What Counts as Research?
Author(s): Lawrence Stenhouse
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WHAT COUNTS AS RESEARCH?

by LAWRENCE STENHOUSE, *University of East Anglia*

I shall begin by hazarding a minimal definition: research is systematic self-critical inquiry.

As an inquiry, it is founded in curiosity and a desire to understand; but it is a stable, not a fleeting, curiosity, systematic in the sense of being sustained by a strategy. When Jane Goodall confronted a chimpanzee with a looking-glass, the animal, after gesticulating at its own image, felt behind the glass in order—may I say loosely—to understand the situation; but after a few moments it had passed on to other activities. Not so the researcher, who has bred a persistence of sequential inquiry by curiosity out of patience. And fundamental to such persistence of inquiry is a sceptical temper of mind sustained by critical principles, a doubt not only about the received and comfortable answers, but also about one's own hypotheses.

The research spirit is displayed in Thucydides, Peter Abelard, Galileo, Samuel Johnson, David Hume, George Stubbs, Charles Darwin, Max Weber, Igor Stravinsky and James Joyce—to name only an historian, a theologian, a physicist, a lexicographer, a philosopher, a painter, a biologist, a social scientist, a musician and a novelist. But a list of such names gives research a Promethean cast: they are the saints and martyrs of the research calendar. Research nowadays is an everyday activity: an industry, a tool and a pastime. Where Icarus fell, the Boeing now carries the linguist with a research problem in Middle Eastern dialects, the business man with a commission to research Middle Eastern markets, the novelist researching the Middle Eastern setting of his next novel and the antique collector trying to build context round his small collection of Middle Eastern earthenware.

It was not always so. People with questions and problems turned—as many still do—to answers from divine revelation, to the authority of a learned caste, to traditional lore or the received opinion. And curiosity is as ever dangerous, because it leads to intellectual innovation which brings in its trail a press towards social change. To those who yearn for the support of faith, authority and tradition, research presents a threat of heresy. Yet without the organized pursuit of curiosity we could not sustain our social life.

The utility of research generally brings to people's minds the hard science that lies behind their kitchen equipment or television, but my

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homeland is history and so, like Carl Becker (1931)[1] or Jacques Barzun and Henry Graff (1977),[2] I see history as the archetypal utilitarian research. Barzun and Graff call it 'the Great Catch-All'. It lies behind our recipe books rather than our cooking pots. While the hard sciences produce our hardware, history produces our software: it is the expression of a systematic critical inquiry into the fruits of our experience. In the broadest sense the physical and life sciences pursue research into the *context* of experience: history is concerned—again in the broadest sense—with research into the *content* of experience.

You will be clear that I am not using the term *history* in the narrow senses sometimes adopted in schools and universities. Like those authors to whom I have made reference I am distinguishing between the researches of science, which characteristically seek laws or theories not narrowly conditional upon time, and those researches cast in a historical perspective, which recognize time as an essential variable in the accounts they give. Once we are in time there is no account of the present. As Barzun and Graff note, 'description of "the present" is actually a description of the past—recent it may be, but nonetheless a backward glance'.[3] Both science and history are given to generalization—in spite of the disclaimers of some historians—but science aspires to generalizations which are predictive and universal, whereas historical generalization is retrospective and summarizes experience within boundaries of time and place.[4]

The position I have sketched is clearly problematic at many points, but I must be highly selective in the problems I take up. Since all are united—I assume—by an interest in the relevance of research to the practical activity of education, I must ask some questions about the relevance of science and history to practice, and, by implication, to future practice. And I can only sketch some answers to these questions. Then, I must look at the 'human sciences' of psychology and sociology to locate them in the wider picture of research. Finally, I shall turn to the problems of values and interests in research.

I have, I must confess, withheld to this point a problem concerning my simple definition of research, which I now bring out into the open by quoting a headline from Barzun and Graff: 'The Historical Attitude Underlies *Research* and *Report*'. In previous papers[5] I have described research as 'systematic inquiry *made public*'. What is the role of report in research? What is the status of research-based action? What is the relation of report to discourse and to practice? These questions, as well as those set out in the previous paragraph, deserve at least a glance before I turn to the practical problem which I have assumed to be the hidden agenda lying between the lines of the letter inviting me to contribute this paper: what credible force can we give to the slogan, *Teacher as Researcher*?

