The Importance of Qualitative Research for Causal Explanation in Education

Joseph A. Maxwell

Abstract
The concept of causation has long been controversial in qualitative research, and many qualitative researchers have rejected causal explanation as incompatible with an interpretivist or constructivist approach. This rejection conflates causation with the positivist theory of causation, and ignores an alternative understanding of causation, variously known as a “generative,” “process,” or “realist” approach, which is influential in philosophy and is becoming widespread in the social sciences and history. This alternative approach to causation is compatible with the practice and “theory-in-use” of many qualitative researchers and enables qualitative researchers to credibly make and support causal claims. It also enables them to defend their work against the dismissal of qualitative methods by proponents of “science-based” research, since the latter assumes a positivist understanding of causation. Adequate causal explanations in the social sciences depend on the in-depth understanding of meanings, contexts, and processes that qualitative research can provide.

Keywords
causation, realism, process, ontology

The title of this article is “The Importance of Qualitative Research for Causal Explanation in Education.” It is not “The Importance of Causal Explanation for Qualitative Research in Education.” Much qualitative research provides valuable and trustworthy accounts of educational settings and activities, the contexts in which these are situated, and the meanings that they have for participants, that have nothing directly to do with causation. Although I’ll argue that causal explanation is a legitimate and important goal for qualitative research (see Maxwell, 2004a, 2008, 2011a), my main point is a quite different one—that educational research desperately needs qualitative approaches and methods if it is to make valid and useful claims about what works. Although I have focused my argument on educational research, where the dismissal of qualitative research in some quarters has been particularly virulent, this argument applies to the social sciences generally, and in fact, to natural science as well.

This argument draws on a point that I have made elsewhere (Maxwell, 2004a)—that so-called “scientific research” in education, which assumes that investigations of causation in educational settings must necessarily be quantitative, with randomized controlled trials (RCTs) as the best way to conduct such investigations, is based on a narrow, incomplete, and dated conception of causality. (I address this conception in more detail below.)

But to build my case that qualitative research can make an essential contribution to causal inquiry in education, I need to address the question that motivated this collection of articles—why many qualitative researchers believe that causation is an inappropriate concept in qualitative research. Despite some notable exceptions (e.g., Coffey & Atkinson, 1996, p. 243; Erickson, 1986, p. 82; Fielding & Fielding, 1986, p. 22; Huberman & Miles, 1985; Schwandt, 1997, p. 14), this rejection of causation has been a widespread and pervasive assumption within the qualitative community; particularly influential statements of this position are those by Lincoln and Guba (1985, p. 141) and Guba and Lincoln (1989, pp. 44, 86). The recently published two-volume Sage Encyclopedia of Qualitative Research (Given, 2008) had no entries for cause or causation, and the only nondismissive mention of causation in the third edition of the Handbook of Qualitative Research (Denzin & Lincoln, 2005a) was in the chapter on qualitative evaluation and social policy (House, 2005), where the issue of causation is almost impossible to avoid. (There are no nondismissive mentions of causation in the fourth edition of the Handbook; Denzin & Lincoln, 2011). The author of one of the finalist dissertations for the qualitative dissertation award given by the Qualitative Research Special Interest Group of the American Educational Research Association in 2011, Brianna Kennedy, confided

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to me that she felt that “even uttering the word ‘causal’ in qualitative methodology circles was akin to invoking evil spirits.”

This is particularly puzzling given that most of us accept the concept of causation in our everyday lives. We believe that when our car doesn’t start, a mechanic can discover the cause of this and fix the problem. Most of us also believe that greenhouse gases released by human activity are causing the earth to become warmer, regardless of how many people believe this theory. This acceptance of causation isn’t limited to the physical world; most of us also believe that changing people’s understanding of, and motivation to act on, global warming can cause a reduction in the amount of greenhouse gases we produce. As the philosopher Hilary Putnam has said,

whether causation “really exists” or not, it certainly exists in our “life world.”… The world of ordinary language (the world in which we actually live) is full of causes and effects. It is only when we insist that the world of ordinary language… is defective… and look for a “true” world… that we end up feeling forced to choose between the picture of “a physical universe with a built-in structure” and “a physical universe with a structure imposed by the mind.” (1990, p. 89)

