
Emergent methodologies

Dick, Bob (2001) Making the most of emergent methodologies: a critical choice in qualitative research design. A paper prepared for the Association for Qualitative Research conference, Melbourne, 5-7 July.

Abstract

A critical choice in research design concerns the role of theory. Research is often intended to test or extend theory or to plug a theoretical gap. Even when this is not the explicit aim, much research takes the theory as a given. The research may extend the theory or modify it at the margins without challenging its core propositions. It is less common for research to attempt to engage with a research situation as it is, as far as possible putting assumptions and preconceptions aside. The two forms of research complement each other.

There are some research approaches which are explicitly designed to be emergent: to be fully sensitive to the situation; to be data-driven rather than theory-driven. This includes some varieties of grounded theory and action research.

In this paper I compare grounded theory and action research. My intention is to identify some of the principles of good data-driven research. I then propose ways in which some of the processes of grounded theory and action research can be combined. In particular, I describe a research strategy of attempting continually and vigorously to test emerging interpretations, and to explain apparent disagreements in the data. This twin strategy can be the engine which both drives the research process and guides its conduct.

The outcome is a research process which overcomes some of the shortcomings of both grounded theory and action research. The result is a process which achieves high standards of rigour without sacrificing flexibility and responsiveness to the research situation.

Emergence vs forcing

If dispute makes for good publicity, then the early 1990s should have thrust grounded theory into the news. Until then one might have assumed that Glaser and Strauss, the authors of the seminal 1967 work on grounded theory, agreed what grounded theory was. That assumption was to be shattered some quarter of a century later.

In 1990 Strauss and Corbin brought out what has become a popular text on doing grounded theory. Two years later Glaser responded with a strongly worded attack in which he claimed, among other things, that the 1990 text should be withdrawn, and that Strauss perhaps never understood the real nature of grounded theory.

I can understand the appeal of Strauss and Corbin. One can read a lot of Glaser, and still be left in doubt about how one actually *does* grounded theory. There had been earlier systematic explanations of grounded theory, including Charmaz (1983), Chenitz & Swanson (1986), and Stern (1980). Strauss and Corbin's 1990 book, however, perhaps because Strauss was one of the original authors of the methodology, became immediately prominent. They provided a detailed set of recipes for developing their conception of grounded theory. They including processes for the development of interpretation and theory, so troublesome to novices.

In doing so they fell into the trap which threatens to beset all of us who try to capture step by step an essentially creative process. Facing a similar problem, Checkland (in Checkland and Holwell, 1998) downplayed his 7-step version of soft systems methodology of his earlier work (for example Checkland, 1981) because people used it mechanistically. I suppose that's what happens when you give people a step by step process.

(The differences may be perceived by others as less salient than they appear to Glaser. Locke (2001), in a generally well-argued book, finds little difficulty in drawing on both Glaser and Strauss.)

Notwithstanding this, the differences between the two originators of grounded theory illustrate an important but under-recognised distinction in research methodology. For Glaser there is a fundamental difference between "emergent" methodologies and those that are ultimately anchored to or derived from current theory. Glaser believes that Strauss and Corbin describes "hypothesis testing" research, not emergent research.

I find the label "hypothesis testing" misleading. Most research, it seems to me, tests hypotheses. In fact, hypothesis testing is an important source of rigour. Popper, perhaps the most influential of somewhat recent philosophers of science, clearly recognised this. The issue is the *source* of the hypotheses. In much

research they are drawn from the literature. In emergent methodologies they are drawn from the data. The terms I will use are “data-driven” for what Glaser calls “emergent”, and “theory-driven” for Glaser’s “hypothesis-testing”.

Yet Strauss and Corbin’s approach does draw the theory from the data, even if in a constrained way. What is the point of Glaser’s objections? That is not always apparent in Glaser’s writings. A hint is to be found in the subtitle of Glaser’s 1992 book: “emergence vs forcing”. In Glaser’s view Strauss and Corbin aren’t responsive enough to the situation as it is, but force-fit the data to their process. In addition in much of Glaser’s writing it is the *methodology* as well as the theory which is to be emergent. The methodology too is adjusted on the run in response to the situation.