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The Relevance of Science and History to Practice

Scientists attempt to account for consistencies of occurrence or of the conjunction of occurrences over time or for events which are regarded as inevitable outcomes of preceding causes. Or, to put it another way, scientists are interested in the power of laws and theories which are general and predictive to organize and summarize data derived from observations. Whether or not the laws of science are invented by mind or discovered in nature, together with many other controversies, need not concern us for the moment.

The first and most obvious application of science to practice rests on the capacity of predictions to provide us with information about the context of action. To put it crudely, I can plan my farming on the prediction that there will be seasons, or my navigation on the prediction that there will be tides. Such predictions do not guide me by telling me exactly what to do, though they may tell me fairly clearly what I should not do. A simple way to express them is to say that they set the conditions of the game: they are the field of play and perhaps the rules in their barest form.

The second application of science to practice works through the possibility of applying general laws to the problem of predicting the outcomes of specific acts. This enables me to design acts on the basis of a more or less reliable estimate of their outcome: to calculate that my bridge will stand or that my glue will stick.

These two applications of science strengthen, but do not supersede, commonsense. Nor do they tell us whether to build our bridge, for all that they predict the traffic flows and assure us that we can construct a bridge that will stand.

History has an application close to the first application of science suggested above. It helps to define the conditions of action by summarizing experience in such a way as to suggest the considerations we shall have to take into account as we make judgments as to how to act. We must attempt to understand the complex web of social variables which contextualize our actions and influence the outcomes. Historical analyses which support such understanding are more useful across time than is sometimes recognized: the speeches arguing for and against war in Thucydides' history of the Peloponnesian War are no bad introduction to an understanding of the ground rules of the present conflict between Iran and Iraq. Judgments of relevance to our acting in any given case can be founded on such stock-taking, 'state-of-the-nation' reports, which are 'contemporary histories' in the sense that they are accounts of a past as close to our present—or perhaps, better said, to our future—as we can make them.

History is also able to summarize the experience of action in such a way as to strengthen judgment and revision of judgment in planning acts. It enables us to make judgmental predictions of how events will go and to

revise those predictions in the face of surprise by rapid reassessments. Paradoxically, history both predicts that events will be substantially unpredictable and supports our attempts to narrow the bounds of unpredictability both by judgmental predictions and by contingency plans. Further, it offers to make us adept at reading the significance of the unexpected and reacting shrewdly to it. It helps us to play what, by analogy with chess, we may call 'the middle game'.

Science and history have a great deal more in common than is sometimes believed: both help to define the context in which people act, and both help to anticipate the outcomes of actions. But when we apply science, we premise high predictability, and when we apply history we premise low predictability. I believe that the acts and thoughts of individual human beings contain essentially unpredictable elements owing to the human capacity for creative problem-solving and the creation of meanings. Others, of course, will see unpredictability in human action as the wilderness beyond the advancing frontier of a social science, a wilderness to be colonized in the future.

Social Science and Practice

Although social science begins with an attempt to apply the methods of natural science to social phenomena in the confidence that human action is lawfully predictable, it would be quite unjust to burden contemporary social science with this heritage. In practice, experimental and analytic social science seeks to ride the assumption of high predictability as far as it may, while observational and naturalistic social science attempts to work in areas where the assumption of low predictability seems stronger. There is nothing ultimately contradictory in nibbling that bit of string from both ends.

The application of the work of the analytic experimentalists to practice is at two levels, corresponding broadly to two research traditions. A laboratory tradition seeks general laws and theories which are analogous to those in certain areas of the natural sciences. The area of learning theory is a good example of this kind of work. Concepts such as recency, frequency, reinforcement, proactive and retro-active inhibition and so forth are pretty well anchored and contribute to synthetic theory. In my view the interest of this kind of work is currently underestimated by educators, but its relevance to practice is rather in defining ground rules than in discriminating action. It draws attention to some of the variables at work in a complex multi-variate situation, but it does not enable us to predict outcomes in such situations.

It is in part this shortcoming which presses the social scientist to come out of the laboratory and undertake field research of a kind which faces real situations with their full multi-variate complexity. Quasi-experimental

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designs[6] are applied directly to practice, usually to attempt to predict the effects of actions, the crucial tools being the statistical procedures which allow estimates of reliability, of internal and external validity, and the use of analysis of variance and correlational techniques. This tradition of field experiment in which Galton and Fisher are key figures[7] fails to discriminate the effects of specific actions on specific cases. What it yields are indications of trends, that is, actuarial predictions for populations; and often in educational research these predictions suffer from weak external validity. For example, Bennett's work on *Teaching Styles and Pupil Progress*[8] fails to control the LEA as a variable, while the Humanities Project experiment in teaching style revealed the LEA as a crucial factor. Moreover, when it comes to the problem of how to act as an individual teacher in the light of the Bennett research, it is not clear whether one should adopt the formal style which gave the best mean results or the informal style which gave an excellent, perhaps the best, single result.