So how did we get ourselves into a situation in which we deny in our epistemology and methodology what we accept in our everyday lives? A major reason for—can I say “cause of”?—this rejection of causation by qualitative researchers was the positivist account of causation, which was dominant in philosophy for most of the 20th century and had a powerful influence on quantitative and experimental research. This account, generally known as the “regularity” or “successionist” theory of causation, was derived from David Hume’s analysis of causality (1739/1978), as further developed by J. S. Mill (1843/1988) and Carl Hempel (Hempel & Oppenheim, 1948). It held that we can’t directly perceive causal relationships, only what Hume called the “constant conjunction” of events. Hume denied that we can have any knowledge of causality that goes beyond the observed regularities in the association of events and repudiated any reference to unobservable mechanisms. In its current manifestation, it holds that the demonstration of causation is simply a matter of showing that there is a regular, law-like relationship between two variables, so that a change in the first (“independent”) variable results in a change in the second (“dependent”) variable (National Research Council, 2002). This account is the basis for some of the current, most respected quantitative approaches to causal research (e.g., Mulaik, 2009, pp. 63-87; Murnane & Willett, 2010, pp. 26-38).²

Although logical positivism is no longer a viable philosophy of science, and the term “positivist” is often used far too loosely to discredit anyone who is seen as insufficiently “progressive” in their approach to research, the term is in this case an accurate description of this approach. The regularity theory of causation is a genuine living fossil that is consistent with basic logical positivist premises and has survived in virtually unchanged form since the positivist era. This concept of causation fits perfectly with quantitative research, which is ideally suited to identifying consistent associations between variables, and it is the basis for the claim that quantitative methods are the only way to validly establish causal conclusions.

I think that there have been four main reasons that qualitative researchers rejected the regularity view of causation as valid for qualitative research:

1. They associated it with the positivist commitment to “objective” knowledge of reality, implying that causes could be accurately identified in a theory-neutral way.
2. They saw it as mechanical and deterministic, as ruling out human agency, and as incompatible with an interpretivist understanding of human thought and action.
3. They saw it as denying the importance, not only of the meanings that things had for people, but of the importance of context and the need to take unique circumstances into account in understanding why some event or outcome occurred.
4. Finally, they understood that it dismissed the idea of process, of the possibility of understanding not just whether there was an association between variables, but of how one thing influenced another, a goal that was central to Blumer’s view of symbolic interactionism (1956).³

However, in rejecting the regularity understanding of causation, qualitative researchers threw the baby out with the bathwater. For at about the same time that this rejection of causality was gaining force in qualitative research, an alternative concept of causation was being developed, in both philosophy (Bhaskar, 1978, 1989; Salmon, 1984, 1989, 1998) and in social science (Mohr, 1982). This theory, which has variously been termed a “realist,” “generative,” or “process” approach, abandoned the Humean restriction of our understanding of causation to observed regularities and argued for the reality of causal processes. As subsequently developed in the social sciences and in history, this alternative theory saw causal explanation as fundamentally a matter of identifying the actual processes that resulted in a specific outcome in a particular context (Little, 2010; Pawson & Tilley, 1997; Sayer, 1992; for a more detailed discussion of the relevance of this approach for qualitative research, see Maxwell, 2011a). Little, addressing causation in history, argued that
it is very important for historians to arrive at deeper understandings of the metaphysics of social causation. This means, first, understanding the complete inadequacy of the traditional positivist interpretations of causation: “causation is no more than regularity.” This Humean view does not serve the natural sciences well, and it certainly does not help us when it comes to social causation. So it is necessary to explore a different model of causation that fits better with what we know about the actual workings of social processes. The model developed above is “causal realism.” (Little, 2010, p. 218)

This theory removes most of the barriers to the acceptance of causation by qualitative researchers (Maxwell, 2004a, 2004b, 2008, 2011a). First, it identifies process as a necessary and central aspect of causation, a view that is characteristic not only of our everyday understanding of causation but is implicit in the work of many qualitative researchers. It validates not only the idea that causal processes can in some situations be directly observed (Maxwell, 2004a; Scriven, 2008), but also that they can be established in single cases, without the need for comparison or quantitative measurement (Cartwright, 2000; Salmon, 1998, p. 15). Causation is thus fundamentally local rather than general (Cartwright, 1999, 2000, 2007; Huberman & Miles, 1985); causal generalizations are necessarily secondary to particular causal understanding.

Second, it makes context intrinsic to causal explanation. Causal processes always operate within a real context, and this context is inextricably involved in the outcome of that process (Pawson & Tilley, 1997). The causally relevant contexts for understanding some phenomenon include not only the immediate physical and social situation but also broader social and cultural contexts, as argued by Anderson and Scott (2012). These contexts can’t be reduced to a set of “extraneous variables” without misrepresenting the nature of the causal process (Blumer, 1956, 1969).

