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Towards rigour in qualitative research

Abstract In this interactive seminar, I would like to make you reflect about the rigour of your own research strategies. The starting point is that evaluation criteria used within the positivist research paradigm (internal validity, external validity, reliability and objectivity) cannot be used as meaningful guidelines for the evaluation of research conducted within interpretivist, naturalist or constructivist paradigms. Based on the work of Lincoln and Guba (1985) and its application in human geography by Baxter and Eyles (1997), I will propose four new evaluation criteria (credibility, transferability, dependability and confirmability). I will also discuss strategies to increase the likelihood that research findings based on in-depth interviews, focus-groups, observations, ... are credible, transferable, dependable and confirmable. In the conviction that ethical issues should be central to the evaluation of qualitative research, I will add the notions of informed consent, confidentiality, harm and exploitation as a fifth evaluation criteria. Throughout the seminar, I will draw on examples from my own fieldwork in Belgium and South Africa. I trust that we can also discuss the strengths and the limitations of your own research methodologies.

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1. Introduction

The use of qualitative research methodologies to study social, cultural and geographical processes has attracted critiques from a number of sources. Out of four problems that are regularly cited in the literature, a first one revolves around the difficulty to find out whether the qualitative description of a phenomenon matches the 'reality' of that phenomenon. It is well-documented, for instance, that a slight rewording of a question in an in-depth interview may influence the answer of the respondent (Kvale, 1994, p. 155). Because researchers seldom quote their questions and because they rarely discuss the criteria or grounds why certain quotations are included while others are not, it is difficult to determine the truth value of most qualitative research (Mehan, 1979; Crang, 2003, p. 499). There is a danger, for example, that interview analysis comes down to the selective use of transcripts and field notes to confirm and legitimate pre-existing theories. This error is known as cherry picking (Jackson, 2001, p. 210; Bailey et al., 1999a, p. 171).

A second persistent critique of qualitative studies revolves around their supposed lack of generalizability. If this criterion is defined as the degree to which the research findings can be extended from the research participants to the entire population, it is true that qualitative studies are generally less generalizable than quantitative studies (Myers, 2000). After all, most qualitative fieldwork is not based on the study of a representative sample of the entire population, but on an in-depth exploration of the practices or opinions of a small number of respondents (Kvale, 1994, p. 164). Because valid generalizations cannot be made on the basis of a small group of people that is statistically not representative of the entire population, qualitative research is often said to lack the scientific rigour associated with quantitative research methods (Bailey et al., 1999a, p. 172).

A third critique centers around the question whether the findings of a qualitative study would be confirmed if the research would be replicated with similar respondents in comparable geographical and historical contexts. Often it is thought that different interviewers will come up with different interviews, that different interpreters will find different meanings and that two researchers working with different theories would come to different conclusions (Sandelowski, 1993; Kvale, 1994, p. 157). Because qualitative researchers are said to produce findings that are not consistent nor replicable, critics say that their conclusions only have an anecdotal quality, not a scientific one (Mehan, 1979, p. 15; Silverman, 2000, p. 176).

As a fourth critique, it is often argued that qualitative research is too researcher-dependent. The collection of the source material, its interpretation and its presentation would not only be affected by aspects of the social identity of the researchers (in terms of race, nationality, age, gender, class, etc.), but also by their powerful position (Rose, 1997). In interviews, researchers can decide which questions to ask, how to interpret the answers and where and in what form the conclusions will be presented (McLafferty, 1995, p. 437). While this is also true for most quantitative research, the strong involvement of scholars in qualitative research processes is assumed to make it more subjective and, as a consequence, less scientific (Kvale, 1994, p. 151).

Taking these four critiques together, it is clear that critics of qualitative research often assume that there is a strong dichotomy between quantitative and qualitative studies. These critics claim that the hypothesis testing strategies of quantitative studies bring about nomothetic, universal and objective knowledge, while the explorative character of qualitative studies would provide us with ideographic, context-dependent and subjective understandings. For some, qualitative research comes down to “groundless speculations” (Wheeler, 2000, p. 377). Others call it a “sloppy mishmash” of self-taught techniques (Morse, 1989, p. 15). The imaginary binary between ‘true’ and ‘reliable’ science, on the one hand, and ‘false’ and ‘unreliable’ creativity, on the other hand, seems to be complete (see figure 1).