Emergent methodologies

My interest in grounded theory arose because it is an emergent methodology. My primary methodology is action research, also emergent. I had for years thought in a simple minded way that grounded theory implied theory grounded in data, as indeed it is. It is only in recent years that I have begun to familiarise myself with the grounded theory literature.

It has been a useful discovery for me. I found that many of my own views were an echo of what Glaser had already argued. Further, there are both similarities and differences between grounded theory and action research. I have used these similarities and differences to deepen my understanding of each.

That — deeper unstanding — is my central motive in writing this paper.

I begin immediately by offering a brief definition of both grounded theory and action research. This is followed by an exploration of each of these separately, a comparison of the two, and a suggestion for a combined approach which I believe captures many of the strengths of both.

Grounded theory is “a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area” (Glaser, 1992, p16). The emerging data are compared gradually to the theory emerging from the interpretation of the previous data.

“Action research can be defined as a family of research methodologies which pursue action (or change) and research (or understanding) at the same time” (Dick, 1999a). In general it does so by alternating action and critical reflection. Theory and practice are integrated.

I should add that neither of those definitions do complete justice to what are subtle, flexible and powerful processes.

Grounded theory

Compared to what is characteristic of the action research mostly described in the literature, **grounded theory is ...**

... more explicitly emergent

Particularly in Glaser’s formulation, emergence is a key and explicit feature of grounded theory. The theory is “discovered” gradually in the data, as each datum adds to and refines the interpretation. That is, the theory is responsive to the data.

So is the methodology. This is evident, for example, in the approach to sampling. The sample is put together on the run, in the service of the “constant comparison” (of data set to data set, or data set to emerging theory) which is the means by which the theory is developed and refined. The researcher continually asks, “Where might I find data which is most likely to challenge or refine the theory I

have so far developed?”. Data collection continues until “saturation”, the point at which the additional data doesn’t warrant the effort required for capture.

... clearer about the place and use of literature in emergent research

Emergence is also evident in the approach to the literature, which is treated as additional data rather than a privileged starting point for developing a research question. Glaser recommends entering the field without extensive reading of the relevant literature, the better to be open to the theory implied by the data.

It should also be said that Glaser (especially 1978) recommends wide reading so that the researcher is well equipped with mental models to aid in the formulation of theory. This has seemed to me to be a two-way bet; be open-ended, but have a lot of theories and models, though perhaps there is some defence in being eclectic about theory. In any event, I agree with Schwandt (1993) that no research is atheoretical. It seems to me to be self-evident that researchers take with them a variety of preconceptions from a variety of sources. I return to this point later.

... able to use any information, including from the literature, as data

Grounded theory is especially eclectic in its approach to data. Anything can be grist to the mill, including the literature on the content area, any documentation available, the observations of the researcher, and the more formally collected information from interviews and the like. Also included are the objections of those who critique a researcher’s interpretations. This is data triangulation par excellence.

... able to provide an explicit audit trail

In common with many qualitative approaches, grounded theory can provide an explicit audit trail. Interviews are noted down and coded. The relationships

between the codes are captured in “memos”. The report or thesis is built out of the sorted memos. Later researchers can retrace the process by which the theory emerged, offering something akin to that virtue of experimental approaches, replication.

but can also be ...

... confusing or overdetermined

Much grounded theory often follows Glaser in providing little detailed guidance to the novice. At least, that is their experience. Alternatively, in the style of Strauss and Corbin, it overconstraints how the research might be done.

... overwhelming

Grounded theory tends to be more economical in sampling, data collection and analysis than many qualitative approaches. Nevertheless it can overwhelm the novice with data and codes and memos.

This is not to say that grounded theory has any monopoly on these features. Nor do I wish to imply that these are the only important aspects. My intention is to identify some of those features which distinguish it from action research as usually described, and promise to lead to a greater understanding of both.