Third, it extends causal efficacy to beliefs, values, intentions, and meanings, not just to physical objects and events (Pawson, 2006, pp. 27-29; Sayer, 1992, pp. 110-112). The view that beliefs and reasons have causal consequences is a position that has repeatedly been defended in philosophy (Davidson, 1980, 1993, 1997; McGinn, 1991; Putnam, 1999; Robb & Heil, 2003) and is generally accepted in both our everyday explanation of people’s behavior and in psychology as a science. However, the sharp separation of “meaning” and “cause” explanations by Diltzey (discussed by Donmoyer in his article in this issue), Weber, Winch, and others has been far more influential in qualitative research. 4

From the realist perspective presented here, meanings and beliefs are part of the causal processes that operate in human individuals and communities, and any attempt to explain what happens in human groups that ignores the meanings and intentions of the members of these groups is seriously deficient and unlikely to be productive (Menzel, 1978). The fundamental premise of symbolic interactionism “is that people act in accordance with their definitions of situations, so that explanations are dependent on understanding those definitions” (Hewitt, 1984, p. 269, cited by Goldenberg, 1992, p. 524). Finally, an ontology that accepts the reality of causation is quite compatible with a constructivist epistemology that holds that our understanding of the world, including our understanding of causation and causal relationships, is necessarily our own creation, incomplete and fallible, rather than an “objective” perception of reality (Bhaskar, 1989, p. 185; Campbell, 1988, p. 447; Keller, 1992, pp. 73-74; Lakoff, 1987, p. 265; for a detailed justification of this claim, see Maxwell, 2011a). 5

From this perspective, I disagree with Donmoyer’s view (2012) that causality is a “convenient fiction.” The idea that theories about the world are “convenient fictions” is another vestigial holdover from logical positivism. Positivists argued that theoretical terms and concepts were simply logical constructions based on, and defined by, observational data, “fictions” that were useful in making predictions but which had no claim to any “reality” (Norris, 1983; Phillips, 1987, p. 40). This view, generally termed “instrumentalism,” was (and remains) influential in psychology and the social sciences long after it was abandoned in philosophy (Salmon, 1984, pp. 5-7).

Seeing our understanding of causation as a construction does not make it “fictional,” for at least two reasons. First, as a construction, causation points to and captures (although not “reflects”; see Keller, 1992, pp. 73-74) something about reality, an aspect of reality that can resist or fail to accommodate to our constructions of it (Blumer, 1969). Second, as a concept held by real human beings, this construction is itself real: It influences our actions (e.g., a realist concept of causation played a major causal role in my writing this article).

Accepting the legitimacy of causation in qualitative research does not put us on a slippery slope leading back to positivism or foundationalism. A realist process theory of causation constitutes a rejection of the basic premises of the positivist understanding of causation as well as being incompatible with other aspects of positivism (Maxwell, 2011a, pp. 8-9; Schwandt, 1997, pp. 133-134). The linking of ontological realism and epistemological constructivism that I advocate here is also explicitly antifoundationalist in rejecting any fundamental beliefs or assumptions about reality other than that it exists. Reality is more complex than any belief or theory can fully capture; multiple valid understandings of any phenomenon are possible (see Maxwell, 2011b), and all beliefs and assumptions are tentative and subject to revision.

This view of causation is compatible with, and in fact supports, the actual methods and interpretive concepts and
approaches used by many qualitative researchers—what Argyris and Schoen (1992) called the “theory-in-use” of these researchers. It is even explicit in the work of some qualitative researchers; for example, Weiss (1994) argued,

In quantitative interview studies the demonstration of causation rests heavily on the description of a visualizable sequence of events, each event flowing into the next. . . . Quantitative studies support an assertion of causation by showing a correlation between an earlier event and a subsequent event. An analysis of data collected in a large-scale sample survey might, for example, show that there is a correlation between the level of the wife’s education and the presence of a companionable marriage. In qualitative studies we would look for a process through which the wife’s education or factors associated with her education express themselves in marital interaction. (p. 179)

However, it is not compatible with the espoused theory of some qualitative researchers—a radical constructivist or relativist ontology that denies the reality of causation. What I am arguing is there are good reasons to question this espoused theory, and to try to better understand the theory-in-use that we employ in our work.

This view of causation is also essential to any approach to causation that can be of real use to social and educational researchers. This is most clearly illustrated by mixed-method studies that combined qualitative and quantitative approaches in ways that respected the value of both approaches and supported a dialog between the two. Good examples of this can be found in the collection of mixed-method studies edited by the ethnographer Tom Weisner, with the title Discovering Successful Pathways in Children’s Development (Weisner, 2005). In these studies, the insights gained by the qualitative researchers were essential to the causal conclusions that emerged from the study, and in one study they not only refocused the quantitative data collection on the outcomes that emerged from the qualitative work, but “led us to develop an overall conceptual framework for thinking about the mechanisms through which changes in outcomes due to moves out of high-poverty areas might occur” (Kling, Liebman, & Katz, 2005, p. 244).