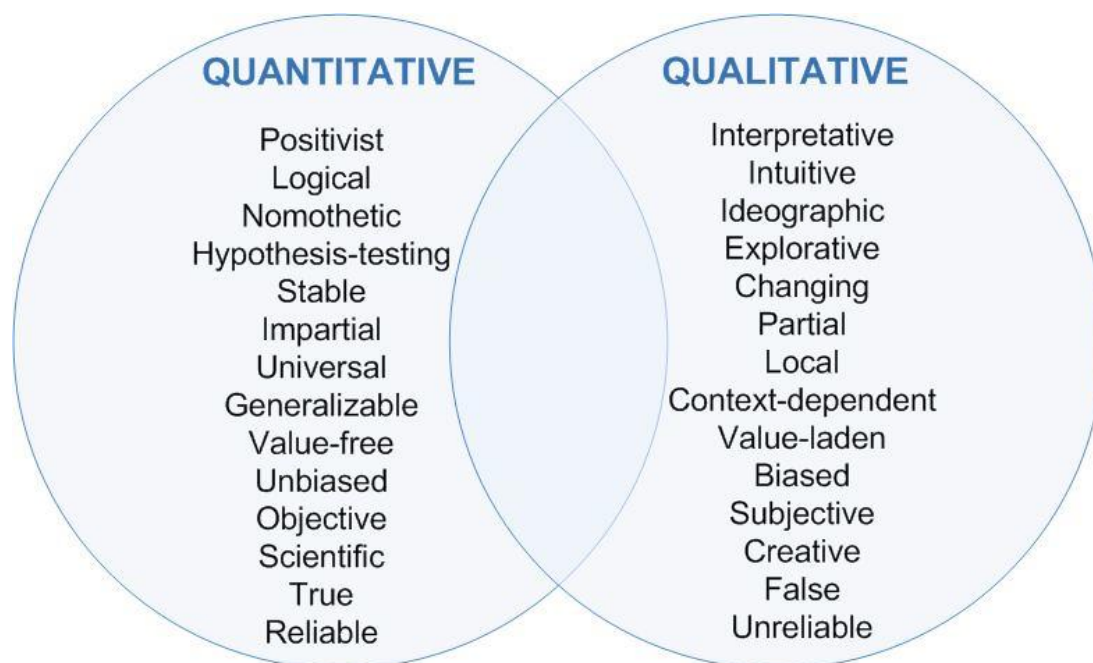


Figure 1 The apparent binary between quantitative and qualitative research (cfr. Kvale, 1994, p. 151; Silverman, 1998; Bailey et al., 1999a)

In the rest of this paper, I aim to refute these four critiques and the allegation that qualitative studies lack the scientific rigour of quantitative ones. To achieve this, I will start the next section with a discussion of the work of Lincoln and Guba (1985) and its application in geography by Baxter and Eyles (1997). This will make clear that the four evaluation criteria used within the positivist framework (internal validity, external validity, reliability and objectivity) cannot be used as meaningful guidelines for the evaluation of research conducted within interpretivist, naturalist or constructivist frameworks, but have to be replaced by four new criteria which are consistent with their assumptions and limitations. In the main part of this paper, I will define these four evaluation criteria (credibility, transferability, dependability and confirmability) and discuss strategies to increase the likelihood that studies are credible, transferable, dependable and confirmable. Because I believe that ethical issues should be central to the evaluation of qualitative research, I will add the notions of informed consent, confidentiality, harm and exploitation as a fifth evaluation criteria.

2. Evaluation criteria within the positivist research paradigm

For Lincoln and Guba (1985, p. 290), there are four fundamental questions to be asked about any kind of research:

- 1.) How can one establish confidence in the “truth” of the findings of a particular inquiry for the subjects (respondents) with which and the context in which the inquiry was carried out? (**Truth value**)
- 2.) How can one determine the extent to which the findings of a particular inquiry have applicability in other contexts or with other subjects (respondents)? (**Applicability**)
- 3.) How can one determine whether the findings of an inquiry would be repeated if the inquiry were replicated with the same (or similar) subjects (respondents) in the same (or similar) context? (**Consistency**)
- 4.) How can one establish the degree to which the findings of an inquiry are determined by the subjects (respondents) and conditions of the inquiry and not by the biases, interests or perspectives of the inquirer? (**Neutrality**)

Within the positivist paradigm, four criteria have been defined in response to these four questions (Lincoln & Guba, 1985, p. 290-294):