Action research

Action research, too, lends itself to designs in which both interpretations (theory) and methods are emergent. In most of the literature this is less evident than in grounded theory. Checkland, who goes a step further, is a pointed exception here. He defines action research as an (epistemological) framework F, operationalised as a methodology M, directed towards an area of concern A, in the course

of which one learns about *and modifies* F, M and A (see Checkland & Holwell, 1998).

Compared to grounded theory, **action research is ...**

... more explicitly cyclic or spiral

Most descriptions of action research define it as a spiral process which cycles through particular steps. At its simplest, action alternates with critical reflection. Of more elaborate versions, that of Kemmis & McTaggart (e.g. 1988) is well known: plan, act, observe and reflect. Its resemblance to the experiential learning cycle of writers such as Kolb (1984) is evident.

Let me add that grounded theory is also cyclic. Data collection, taking notes, coding and memoing take place in turn. This is the means by which the theory emerges, and points towards the way in which action research integrates theory and practice.

... change oriented

A commitment to change is one of the defining characteristics of action research. “Praxis”, the integration of theory and practice, is operationalised in the cycling between action and reflection. Part of the underpinning rationale of action research is that one can reveal the dynamics of a social entity by trying to change it, and that change is more likely to be effective if informed by valid theory. Theory and practice support each other.

Other methodologies can be, and are, used from time to time in the service of change. Glaser emphasises that theory must “work” — must make sense of the situation for the people who have to live or work in that situation. Seldom, though, is change such an ongoing and central element of the research process as it is in action research.

... different in its treatment of the roles of researchers and participants

Much of the literature on action research emphasises high involvement of the people in the research situation, making “co-researchers” of them and seeking their “emancipation” (e.g. Kemmis and McTaggart, 1988).

My own view is that some of the treatment of participation is less well thought out than it might be. Despite the arguments for participation, there are two traditions. The person generally recognised as the parent of action research, Lewin (1946), argued for participation. On the other hand there is a tradition of non-participatory action research going back at least to Clark (1972).

Similarly, much current educational action research is done by teacher practitioners with little involvement on the part of the students or pupils who will be affected by it. For that matter, the issues of participation in large systems is generally not well treated in the action research literature. This is despite the historical links between organisation development, which is usually participative, and action research (French & Bell, 1998).

For all this, much action research is participative. Those who undertake action research are likely at least to consider who might be involved, and how. In many other research methodologies a separation between researchers and researched tends to be taken for granted.

... pragmatic in philosophy

Compared to much of the qualitative literature, action research often seems dismissive of philosophical concerns. Or perhaps that reflects my own orientation. I try to use action research to help people change their world. To me it makes sense therefore to assume that the world does exist, even if not knowable with complete assurance. I would find an extreme constructivist view (such as that of Lincoln, 1990, for example) more than a little incongruous.

Admittedly, some current action research literature appears to locate itself within the more pervasive constructivist philosophy. However, it seems to me that the earlier literature (when it hints at philosophy at all) is pragmatic and part of the tradition which includes Dewey. To overstate the case a little, “truth” is what works.

... in some forms, capable of high efficiency

Perhaps arising from its pragmatic tradition, action research tends to be more efficient in its collection and analysis of data than are many qualitative approaches.¹ In some of the data collection approaches I've described elsewhere (e.g. Dick, 1999b) data collection merges rapidly into interpretation, which leads rapidly to action. The action provides the motivation for efficiency.

but also can be ...

... ideological

The action research literature has often provided a rationale that is more ideological than reasoned or evidence-based, though there are exceptions to this (Checkland's work is again notable).

Comparing GT and AR

The descriptions above show that **both grounded theory and action research can be ...**

1. The efficiency of experimental methods is a different issue which I won't go into here.

... emergent

Both are flexible, responsive to the situation, sensitive to the data. Grounded theory is more explicit about its emergent nature, though this is more a matter of emphasis than of substance.

