

**Dealing With Biases in Qualitative Research:
A Balancing Act for Researchers.**

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Abstract:

Qualitative researchers try to acknowledge and take into account their own biases as a method of dealing with them. They attempt to seek out their own subjective states and their effects on data but they never think they are completely successful. Particularly when the data must "go through" the researcher's mind before it is put on paper, the worry about subjectivity arises. However, this is not peculiar to qualitative research. For that matter, all researchers are affected by observers' bias. Questions or questionnaires, for example, reflect the interests of those who construct them, as do experimental studies. It is important for researchers to try to transcend some of their own biases with the aid of methods they use in the process. The data must bear the weight of any interpretation. For this, the researcher must constantly confront his or her own opinions and prejudices with the data. Besides, most opinions and prejudices are rather superficial. The data that are collected provides a much more detailed rendering of events rather than even the most creatively prejudiced mind might have imagined prior to the study (Bogdan & Biklen, 1982). This paper will address some of the major concerns related to observer biases in relation to data collection, interpretation and reporting in qualitative research and ways to deal with them. These include observer's frame of mind, data gathering process, observer's reflective processes, and participant-observer continuum. This paper will be prepared on data obtained for a research on teaching higher-order thinking skills in language classrooms.

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Qualitative Inquiry : A Challenge to Researchers

Qualitative researchers, whether in the tradition of sociology or anthropology, have wrestled over the years with charges that it is too easy for the prejudices and attitudes of the researcher to bias the data (Bogdan & Biklen, 1982). Particularly when the data must "go through" the researcher's mind before it is put on paper, the worry about subjectivity arises. Does perhaps the observer record only what he or she wants to see rather than what is actually there?

Qualitative researchers are concerned with the effect their own subjectivity may have on the data they produce. Critics of qualitative inquiry have charged that the approach is too subjective, in large part because the researcher is the instrument of both data collection and data interpretation, and because a qualitative strategy includes having personal contact with and getting close to the people and the situation under study (Patton, 1990). From the perspective of the logical-positivist scientific paradigm, subjectivity is the very antithesis of scientific inquiry.

The purpose of qualitative inquiry, however, is to produce findings. The process of data collection is not an end in itself. The culminating activities of qualitative inquiry are analysis, interpretation, and presentation of findings. The challenge is to make sense of massive amounts of data, reduce the volume of information, identify significant patterns, and construct a framework for communicating the essence of what the data reveal.

The problem is that "we have few agreed-on canons for qualitative data analysis, in the sense of shared ground rules for drawing conclusions and verifying their sturdiness" (Miles & Huberman, 1984:16). There are no formulas for determining significance. There are no ways of perfectly replicating the researcher's analytical thought processes. There are no straightforward tests for reliability and validity.

This, however, does not mean there are no guidelines to assist in analyzing data. But guidelines and procedural suggestions are not rules. Applying guidelines requires judgment and creativity. Because each qualitative study is unique. Because qualitative inquiry depends, at every stage, on the skills training, insights, and capabilities of the researcher, qualitative analysis ultimately

depends on the analytical intellect and style of the analyst (Patton, 1990). The human factor is the great strength and the fundamental weakness of qualitative inquiry and analysis.

Understanding by Doing: Some Pertinent Issues

Because qualitative research requires personal rather than detached engagement in the context, it requires multiple, simultaneous actions and reactions from the human being who is the research instrument (Meloy, 1994). But even something as taken for granted as writing or talking has major consequences as decisions are made during the interaction of persons, method, and analysis. Meloy suggests that, personal style mingles with methodological implications; for example, how is "ownership" process different from bias or subjectivity? Is there a difference? Decisions about writing, such as voice and tense, become entangled with other decisions, such as where or when does the researcher's voice come in? How much of it is 'appropriate'? Should it be there at all? These are some of the pertinent issues researchers in the qualitative tradition need to address.

What qualitative researchers attempt to do, however, is to objectively study the subjective states of their subjects (Bogdan & Biklen, 1982). While the idea that researchers can transcend some of their own biases may be difficult to accept at the beginning, the methods that researchers use aid this process. For one thing, qualitative studies are not impressionistic essays made after a quick visit to a setting or after some conversations with a few subjects.

The researcher spends a considerable time in the empirical world laboriously collecting and reviewing piles of data. The data must bear the weight of any interpretation, so the researcher must constantly confront his or her own opinions and prejudices with the data. Besides, most opinions and prejudices are rather superficial. As Bogdan and Biklen (1982) suggest, the data that are collected provides a much more detailed rendering of events than even the most creatively prejudiced mind might have imagined prior to the study.