- 1.) The criterion of **internal validity** corresponds with the question about the truth value of research. A research design is internally valid if there is confidence that the results of the study are characteristic of the variables being studied and not of the research procedure itself (Sandelowski, 1986, p. 29). In studies where a causal connection is assumed between dependent and independent variables, internal validity refers to the unambiguous assignment of causes to effects. In this case, a study has internal validity if it produces one explanation for the relationship between two variables and rules out alternative causes (Gravatter & Forzano, 2008, p. 157).
- 2.) **External validity** “may be defined as the approximate validity with which we infer that the presumed causal relationship can be generalized to and across alternate measures of the cause and effect and across different types of persons, settings, and times” (Cook & Campbell, 1979, p. 37). It corresponds with the question about the applicability of the research results to other subjects, tests, settings, times, measures and characteristics than those in the study that has been conducted (Lincoln & Guba, 1985, p. 290).
- 3.) In the positivist paradigm, it is assumed that each repetition of the application of the same, or supposedly equivalent, instruments to the same units will yield similar measurements (Ford, 1975, p. 324 in Lincoln & Guba, 1985, p. 292). The criterion of reliability then corresponds with the question about the consistency of research findings.
- 4.) The criterion of **objectivity** matches the question about the neutrality of the study. In the positivist research paradigm, the usual touchstone for objectivity is inter-subjective agreement. If several observers can agree on a phenomenon, their collective judgement is said to be objective (Lincoln & Guba, 1985, p. 292).

3. Evaluation criteria within the interpretivist research paradigm

According to some researchers, it would be impossible to establish similar evaluation criteria for separating trustworthy and non-trustworthy research within the interpretivist, naturalist or constructivist frameworks. Because the assumptions underlying these frameworks are incompatible with the desire for non-arbitrary criteria, Smith (1984) contends that any attempt to establish a similar checklist will be marked by confusion and uncertainty. If we agree that the basic epistemological and ontological assumptions of different research paradigms are incomparable, Smith (1984) argues, we should also abandon the quest for evaluation criteria.

Other researchers concur that most qualitative methodologies are rooted in frameworks which are ontologically and epistemologically different from those which underlie a lot of quantitative research, but assert that evaluation criteria can be suggested, nevertheless. In geography, the vibrant debate between Baxter and Eyles (1997 & 1999) and Bailey, White and Pain (1999a & 1999b) has clarified, for example, that it is impossible to adopt a standardized method which includes prescribed practices, but that more general principles for evaluation within the interpretivist framework can be established. Their conviction was based on earlier work in the fields of health science (Sandelowski, 1986; Mays & Pope, 1995) and education (LeCompte & Goetz, 1982; Lincoln & Guba, 1985; Johnson, 1997; Manning, 1997).

Because of the diversity of qualitative research methodologies and paradigms, it should not come as a surprise that different authors come up with different assessment methods. While Lincoln and Guba (1985) define only four 'evaluation criteria', Leininger (1994) and Horsburgh (2003) identify six or seven. Other scholars raise ten 'key issues to consider when evaluating the quality of qualitative research' (Fossey et al., 2002) or thirteen 'strategies to promote qualitative research validity' (Johnson, 1997). All scholars agree, however, that it would be wrong to evaluate qualitative methods based on interpretivist, constructivist or naturalist assumptions against the evaluation criteria from the positivist paradigm (Sandelowski, 1986, p. 27). If we want to assess which qualitative studies are more trustworthy than others, our evaluation criteria need to be consistent with the philosophical positions underpinning them (Lincoln & Guba, 1985; Fossey et al., 2002, p. 723).

In what follows, I will use the four evaluation criteria defined by Lincoln and Guba (1985). They replace the evaluation criteria from the positivist paradigm with alternative criteria that reflect the beliefs and knowledge claims of the interpretivist paradigm. Just like their counterparts in the positivist tradition, the four evaluation criteria identified by Lincoln and Guba (1985) correspond with the truth value, the applicability, the consistency and the neutrality of scientific studies (see figure 2). They are called credibility, transferability, dependability and confirmability:

	Positivism	Interpretativism
Truth Value	Internal validity	Credibility
Applicability	External validity	Transferability
Consistency	Reliability	Dependability
Neutrality	Objectivity	Confirmability

Figure 2 Evaluation criteria in positivist and interpretivist research paradigms

Lincoln and Guba (1985) call attention to the fact that their criteria are open-ended. In marked contrast to the evaluation criteria within the positivist paradigm, the credibility, transferability, dependability and confirmability of a qualitative research can never be satisfied to such an extent that its trustworthiness can be labelled as unassailable (Lincoln & Guba, 1985, p. 329). Nevertheless, there are a number of strategies to increase the likelihood that qualitative studies are credible, transferable, dependable and confirmable. For this reason, the remainder of this paper will not only focus on Lincoln and Guba's (1985) definition of the four evaluation criteria, but also on strategies to make qualitative studies more trustworthy.