In short, it seems that, while social science applied to education can produce results which help us to understand the ground rules of action, it cannot provide the basis for a technology of teaching which offers reliable guidance to the teacher. Predictions based upon statistical levels of confidence are applicable to action only when the same treatment must be given throughout the entire population. This condition does not apply in education. It is the teacher's task to differentiate treatments.

It is in part the recognition of this problem that accounts for the spread of interest in naturalistic or ethnographic styles of educational research. The portrayal of cases offers to inform the judgment of actors—the administrators, teachers, pupils or parents—rather after the manner of history, by opening the research accounts to recognition and to comparison and hence to criticism in the light of experience. Such a refinement of experienced practical judgment eludes the psycho-statistical model which strips the data of recognizable characteristics and context, and presents 'findings' or 'results', which are accessible to criticism only by replication or by technical attack on the design or conduct of the research.

However, naturalistic styles of social research, in contrast to laboratory or field experiments, do appear to accept real time as a dimension and the question arises: is naturalistic research simply and necessarily history?

To my mind the extent to which naturalistic studies should draw on the traditions of history or of social science is one of the most important issues in contemporary social research. I have written elsewhere on the topic and this is not the place to explore it at length. But one issue has central relevance here: the status of theory.

History, though not wholly atheoretical, is nonetheless parsimonious of theory. In particular, the historian points up issues as often by ambiguity as by stating hypotheses. Since his account is not conspicuously theoretical,

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the historian takes most of his terms of art from his subjects. Thus, the historian of parliament will use the terms of parliamentarians, the historian of music, the terms of musicians, and so forth. One great strength of history is that its vocabulary is accessible to those who are interested in the topic under discussion.

Social scientists, even naturalistic social scientists, appear to be much more interested in theory than are historians. Even when they are not hotly in pursuit of laws they still have a taste for theory, for they seek generalizations which go across the boundaries of human interests and hence of interest-linked vocabularies. They are, to simplify the matter a little, interested in human and social and political behaviour rather than the behaviour of parliamentarians or musicians or beekeepers or teachers. Social scientists themselves are a group with their own language (which others often criticize as jargon) which not only arranges their world so that they can communicate with one another, but also relates discourse to action. But the act to which the discourse relates is primarily the social science research act. The discipline of social science, expressed in the language of social science, organizes social science knowledge in such a way as to point up promising lines of research and organizes understanding of methodology and method to support the planning of the research act. To apply social science to teaching most often requires a translation and one difficult enough for researchers to yearn for a richer literacy of the consumer.[9]

The question arises: could we have an educational science? It is a question that can be construed in many ways, but here I mean: could we have a study of educational phenomena which opted neither for the common language of education nor for the language of social science theory, but instead for a theory which related directly to educational practice? Not a sociology, nor a psychology, but a pedagogy.

For the moment, I shall leave that question hanging.

Values and Interests in Research

I need to take up the issue of objectivity in social research, and it is not an issue I am well equipped to handle, partly because I personally have been untroubled by the problem. I am content that human and social research (and probably also all research that is interested in interpretation or theory rather than mere brute facts) should aim to ground discourse in dependable intersubjectivities. For me disciplines of knowledge or complexes of research are founded on 'arrests of experience',[10] limitations of aspiration which allow us to order experience within conditional boundaries. To name something is, in any event, to make it accessible to discussion at the expense of both oversimplifying it and rendering it ambiguous.

It is commonplace that research is attacked on the grounds that the

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researcher has allowed an intrusion of his values. It will help my analysis, as well as suit my inclinations, if I consider the perspectives given to research not by the researcher's values but by his interest. I use the word *interest* in two dictionary senses which are clearly related: 'being concerned or affected in respect of advantage or detriment' and 'feeling of concern for or curiosity about a person or thing'. Now it is clear that the second of these definitions accords pretty closely with what I have suggested is the impulse behind all research—curiosity—and I believe that such curiosity is almost inevitably associated with considerations of advantage or detriment.