Additionally, the researcher's primary goal is to add to knowledge, not to pass judgment on a setting. The worth of a study is the degree to which it generates theory, description, or

understanding. Qualitative researchers tend to believe that situations are complex, so they attempt to portray many dimensions rather than to narrow the field.

In this context, researchers also need to grapple with the issue of "external" view of the observer and the "internal" view of the participant (Hammersley & Atkinson, 1993). It is true that outsiders and insiders are likely to have immediate access to different sorts of information. And they are also exposed to different kinds of methodological dangers. The danger that attends the role of complete observer is that of failing to understand the perspectives of participants. As Hammersley & Atkinson suggest where this strategy is used alone, these perspectives have to be inferred from what can be observed plus the researcher's background knowledge, without any possibility of checking these interpretations against what participants say in response to questions. This, inevitably, invites bias on the part of the researcher. The risk here is not simply of missing out on an important aspect of the setting, but rather of seriously misunderstanding or misrepresenting the behaviour observed.

However, what seems important is the researcher's ability to strike a balance between the "complete participant" and "complete observer" roles (Junker, 1960). In the "complete participant" role, the ethnographer's activities are wholly concealed. "Complete participation" may seem very attractive. Such identification and immersion in the setting may appear to offer safety. In relation to this, one has to be careful about "going native" (Hammersley & Atkinson, 1993). Not only may the task of analysis be abandoned in favour of the joys of participation, but even where it is retained bias may arise from "over-rapport".

On the other hand, "complete observation" shares many of the advantages and disadvantages of complete participation. Hammersley & Atkinson suggest, in their favour they can both minimize problems of reactivity: in neither case will the ethnographer interact as a researcher with members being studied. On the other hand, there may be severe limits on what can and cannot be observed, and the questioning of participants may be impossible. Adopting either of these roles alone would make it very difficult to generate and test accounts in a rigorous manner, though both may be useful strategies to adopt during particular phases of the fieldwork, and in

some situations may be unavoidable. Most field research involves roles somewhere between these two poles.

Handling Bias

It is not uncommon for researchers to speak about valid designs, methods and instruments. As suggested by Maxwell (1992), validity is not a property of particular approaches or methods or research. Rather, it is a property of accounts or inferences or interpretations of data that have been created in the process of a specific inquiry conducted for particular purposes. Well established literature on validity in experimental and other quantitative research designs has obviously influenced the qualitative tradition.

Research whether quantitative or qualitative, experimental or naturalistic, is a human activity subject to the same kinds of failings as other human activities (CARE, 1994). Researchers are fallible. They make mistakes and get things wrong. There is no paradigm solution to the elimination of error and bias.

It is not difficult to label a whole range of potential sources of bias in research. For example:

- ❑ The reactivity of researchers with the providers and consumers of information;
- ❑ Selection biases including the sampling of times, places, events, people, issues, questions and the balance between the novel and the mundane;
- ❑ The availability and reliability of various sources of data, either in general or their availability to different researchers;
- ❑ The affinity of researchers with certain kinds of people, designs, data, theories, concepts, explanations;
- ❑ the ability of researchers, including their knowledge, skills, methodological strengths, capacity for imagination;
- ❑ The value preferences and commitments of researchers and their knowledge or otherwise of these;

- The personal qualities of researchers, including, for example, their capacity for concentration and patience; tolerance of boredom and ambiguity; their need for resolution, conclusion and certainty.

(CARE, 1994).

The problem is that while it is easy to label potential sources of bias it is not possible to construct rules for judging the validity of particular studies or domains of inquiry. Nor is it possible to specify procedures which if followed will systematically eliminate bias and error. We need, therefore, to think of the social processes that might keep research honest and enhance its fairness. There needs to be ways of researchers guarding against their own biases. Any research strategy ultimately needs credibility to be useful (Patton, 1990).

One of the ways is to record detailed fieldnotes which include reflection on their own subjectivity. A consideration of self as a researcher and self in relation to the topic of research is a precondition for coping with bias (CARE, 1994). How this can be realised no doubt varies from individual to individual. For some it involves a deliberate effort at voicing their prejudices and assumptions so that they can be considered openly and challenged. Others may do it through introspection and analysis.

However, such efforts do not have to rely only on self criticism and judgement. Data can be reviewed by others to indicate something of the personal style of the researcher. The views of participants in the research can be elicited to learn how they see the researcher, the process of research and the accounts it has generated (participant validation).

Some qualitative researchers work in teams and have their fieldnotes critiqued by a colleague as an additional check on bias. Accounts can be analysed for the implicit assumptions about significance and style. Critical friends and colleagues can help the researcher explore their preferences for certain kinds of evidence, interpretations and explanations and consider alternatives, locate blind spots and omissions, assess sampling procedures to highlight selection biases, examine judgements and make the processes of research more public.