4. Strategies to achieve credibility in qualitative research

For Baxter and Eyles (1997), the most important principle for the evaluation of research conducted with the assumptions of the interpretivist research paradigm is the notion of **credibility**. It corresponds with the question about the truth value of research. Because interpretivists reject the assumption of a single, tangible truth, there is no ultimate benchmark one can refer to for justification. If the realities observed by researchers and described by respondents are multiple and socially constructed, isomorphism between the research findings and a given truth is impossible (Lincoln & Guba, 1985, p. 295; Manning, 1997). For this reason, the truth value cannot reside in the comparison with the reality, but in the discovery of phenomena and experiences as they are lived and perceived by the research subjects and other researchers (Sandelowski, 1986, p. 30). Credibility may then be defined as "the degree to which a description of human experience is such that those having the experience would recognize it immediately and those outside the experience can understand it" (Baxter & Eyles, 1997, p. 513).

As such, it is self-evident that the credibility of findings can be increased by refining tentative results in the light of feedback from academic peers and research participants. **Peer debriefing** is present in most academic investigations anyway. It comes down to debating preliminary findings with colleagues who are not directly involved in the study in order to reveal possible sources of misinterpretation or suppressed aspects of the inquiry (Lincoln & Guba, 1985, p. 308-9). It involves a fellow researcher playing the devil's advocate by asking critical questions and providing alternative explanations (Manning, 1997, p. 104). This can take place in sessions with supervisors, qualitative research seminars, intervision groups or coffee table discussions. In any peer-reviewed journal, peer debriefing is an implicit component of the publication process as well (Lecompte & Goetz, 1982, p. 42).

If researchers only discuss their interpretations with colleagues and not with the original respondents, they run the risk that their understandings do not stem from the practices and opinions of the people in the research sample, however, but from preconceived ideas and predetermined theories in academia. That is why **member checking** (Bradshaw, 2001) or respondent validation (Silverman, 2000, p. 177) are often considered to be the most important credibility enhancing techniques (Guba, 1981). If our analytic categories and constructs have to be recognizable to the original respondents as adequate depictions of their own realities, it is crucial, indeed, to verify our interpretations with the research participants from which the data were

initially obtained (Lincoln & Guba, 1985, p. 314). This return of information can take different forms. Scholars can discuss their initial understandings in subsequent one-to-one meetings with the respondents themselves (Peleman, 2002), with gatekeepers or with groups of respondents (Wakefield et al., 2007). Besides, they can present their reading of individual interviews and field notes (Peleman, 2002) or their interpretation of the whole case study (Bradshaw, 2001; Turner & Coen, 2008). While such higher level interpretations are more meaningful for theory development (Baxter & Eyles, 1997, p. 515), it cannot be expected that individual respondents are able to confirm or falsify the final conclusions of a study. In general, respondents are more interested in an analysis of their own situation than in any abstract integration of the perspectives of a number of respondents (Horsburgh, 2003).

In order to improve the credibility, researchers should not only check their findings with fellow researchers and with original respondents; they should also spend enough time in the research setting (Johnson, 1997, p. 283). A lengthy and intensive contact with the field is not only necessary to consider every possibly relevant aspect of the phenomenon under study (Leininger, 1994), but also to build trust and rapport with the respondents (Lincoln & Guba, 1985, p. 302-304). **Prolonged engagement** can thus be assessed by judging whether a scholar has interacted long enough with the research participants to gain a clear understanding of their opinions, practices or perspectives. In ethnographical studies, one year in the field is generally considered the bare minimum, especially for research conducted overseas (Manning, 1997, p. 102).

While it is the purpose of prolonged engagement to bring breadth by keeping the research open to multiple influences, the goal of **persistent observation** is to provide depth by discovering the important issues in the research context (Manning, 1997, p. 103). In order to distinguish between the relevant and the irrelevant aspects needed to answer the research questions, researchers should perform an exhaustive exploration of all noted events, experiences and discourses (Baxter & Eyles, 1997, p. 514). This will allow them to focus in detail on the things that really count and to forget about the things that do not count. A possible pitfall is premature closure, or focusing too soon on irrelevant issues in terms of the research questions being asked (Lincoln & Guba, 1985, p. 304).

Triangulation is generally considered to be one of the best strategies to improve the credibility of a study. It involves a complex process of playing different data, data sources and data interpretations against each other (Denzin, 1970). The strategy is based on the principle of convergence. When multiple sources, methods or investigators lead to comparable findings, their supposed truth value is strengthened (Baxter & Eyles, 1997, p. 514; Devillé, 2008). This may entail the integrated use of qualitative and quantitative sources (Bryman, 2005) or the use of quantification in research which is interpretive in design (Garcia-Alvarez & Lopez-Sintas, 2002). In the case of referential adequacy, the findings resulting from the analysis of the bulk of the data are verified by the subsequent interpretation of a smaller section of the data which was not part of the original analysis (Baxter & Eyles, 1997, p. 515). Triangulation of investigators takes place when different members of a research team look at the same data (LeCompte & Goetz, 1982; Little et al., 2005).