In particular, it should be noted, interest figures prominently in applied sciences: we build a bridge because it is advantageous to us to do so and that advantage breeds a curiosity about bridges. Moreover, the building of a good bridge is to our advantage not only in the primary sense that it lets us cross the river, but also in the secondary sense that successful achievement rewards us in terms of reputation, material payment and future opportunities. In most cases these interests do not impel us to falsify our formulae and build bridges that fall down. The collapse of a bridge is difficult to hide: we do not fudge our process when it is impossible to falsify our result.

The prime problem of interests (and values) in research is this: when the tests of our hypotheses or interpretations are not rigorous, there is a temptation to make dubious claims which appear likely to promote our reputation, increase our material rewards, better our future prospects or endorse some policy to which we are devoted independently of the research.

All researchers are beset by temptations of interest which may blow them off course. The crucial problem is the strength of the critical process which controls such temptations, and such a critical process is essentially social as well as methodological. The case of Cyril Burt is instructive. The person who is too powerful to be questioned—like the person who is too clever to be understood—cannot be controlled by the adoption of methods which purport to support objectivity.

Inquiry counts as research to the extent that it is systematic, but even more to the extent that it can claim to be conscientiously self-critical.

The Teacher-Researcher
The basic argument for placing teachers at the heart of the educational research process may be simply stated. Teachers are in charge of classrooms. From the point of view of the experimentalist, classrooms are the ideal laboratories for the testing of educational theory. From the point of view of the researcher whose interest lies in naturalistic observation, the teacher is a potential participant observer in classrooms and schools. From

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whatever standpoint we view research, we must find it difficult to deny that the teacher is surrounded by rich research opportunities.

Moreover, there is in the research field of education little theory which could be relied upon by the teacher without testing it. Many of the findings of research are based on small-scale or laboratory experiments which often do not replicate or cannot be successfully applied in classrooms. Many are actuarial and probabilistic, and, if they are to be used by the individual teacher, they demand situational verification. The application of insights drawn from naturalistic case studies to a teacher's situation rests upon the quality of the teacher's study of his home case. Using research means doing research. The teacher has grounds for motivation to research. We researchers have reason to excite that motivation: without a research response from teachers our research cannot be utilized.

And, after all, much medical research even in universities is conducted by practitioner-researchers. We pay them more and call them clinical.

There are, however, a number of objections to the teacher as a researcher.

First, it is said that tests of the accuracy of teachers' self-reports suggest that teachers do not know what they do. Although this shortcoming can be exaggerated, it has substance. A teacher lays the foundation of his capacity for research by developing self-monitoring strategies. The effect is not unlike that of making the transition from amateur to professional actor. Through self-monitoring the teacher becomes a conscious artist. Through conscious art he is able to use himself as an instrument of his research.

Second, it is claimed that involvement in the action of school and classroom gives teachers an interest in the tendency of research findings and condemns them to bias. This is not in my view a sustainable objection. In my experience the dedication of professional researchers to their theories is a more serious source of bias than the dedication of teachers to their practice. Teachers whose work I have examined at master's and doctoral level seem to me to achieve remarkably cool and dispassionate appraisals. I see more distortion produced by academic battles than by practical concerns. But I must concede that there are forbidden areas for most teacher researchers, and that these are mainly where the exposure of persons and personal relationships is at stake. In general, however, the professional researcher seems to me more vulnerable because of his distance from practice and his lack of responsibility for practice than is the teacher by virtue of his involvement in practice.

Researchers sometimes regard teachers as theoretically innocent. But much professional research drawing on, if not feeding, the disciplines is also theoretically innocent. This is true of most surveys, field experiments and evaluations. You can partly detect them by the sign that all the

theoretical work of their authors is methodological. On the other hand, some teachers are theorists, hot from Ph.Ds or having informally developed theoretical interests. What teachers most often lack is confidence and experience in relating theory to design and in the conduct of research work.

The most serious impediment to the development of teachers as researchers—and indeed as artists in teaching—is quite simply shortage of time. In this country teachers teach too much. So research by teachers is a minority activity, commonly stimulated and supported by formal degree structures at master's and doctoral level, or by participation in a research project with the teacher-research concept built in. In rare persons the interest and activity is sustained. In a number of cases teacher research develops as someone turns to immersion in work as a response to bereavement or other crises. Much clearly needs to be done to ameliorate the burdens of the teacher prepared to embark on a programme of research and development.