I also believe that incorporating causal inference in qualitative research supports, rather than undermines, social justice agendas for our work. A particularly good example of this is Dixiane Hallaj’s recent award-winning dissertation Caught by Culture and Conflict: Palestinian Refugee Women’s Perceptions of Illiteracy and Education (2006), which grew out of her work to establish family literacy centers within the refugee camps in the West Bank. Hallaj implicitly identified cultural, environmental, and political causes of these women’s illiteracy and the ways in which these causes interact, and described ways in which these causes might be alleviated.

A second example is a recent book by Stuart Buck, Acting White: The Ironic Legacy of Desegregation (2011), in which he argued that the perception that academically successful Black students are “acting white” is a real phenomenon that causes serious problems in school for Black students, and is itself an unintended consequence of the way desegregation was implemented. It seems to me that if you want to work against injustice and oppression, you need to understand the causes of the particular forms of injustice and oppression you are dealing with, and how to counteract and overcome these causes.

In conclusion, I am making two claims. First, I am arguing that qualitative researchers can draw and support causal conclusions—that this is not an inappropriate aspiration. We are able to do this by focusing on the causal processes, mental as well as physical, that result in particular outcomes, rather than by simply demonstrating that a relationship exists between particular variables. Not all qualitative researchers aspire to draw such conclusions, and that is legitimate, but there are no good philosophical or methodological prohibitions against our doing this.

I am not just arguing that we can do this, but that we’re good at it. We have the methods that allow us to both develop and test causal explanations in education. However, we could be better at it. Drawing causal conclusions is challenging even in the best of conditions, and attempting to generalize such conclusions is even more difficult. If we want to credibly make such claims to a wider audience, we need to be systematic and rigorous in providing evidence that supports these claims and that addresses potential validity threats to these claims; I provide elsewhere a detailed discussion of methods that qualitative researchers can use for this (Maxwell, 2004b, 2011a). However, in doing this, we also need to challenge the positivist assumptions that typically inform “evidence-based” approaches to research (Maxwell, 2009).

Second, I am arguing that educational research, and social research generally, requires such qualitative approaches if it is to credibly identify the actual causes that influence a particular outcome, let alone to make claims about the broader efficacy of any intervention. Pawson (2006) argued,

The nature of causality in social programmes is such that any synthesis of evidence on whether they work will need to investigate how they work. This requires unearthing information on mechanisms, contexts, and outcomes. The central quest is to understand the conditions of programme efficacy and this will involve the synthesis in investigating for whom, in what circumstances, and in what respects a family of programmes work. (p. 25)

The idea that randomized experiments or structural equation models can provide valid general conclusions
about the effect of an intervention, in the absence of any understanding of the actual causal processes that were operating, the specific contexts in which these processes were situated, or the meaning that the intervention and contexts had for participants, is an illusion. We need qualitative methods and approaches in order to understand “what works” and why.

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Notes
1. For a particularly scathing critique of the idea that RCTs (randomized controlled trials) are the “gold standard” for causal inference, see Scriven (2008).
2. One statistician who was not committed to the regularity theory, and who sought to understand causal processes in particular cases, was David Freedman (2010). The philosopher Nancy Cartwright, whose work (e.g., 2007) represents some of the best thinking about using quantitative methods in causal research, has provided a detailed argument for what she called “causal pluralism,” the view that what causes are and what they do varies from case to case. She stated that current approaches “are not alternative, incompatible views about causation; they are rather views that fit different kinds of causal systems” and that “there is no single interesting characterizing feature of causation; hence no off-the-shelf or one-size-fits-all method for finding out about it, no ‘gold standard’ for judging causal relations” (2007, p. 2).
3. The National Research Council Report Scientific Research in Education (2002) acknowledged the value of understanding mechanisms, but made this subordinate to, and dependent on, the quantitative demonstration of a causal relationship between variables, and claimed that even the understanding of mechanisms was necessarily a primarily quantitative activity (see Maxwell, 2004a).
4. For example, Howe (2011) has recently presented a different analysis of causality in qualitative research from the one proposed here, accepting the validity of this concept, but arguing that causation of intentional phenomena (I-causation) is different in kind from that of natural phenomena (N-causation). Although I endorse his recognition of causation in human interactions, and his position that qualitative and quantitative methods can both be used for intentional and physical phenomena, I think that his analysis in terms of two kinds of phenomena still leaves as mysterious the interaction between the two, an interaction that is intrinsic to our everyday understanding of causation.

References


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**Bio**

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