Within the interpretivist framework, the use of several theories as a triangulation technique does not make sense. From its specific ontological and epistemological point of view, findings can not be given more weight if they are consistent with more than one theory, since they do not emerge independently from the theory that gives them coherence (Lincoln & Guba, 1985, p. 307). The assumption that a single, tangible reality does not exist, casts doubt on the idea that triangulation should be used to get a 'true' fix on a phenomenon (Silverman, 2000, p. 177). In qualitative studies, different types of data and different methodologies are generally selected within the theoretical traditions in which they are developed. Therefore, we should combine different data sources and different data interpretations only "with the intention of adding breadth or depth to our analysis, but not for the purpose of pursuing 'objective' truth" (Fielding & Fielding, 1986, p. 33 in Flick, 2007, p. 18). In interpretivist studies, it cannot be assumed that all methodologies will necessarily describe the same realities. For this reason, triangulation can only provide a more kaleidoscopic view of the social practices under study (Flick, 2007).

5. Strategies to achieve transferability in qualitative research

Transferability refers to the extent to which findings can be exported to contexts and situations outside the research setting (Leininger, 1994, p. 106; Baxter & Eyles, 1997, p. 515). Because research within the interpretivist paradigm generally assumes that its conclusions are bound to the people, time and place of the research setting, the positivist quest for universal generalizations has been largely replaced with an emphasis on the contextuality of knowledge (Kvale, 1994, p. 166). This shift from generalization to contextualization explains why there is no mechanism built into most qualitative research to evaluate the degree to which the research findings are valid outside the setting of the case study. Since the original researchers only studied the context of their study, they are not able to specify the transferability of their findings to other contexts (Baxter & Eyles, 1997, p. 516). Unless the original researcher has provided a **thick description** of the social, geographical and historical context of the original case study, future generations of researchers are not able to find out whether the conclusions can be exported to their own research settings either (Horsburgh, 2003, p. 311). Only when researchers describe the context of their studies as fully as possible, potential appliers can judge the transferability of the findings to their own study sites (Lincoln & Guba, 1985, p. 316).

Obviously, researchers are forced to give more consideration to the contextualization of their research if they compare their own conclusions from two different case studies. That is why LeCompte and Goetz (1982) are convinced that **comparative research** is a good strategy to increase the probability that findings are transferable. It is true that qualitative research is generally thought to be rather ideographic than nomothetic, but this does not mean that the conclusions from a particular study would automatically be invalid beyond the original research setting (Ramutsindela, 2007). In any case, it seems easier to distinguish between contextualized and transferable conclusions in multi-site studies than in single-site studies.

According to LeCompte and Goetz (1982, p. 31), transferability and comparability require a detailed description of the selection of the research participants and the decision process invoked in their choice. In contrast to quantitative studies, **sampling**

in qualitative research is generally not based on the statistical representativeness of the selection, but on the maximization of the range of perspectives (in the case of maximum variation sampling), the difficulty to approach potential participants (in the case of snowball sampling) or the atypical or unusual knowledge participants might have (in the case of extreme case sampling) (Fossey et al., 2002, p. 726). In addition, there is no minimum number of participants necessary to conduct rigorous qualitative research. Samples are typically small and studied intensively as each research subject provides a large amount of information (Curtis et al., 2000). While some scholars interview only one respondent (e.g. Tyner, 2002), others interrogate more than one hundred (Western 1981 & 2007). Because a thorough analysis of the source material becomes an impossible task large samples, additional interviews are generally only conducted up to a saturation point where further interviewing becomes redundant as patterns are recurring (Rubin & Rubin, 1995, p. 72-73; Kvale, 1996, p. 102).

6. Strategies to achieve dependability in qualitative research

Dependability corresponds with the call for consistency. In positivist research, consistency rests on the assumption that each application of the same instruments to the same units will yield similar measurements (Ford, 1975, p. 324 in Lincoln & Guba, 1985, p. 292). In positivist studies, the reliability of a study is thus indisputably determined if the replication of a test procedure does not alter the resulting findings (Sandelowski, 1986). This idea of replication, however, rests on the assumption that there would be a single, tangible and unchanging reality. If this notion is replaced by the assumption of multiple realities, noted variations cannot be simply attributed to the research methodology (Lincoln & Guba, 1985, p. 299). Because these variations could also be the result of changes in what is being studied, qualitative researchers only focus on design and researcher induced changes. As a result, the dependability of qualitative studies mainly refers to the degree to which interpretations are made in a consistent manner (Baxter & Eyles, 1997, p. 517).