There are at least two varieties of emergence. One arises from the grounding of interpretation and theory in the data. The other depends upon the fine-tuning of the methodology to the situation. Grounded theory and action research both demonstrate these two forms of emergence.

... practically theoretical

Being action oriented, action research deals with theory for the purpose of action. In addition it alternates cyclically between action and reflection, giving an integration of theory and practice. Though grounded theory generally does not attempt to integrate action, it includes among its criteria for good theory that the theory fits the data, and works for those who do carry out the action.

... cyclic

Data collection, interpretation and theorising (and in action research, action) are overlapped. This provides efficiency in data collection and analysis and grounds the theory in the data. Action research emphasises the cyclic nature in its descriptions. The cycle is as present, if implicitly, in grounded theory.

... efficient

Data driven methodologies like action research and grounded theory can be very efficient. Rather than accumulate a large data set and then strive to make sense of it, both can interpret and theorise about data during data collection. Both can carry forward interpretation and theory rather than data. Both can judge when enough has been done.

(In some quarters, deep immersion in data is regarded as a virtue. On these grounds the more data driven approaches to methodology might be regarded as shallow. However, consider what happened when the behaviourist psychologist Skinner (1936) played to people a tape or phonograph bearing random vowels in noise. Led to believe that there were sentences to be heard, after replaying the tapes many times they did eventually hear sentences. With sufficient immersion in a data set the human brain may well find patterns whether or not they exist.)

but both tend to be ...

... general in their descriptions

Novices in both fields are often left wondering how actually to do the research. To rewrite Checkland's formulation, research consists of an epistemological framework F, conceptualised as a methodology M1, operationalised as a method M2, focussed on an area of concern A, in the course of which one learns about and modified F, M1, M2 and A. The descriptions in the literature tend to be high level, describing M1. Novices would often prefer more fine grain detail: descriptions of M2. In addition, both grounded theory and action research have about them an element of creative performance not easily captured on paper.

There are also differences in the way grounded theory and action research are usually practised. Action research is more action-oriented, and usually participative. Its theories are tested in action as part of the research. Grounded theory provides more of an audit trail for others to follow.

Combining GT and AR

The comparison of these two similar methodologies helps us to stand back from each to see them in a wider context. If we can break out of the language and ide-

ology of each we can gain a first principles understanding that allows us to use them more intelligently and effectively.

Here I illustrate this with two examples. In the first I examine how action research might emulate grounded theory in providing more of an audit trail. In the second I discuss how some of the detailed methods of some varieties of action research can improve the efficiency and rigour of grounded theory.

Providing an audit trail

In experimental research replicability is highly valued. It is assumed that unless different researchers in different laboratories can replicate an effect, the original results were due to some not-understood artifact. When research moves outside the laboratory, however, replicability becomes much more difficult.

Much qualitative research codes and interprets interview transcripts. A different study may yield different data. But anyone who wishes to do so can retrace the steps from data to interpretation to theory. The audit trail provides a relevant alternative to replication.²

Compared to much qualitative research, grounded theory does this in a relatively efficient way. Sampling is efficient. Coding and memoing accompany data collection and recording from the beginning. Coding continues only until saturation.

(As mentioned earlier, grounded theory can be challenged on the grounds that researchers can't put their preconceptions aside. Also, in Glaser's approach, the researcher uses interview notes constructed from memory, rather than a transcript. These issues are addressed in the next section.)

2. In action research the interpretations and assumptions are tested within the same cycle in action. There is thus a reduced need for replication. However, for thesis purposes it is often useful to be able to assure examiners that more than reasonable care was taken.

The version of action research that I use can be even more efficient. During interviews³ (Dick, 1990) I record only themes. These are then compared to the results of another interview of another informant, preferably conducted by a different interviewer. How might this be made more rigorous without sacrificing the efficiency?

One way of doing this is to tape record the interview, but not transcribe the tape. It can be used to resolve any ambiguities in the notes, or later to validate part of the data sample by asking an independent researcher to interpret it.