Publication

Earlier in this paper I mentioned that a full definition of research might include the qualification that it be made public. Private research for our purpose does not count as research. Partly, this is because unpublished research does not profit by criticism. Partly, it is because we see research as a community effort and unpublished research is of little use to others. What seems to me most important is that research becomes part of a community of critical discourse. But perhaps too much research is published to the world, too little to the village. We need local cooperatives and papers as well as international conferences and journals. And in any case we need more face-to-face discourse. It's a pity, perhaps, that in this country the doctorate is not publicly defended.

Here is a description of a particular model of a critical community:[11]

One type of deliberative college which seeks to incorporate the necessary technical competence to work realistically has been described elsewhere, where I spoke of what happens on the editorial boards of certain reviews, which function as cultural circles at the same time as editorial boards. The circle criticises in a collegiate way and so contributes towards developing the work of individual members of the editorial staff whose own task is organised according to a rationally worked out plan and division of labour.

Through discussions and joint criticisms (consisting of suggestions, advice, indications of method, constructive criticism directed towards mutual learning), by which each man functions as a specialist in his own subject to improve the collective competence, the average level of

each individual is raised. It reaches the height or the capacity of the best trained and assures the review not only of ever better selected and organic contributions but creates the conditions for the rise of a homogenous group of intellectuals trained to produce regular and methodical literary activity (not only in *livres d'occasion* and partial studies, but in organic general works as well).

Undoubtedly in this kind of collective activity each job produces the capacity and possibility for new work, since it creates even more organic conditions of work: card indexes, bibliographical notes, collections of basic specialised works, etc. A rigorous struggle is required against habits of dilettantism, improvisation, oratorical and declamatory solutions. It is important for reports, and this applies to criticisms, to be made in written form, in short succinct notes. This can be ensured by distributing material in good time etc. Writing notes and criticisms is a didactic principle rendered necessary by the need to combat habits of prolixity, declamation and sophistry created by oratory ... (Gramsci)

Publication has two functions. It opens work to criticism and consequently to refinement; and it also disseminates the fruits of research and hence makes possible the cumulation of knowledge. When systematic inquiry is shared in groups whose character approximates Gramsci's deliberative college, it enjoys the advantage of criticism, but it does not necessarily disseminate outside the collegiate group. Work undertaken in such a context must, in my view, count as research. Indeed, the critical process in the group might with advantage act as a filter. If publication were more selective, we might be in less danger of cumulating the redundant or ephemeral.

There is, however, a less obvious implication of Gramsci's idea. His deliberative college is dedicated to action (in this case running a newspaper). In this it might be compared to a school or teachers' centre group or to an opera company or to a cooperative workshop. The question arises: can research be expressed in performances or actions? I think it can if its force is to make action hypothetical or problematic. To the extent that a substantive action is an expression of a research inquiry, it tests the hypothetical outcome of the inquiry; and this is one understanding of action research.

Alongside our received academic notion of what constitutes publication, we must, I think, allow that research can find other utterances—in critical groups or in action—which can be subject to disciplines which test its claims. Indeed, it could be a weakness of much research in education that it is insufficiently tested in action, too readily accepted by its mere survival in the academic debate.

What Counts as Educational Research?

Research, I have suggested, is systematic and sustained inquiry, planned and self-critical, which is subjected to public criticism and to empirical tests where these are appropriate. Where empirical tests are not appropriate, critical discourse will appeal to judgment of evidence—the text, the document, the observation, the record. In applied or action research the test or evidence may be provided by substantive action, that is, action which must be justified in other than research terms.

I conclude by asking: what counts as research in education? I mean by research *in* education, research conducted within the educational intention and contributory to the educational enterprise. There is, of course, in history, philosophy, psychology and sociology, research *on* education conducted from the standpoint of the disciplines which contributes to the educational enterprise incidentally if at all. It is, one might say, educational research only in the sense that Durkheim gave us suicidal research.

Research is educational to the extent that it can be related to the practice of education. Whether this relationship is to be made by a theory of pedagogy at some level of generalization or by an extension of experience which informs practice or by providing the framework for action research as a tool to explore the characteristics of particular situations or by critical evaluation of practice, or by all of these appears an open question. But two points seem to me clear: first, teachers must inevitably be intimately involved in the research process; and second, researchers must justify themselves to practitioners, not practitioners to researchers.

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