To make interpretations in a consistent manner, it is essential to collect the data as rigorously as possible. In the case of in-depth interviews, attention should be paid to the unambiguous formulation of questions and the ordering of topics (Schensul et al., 1999; Dunn, 2005). For focus groups, the selection of participants and the role of the moderator are critically important (Cameron, 2005). It is also crucial to record and preserve the collected data as much as possible. This can be done through the detailed description of the behaviour and activities of the respondents in extensive **field notes** and the meticulous transcription of **tape-recorded interview data** (LeCompte & Goetz, 1982, p. 42-43). Because “the reliability of the interpretation of transcripts may be gravely weakened by a failure to transcribe apparently trivial, but often crucial pauses and overlaps” (Silverman, 1998, p. 86), Durrheim and Dixon (2005) developed a transcription system with specific codes for inaudible or hard-to-hear speech, overlaps between speakers and tenths of seconds of silence.

The research steps between data selection and data interpretation remain often a ‘black box’ in qualitative research (Schiellerup, 2008). In the words of Jackson (2001, p. 202), “the actual process of interpretation remains [all too frequently] opaque, with vague references to key themes having simply ‘emerged’ from the data”. Yet, if the

followed methodology and the analysis of the source material remain implicit, fellow academics and policy makers cannot evaluate the trustworthiness of the study (Dey, 2008, p. 320). In order to enhance the dependability of a qualitative study, it is crucial to elaborate, in the first place, on the **coding** process. By putting data into coherent packages arranged by topic, coding helps to disentangle the chaotic jumble of field notes and interview transcripts into more structured information organized along the lines of similarity. The development of a codebook allows the researcher to identify the patterns and relationships and to analyze the data in an orderly way. The purposes of coding are thus partly data reduction, partly data organisation and partly data analysis (Cope, 2005, p. 223-226). The coding process itself can take a multitude of forms. Researchers can look for descriptive codes that are stated directly by the respondents or for analytic codes that have their origins in the research questions (Cope, 2005, p. 224-225). Scholars also make a distinction between heuristic codes that reflect the theoretical framework and factual codes that collect attributes of respondents and situations (Seale, 2000, p. 170). In theory, coding is an endless task. In practice, codes are considered to be saturated when no new dimensions are found in the data (Schiellerup, 2008).

Some scholars claim that the use of **CAQDAS** (Computer Assisted Qualitative Data Analysis Software) adds rigour to the coding process (La Pelle, 2004). They can range from a classic word processor with tag and retrieve functions (Ryan, 2004) to specialized computer programs, such as ATLAS.ti (Muh, 1991) and NVivo (Welsh, 2002). If we can believe the advocates of these software packages, the use of CAQDAS is not a simple matter of replacing manual techniques with digital ones. CAQDAS would open up new ways of thinking by handling large volumes of data very quickly, coding rigorously, facilitating team work, simplifying text searches and allowing systematic counts of words and codes (Seale, 2000; Peace & Van Hoven, 2005). Opponents of CAQDAS, on the other hand, argue that researchers using CAQDAS feel distant from the data, lose the overview and cannot use non-text data (Gibbs et al., 2002; Peace & Van Hoven, 2005, p. 242).

In geography, the interpretation of interview transcripts and field notes is often explicitly or implicitly informed by (a variant of) **grounded theory**. In this line of thought, non-chaotic theories are built rather than tested through a largely inductive process of repeatedly coding and recoding (Glaser, 1965; Glaser & Strauss, 1967). Starting from an integration of fieldwork and well-defined theoretical constructs, the resulting codes are grouped into categories, which are finally brought together in hypotheses or 'propositions' (Strauss & Corbin, 1990). These propositions eventually provoke revised rounds of data collection until the researcher can come up with a new set of empirically grounded theories that answer the original research questions. As such, grounded theory implies systematic research that "remains open to unexpected paths of questioning and discovery" (Bailey et al., 1999, p. 173).

The constant comparative method and negative case analysis are two key principles guiding the data interpretation process in grounded theory (but also in some more deductive approaches, see Glaser, 1965; Green, 1998). The **constant comparative method** involves checking and comparing all the data from a single case. While coding observations or interview fragments, for example, researchers must compare them with all the observations or interview fragments coded in the same category (Glaser, 1965, p. 439). In this way, they will be able to specify deviant or negative

cases that are central to the development of rigorous theories (Silverman, 2000). After all, trustworthy theories can only be developed if the underlying proportion has been refined “until it accounts for all known cases without exception” (Lincoln & Guba, 1985, p. 309). In **negative case analysis**, an investigator should thus not be satisfied by explanations which seem to explain nearly all the variance in the data. The provisional analytical scheme has to be constantly revised until it accounts for every single data fragment (Silverman, 2000, p. 180-181).