In addition, one purpose of action research is to generate informed action. An efficient audit trail might therefore consist of ...

- the themes recorded during the interview
- the actions planned as a result of the data gathered
- the assumptions linking actions to interview data
- any *disconfirming* evidence relevant to any of the themes or assumptions

and as a safety net only, if further validation is required ...

- tape recordings of interviews, which can be used only if needed.

Protection against preconceptions

As implied earlier, Glaser's variety of grounded theory is most vulnerable in its claim that the researcher can put aside preconceptions sufficiently to be open to the data.

Our starting point in this paper was about hypothesis testing, and the source of hypotheses. There is an important difference in those research methods which derive hypotheses from literature and those who derive them from data, as this

3. Interviewing is not the most participative of data collection methods. However, for present purposes it has the virtue of simplicity. The principles of what I discuss here can be extended without difficulty to other approaches to data collection.

paper has argued. That does not prevent us using Popper's 1965 argument that the strongest claim that can be made for a research finding is that it has survived vigorous attempts to *disconfirm* it. We can protect ourselves from our own pre-conceptions by doing the same.

This can be further strengthened by beginning all data collection in as open-ended a way as possible so that the information is determined by the informant not by our questions.

The process is illustrated in Figure 1 below. Any two data sets can be compared. Or, in the manner of grounded theory, any one data set can be compared to the emergent theory. The researcher's attention is directed towards themes which are evident in both data sets. Where a theme occurs in both sets, it will consist either of agreement (same theme, same opinion) or disagreement (same theme, different opinion). The researcher can then devise probe questions which are taken into future data collection (see Figure 1):

- for apparent agreement, devise probe questions which look for exceptions (in other words, for disconfirmation)
- for apparent agreement, devise probe questions which look for explanations.

In summary ...

Grounded theory and action research can both be used as emergent, data-driven methodologies. This allows them to be flexible, and responsive to the situation. Action research can learn from grounded theory, particularly for thesis and dissertation research, by giving more attention to providing an audit trail.

Grounded theory can capitalise on its cyclic process by importing ideas from action research, especially in ways of increasing efficiency and protecting the researcher against preconceptions. Important in this is a vigorous and constant

search for disconfirming evidence. This enhances the data-driven qualities of the research, increasing its flexibility and responsiveness to the research situation.

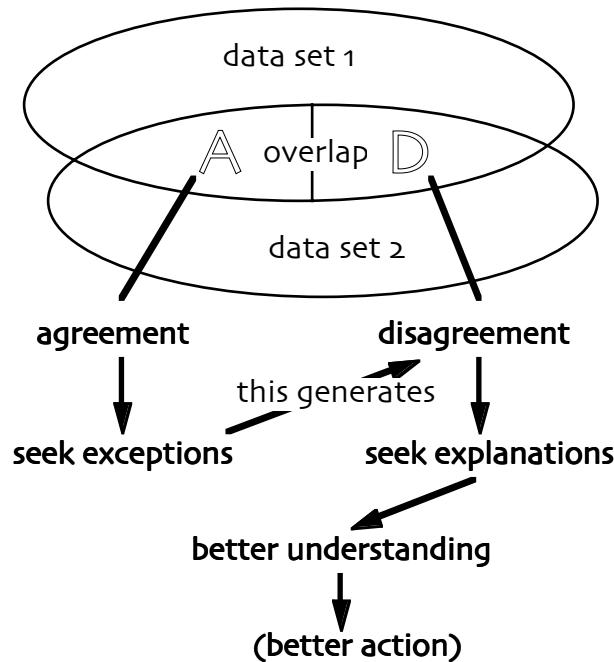


Figure 1. A data driven process for data collection and interpretation

Within the cyclic process of an emergent methodology we can be more responsive to the data by always seeking disconfirmation for our emerging interpretations. Where we find apparent agreement we can search out exceptions. Where we find apparent disagreement we can lead ourselves to deeper understanding by seeking explanations.
(After Dick, 2000)

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