study of teaching and teacher education. *Educational Researcher, 22*(1), 5-12, 18.

- Cizek, G. J. (1995). Crunchy granola and the hegemony of the narrative. *Educational Researcher*, 24(2), 26-28.
- Clifford, G. (1973). A history of impact of research on teaching. In R. M. W. Travers (Ed.), *Second handbook of research on teaching* (pp. 1-46). Chicago: Rand McNally.
- Cochran-Smith, M., & Lytle, S. L. (1990). Research on teaching and teacher research: The issues that divide. *Educational Researcher*, 19(2), 2-11.
- Coleman, J. A. (1975). The concept of equality of educational opportunity. *Harvard Educational Review*, 38, 7-22.
- Collins, A., Brown, J. S., & Holcum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6-11, 38-46.
- Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), 2-14.
- Delpit, L. (1986). Skills and other dilemmas of a progressive Black educator. *Harvard Educational Review*, 56, 379-385.
- Denscombe, M. (1995). Teachers as an audience for research: The acceptability of ethnographic approaches to classroom research. *Teachers and Teaching: Theory and Practice*, 1, 173-191.
- Donmoyer, R. (1989). A research agenda: Theory, practice, and the double-edged problem of idiosyncrasy. *Journal of Curriculum and Supervision*, 4, 257-270.
- Doyle, W. (1997). Heard any really good stories lately? A critique of the critics of narrative in educational research. *Teaching and Teacher Education*, 13, 93-99.
- Erlwanger, S. H. (1973). Benny's conception of rules and answers in IPI mathematics. *JCMB*, 1, 212-221.
- Fairbanks, C. M. (1996). Telling stories: Reading and writing research narratives. *Journal of Curriculum and Supervision*, 11, 320-340.
- Gage, N. L. (1989). The paradigm wars and their aftermath: A "historical" sketch of research on teaching since 1989. *Educational Researcher*, 18(7), 4-10.
- Greene, J. C. (1992). The practitioner's perspective. *Curriculum Inquiry*, 22(1), 9-15.
- Greene, J. P. (1998, April 29). Rescuing educational research: A rule of thumb for fending off the "nihilism" of competing claims. *Education Week*, p. 52.
- Grossen, B. (1996). Making research serve the profession. *American Educator*, 20(3), 7-8, 22-27.
- Hargreaves, D. H. (1997). In defence of research for evidence-based teaching: A rejoinder to Martyn Hammersley. *British Educational Research Journal*, 23, 405-419.
- Howe, K. R. (1985). Two dogmas of educational research. *Educational Researcher*, 14, 10-18.
- Kennedy, M. M. (1978). Findings from the Follow Through planned variation study. *Educational Researcher*, 7(6), 3-11.
- Kennedy, M. (1997). The connection between research and practice. *Educational Researcher*, 26(7), 4-12.
- Lytle, S. L., & Cochran-Smith, M. (1994). Inquiry, knowledge and practice. In S. Hollingsworth & H. Socket (Eds.), *Teacher research and educational reform: Ninety-third yearbook of the National Society for the Study of Education, Part I* (pp. 22-51). Chicago: University of Chicago Press.
- May, R. M. (1992). How many species inhabit the earth? *Scientific American*, 267(4) 42-48.
- Mitchell, P. (1985). A teacher's view of educational research. In M. Shipman (Ed.), *Educational research: Principles, policies and practices* (pp. 81-96). Philadelphia: Falmer Press.
- Olson, M. R. (1995). Conceptualizing narrative authority: Implications for teacher education. *Teaching and Teacher Education*, 11, 119-135.

- Pressley, M., & Harris, K. R. (1994). Increasing the quality of educational intervention research. *Educational Psychology Review*, 6, 191-208.
- Rist, R. C. (1980). Blitzkrieg ethnography: On the transformation of a method into a movement. *Educational Researcher*, 9(2), 8-10.
- Roth, K. J. (1993). *What does it mean to understand science?: Changing perspectives from a teacher and her students* (Research Series No. 96). East Lansing: Center for the Learning and Teaching of Elementary Subjects, Michigan State University.
- Scardamalia, M., Bereiter, C., & Steinbach, R. (1984). Teachability of reflective processes in written composition. *Cognitive Science*, 8, 173-190.
- Schrag, F. (1992). In defense of positivist research paradigms. *Educational Researcher*, 21(5), 5-8.
- Slavin, R. E. (1989). PET and the pendulum: Fadism in education and how to stop it. *Phi Delta Kappan*, 71(5), 752-758.
- Stake, R. E. (1978). The case study method in social inquiry. *Educational Researcher*, 7(2), 5-8.
- Stigler, J., & Stevenson, H. W. (1993, Spring). How Asian teachers polish each lesson to perfection. *American Educator*, pp. 12-20, 43-47.
- Vinovskis, M. (1993). *Analysis of the quality of research and development at the OERI research and development centers and the OERI regional educational laboratories*. Unpublished manuscript,

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