7. Strategies to achieve confirmability in qualitative research

For Lincoln and Guba (1985), the fourth criterion corresponds with the question about neutrality. In the positivist paradigm, objectivity is the criterion of neutrality. It is based on the assumption that an adequate distance between the observer and the observed can be realized (Lincoln & Guba, 1985, p. 300). Feminists like Haraway (1988) and Harding (1991) have convincingly argued, however, that all knowledge is marked by its origins and that researchers can only produce “partial, locatable, critical knowledges” (Haraway, 1988, p. 584). Because objectivity is considered to be an unattainable aspiration in the interpretivist paradigm (Mohammed, 2001, p. 103), **confirmability** is defined as “the degree to which findings are determined by the respondents and the conditions of the inquiry and not by the biases, motivations, interests or perspectives of the inquirer” (Baxter & Eyles, 1997, p. 517).

In the first place, this means that researchers have to think about the presence of their **positionality and personality** in the collection, the interpretation and the writing-up of their research material (Skelton, 2001; Cook et al., 2005; Moser, 2008). Researchers have to acknowledge that they hold a privileged position in the research process as they can choose which questions to ask, which categories to code and which interpretations to include in final reports. According to the feminists mentioned above, these choices are not only inescapably influenced by the power relations between researchers and their research participants, but also by interrelated aspects of their social identity (Rose, 1997, p. 308) and personality (Moser, 2008).

In order to recognize the role of identity and personality in the research process, Keith and Pile (1993, p. 220) stress that researchers “must be able to look through one eye while holding a mirror to the other to see [themselves] looking” (Keith & Pile, 1993, p. 220). Recently, this practice of observing oneself observing has been criticized, however. Scholars argue that any self-search can never reveal the ‘real’ positionality of the researcher. They claim that the quest for the ‘true’ representation of the researcher relies on essentialist notions of identities (Crang, 2003, p. 497) and that systematic introspection reproduces the myth of the out-standing scholar by claiming the monopoly on **transparent reflexivity** (Rose, 1997, p. 311). While they do not doubt that the subjectivities of the researcher and the researched are implicated in the production of academic research, these scholars believe that it is impossible to expose the implications of these subjectivities in a fully transparent way. Researchers can signal their presence in research reports, however, by including their questions in citations. Because of word limits or embarrassment, these questions are often excluded nowadays (Crang, 2003, p. 499). Researchers also have to be more open about the gaps, the contradictions and the uncertainties in their interpretations (England, 1994, p. 87; Rose, 1997, p. 318).

8. Ethical issues in qualitative research

In my view, it is not sufficient that qualitative studies are credible, transferable, dependable and confirmable. Adding up to the four evaluation criteria provided by Lincoln and Guba (1985), the establishment of rigour in qualitative research should also include ethical questions (Eyles, 1988, p. 11; Fossey et al., 2002, p. 723). While it is true that every textbook on this topic adopts its own code of conduct, four ethical principles recur (Dowling, 2005; Hammersley & Atkinson, 2007):

- 1.) **Informed consent:** In theory, two separate conditions are attached to informed consent (Christians, 2005, p. 144). First of all, respondents should give their unconstrained consent to participate in the study voluntarily, that is, without physical or psychological intimidation. Secondly, this consent should be based on accurate and comprehensive information about the research project. In practice, this means that researchers have to inform their research participants openly and completely about the research purposes, the research methods and the supposed duration of the interviews, focus groups or participant observation (Dowling, 2005, p. 21).
- 2.) **Confidentiality:** Researchers have the ethical imperative to protect the identities of their respondents and their research sites (Christians, 2005, p. 145) and to resist the temptation to publicize details about things that were said or done privately (Cloke et al., 2000, p. 135). To ensure the anonymity of the respondents and their living environments, names should be replaced by pseudonyms. Other identifying characteristics, such as addresses, occupations and ages, should be substituted by general references (Manning, 1997, p. 112).
- 3.) **Harm:** Researchers should also avoid negative consequences for themselves and the people that they study (Hammersley & Atkinson, 2007). This implies that scholars should keep away from issues that may be potentially upsetting or psychologically damaging for anyone involved in the research project (Dowling, 2005, p. 21). In order to give them some control within the interview, respondents should have the possibility to stop the interview whenever they want to and they should be informed about their right to refuse answering questions (Skelton, 2001, p. 91).
- 4.) **Exploitation:** Researchers cannot use their respondents to build up knowledge, while they give little or nothing in return (Hammersley & Atkinson, 2007). People who are prepared to answer supposedly intrusive questions should be compensated for their openness. The least that researchers can do is to listen to their respondents and to take their experiences seriously (Meth & Malaza, 2003). Payments in kind or money are an option too (Mcdowell, 2001, p. 90-91).

9. Conclusion

Most critics cited in the introduction to this chapter assert that qualitative studies are completely different from quantitative ones. They claim that the former brings about nomothetic, universal and objective knowledge, while the latter provides ideographic, context-dependent and subjective understandings of reality. This leads them to the conclusion that qualitative research lacks the scientific rigour of quantitative studies. As summarized in figure 1, their predisposition to view qualitative and quantitative as incompatible opposites thus corresponds with an imaginary binary between 'reliable' science and 'unreliable' creativity (cfr. Bailey et al., 1999a).

In this paper, I hope to have shattered the simplicity of this binary view in two crucial ways. First of all, I hope to have demonstrated that the dichotomy does not do justice to the wide spectrum of research methodologies situated in between (cfr. Silverman, 1998). Looking at the diversity of both quantitative and qualitative methodologies, the most meaningful difference is not the one between qualitative and quantitative research, but the ontological and epistemological assumptions of different research paradigms. While the dissimilarity of quantitative and qualitative studies often corresponds with a different perspective on these assumptions, this is not necessarily the case. As a result, the division between qualitative and quantitative research is much more blurred than figure 1 suggests (Cloke & Johnston, 2005). Even though this paper has adopted a rather caricatural perspective on positivism and its critiques, I hope that the reader understands that a lot of studies are not positioned on the extreme ends of figure 1, but somewhere in the middle.

Secondly, I hope to have demonstrated that it is difficult to make claims about the superiority or inferiority of studies conducted within different research paradigms as they have to be evaluated on different grounds. Throughout the paper, I have underlined that it is crucial to replace the four evaluation criteria used in the positivist framework (namely internal validity, external validity, reliability and objectivity) by four other criteria (namely credibility, transferability, dependability and confirmability) which are consistent with the ontologies and the epistemologies that inform the majority of qualitative methodologies. If research conducted within the interpretivist framework is evaluated by the criteria of the positivist framework, the conclusion will automatically be that the research is not academically rigorous (Horsburgh, 2002, p. 307).

Because researchers working within the interpretivist framework reject the assumption of a single, tangible truth and the possibility to maintain a distance between the observer and the observed, it is not only the evaluation criteria that should be replaced, however, but also the strategies to enhance the rigour of our research. Even though triangulation, member checking and other strategies can never be applied to such an extent that the trustworthiness of a qualitative study can be labeled as unassailable (Lincoln & Guba, 1985, p. 329), the strategies outlined in this paper definitely increase the likelihood that qualitative research is conducted in an academically rigorous manner. By way of conclusion, figure 3 summarizes the wide variety of such strategies in all stages of the research process.

	Data Collection	Data Interpretation	Data Reporting
Credibility	<ul style="list-style-type: none"> - Long & persistent engagement - Triangulation in data and methods 	<ul style="list-style-type: none"> - Peer debriefing - Member checking - Triangulation in analysis 	<ul style="list-style-type: none"> - Description of peer peer debriefing, member checking, triangulation, ...
Transferability	<ul style="list-style-type: none"> - Sampling - Comparative research 	<ul style="list-style-type: none"> - Qualitative comparative analysis 	<ul style="list-style-type: none"> - Thick description of research context - Description of sampling, ...
Dependability	<ul style="list-style-type: none"> - Phrasing - Ordering of topics - Fieldnotes - Audio-recordings 	<ul style="list-style-type: none"> - CAQDAS - Negative case analysis 	<ul style="list-style-type: none"> - Description of coding, analysis, ... - Access to original data
Confirmability	<ul style="list-style-type: none"> - Think about positionality and personality 	<ul style="list-style-type: none"> - Think about positionality and personality 	<ul style="list-style-type: none"> - Lengthy quotations - Reflexive journal - Openness about gaps & limitations
Ethics	<ul style="list-style-type: none"> - Informed consent - Confidentiality - Minimize harm - Avoid exploitation 	<ul style="list-style-type: none"> - Informed consent - Minimizing harm - Avoid exploitation 	<ul style="list-style-type: none"> - Informed consent - Confidentiality - Minimize harm

Figure 3 Strategies to raise the trustworthiness of qualitative research

10. References

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