Dealing With Bias: My Story

There are obviously many advantages and shortcomings of both qualitative and quantitative methods. Clearly, there is a need to blend the two methods in such a way as to remove each method's shortcomings (Chi, 1997). This approach, in my opinion, also helped me in handling the issue of bias. The following section will attempt to explain how the whole process of collecting, analyzing and reporting the data, the amount of data collected, and also the varieties in terms of participants and methods actually helped to handle the issue of bias.

I chose a research design which has both the quantitative and qualitative methods, to pay attention to both the depth and the breadth of the issue at hand. I needed to employ quantitative methods to cover also the breadth, in view of the policy implications the findings of this study could bring. At the same time, I employed qualitative methods, which allowed me to get closer to practice than has typically been the case to date in order to witness what the practitioners do and to understand the choices they make and the personal meanings they attach to what they do. However, data from both these sources, in my opinion, were inter-complimentary in offering rich explanations of the data.

Challenge 1: Selection of Participants and Context

My aim was to investigate the preparedness of teachers teaching higher-order thinking skills in language classrooms. Teachers were expected to infuse higher-order thinking skills into the teaching of basic components of language teaching: listening, speaking, reading, writing, literature and grammar. The formal teaching of higher-order thinking skills started in Malaysian schools in 1992 (Rajendran, 1998). Teachers were prepared for this innovation through preservice and inservice training.

I was very careful in selecting the context and the participants for this study. I used my own set of guidelines which fulfilled certain criteria in selecting the context and the participants. Although I collected data using both the quantitative and qualitative methods, the discussion here will focus

on the guidelines used for qualitative methods to reduce the elements of bias. There was variety both in terms of the methods of collecting data and also in the types of participants in this study.

Context

A school district in Malaysia which has both rural and urban schools was selected for the purpose of this study. This was done to ensure that the data collected do not only represent either the rural or urban schools. Both the rural and urban schools possess many distinct characteristics of their own. These characteristics include school's physical setting, resources, socio-economic status of students, and teachers' beliefs which may contribute very differently to the data. There is also a better possibility of this school district representing majority of the school districts in the country where there are both urban and rural schools.

People

All Malay and English Language teachers, a total of 135 of them, teaching form two classes in the Perdana School District were involved in this study. The teachers were involved in responding to a survey questionnaire. Initially, during the pilot study of the questionnaire, and later during the administration of the survey questionnaire, profiles of all form two Malay and English Language teachers in the school district were collected from the schools. I was looking for a pair of teachers who had graduated in or after 1994 from any one of the teacher education colleges. The reason is, only teachers who studied preservice teacher education courses and graduated from teacher education colleges after this period would have been formally exposed to the teaching of higher-order thinking skills besides having been exposed to the teaching of school subjects. I wanted to investigate the teaching of higher-order thinking skills in Malay and English Language classrooms taught by teachers who have had formal training to teach them in their classes. Also, I wanted to look for a pair who admit that they are making efforts to teach higher-order thinking skills in their Malay or English Language classrooms.

From the profiles of teachers collected, it was found that there were no one pair of Malay and English Language teachers who fulfilled this criteria teaching form two classes in any one of

these schools. It was particularly difficult to get English Language teachers who fulfill this specific criteria. Even if they were there in the schools they were teaching higher forms like form four or form five classes because of the high demand for English Language teachers.

Besides the criteria that the teachers should have received some kind of formal training in teaching higher-order thinking skills, I also needed a pair who admit that they are making attempts to teach higher-order thinking skills in their Malay or English Language classrooms. Also, I needed a pair who were willing to allow me to be in their classrooms and conduct participant observations, interview them, and interview selected students from their four classes. I talked to teachers from different schools who had received some sort of formal training to teach higher-order thinking skills and were teaching Malay or English Language at form two classes.

Two classes for each of the teachers were also selected. I wanted to select one higher level and another lower level class for each of the teachers. The aim of this criteria was to investigate whether there were qualitative differences in how teachers plan, teach, and handle students from these classes. In total, I had four form two classes, two each for Malay and English Language, for the purpose of conducting participant observations. Eight to nine students were selected at random from each of these classes for the purpose of interviewing them.

Besides the teachers, four classes for conducting participant observations, 32 students from those four classes, four Ministry of Education and District Education officials who were involved in the implementation of the higher-order thinking skills program were also involved in this study.

Challenge 2 : Data Collection

I also used the data collection process to reduce the element of bias. There were participant observations of the classroom teaching and learning processes, interviews with students, teachers and Ministry of Education and District Education officials, document analysis and memos I wrote during my field work. These memos were used while reporting the findings of this study. These memos helped me reflect on an on-going basis the process of collecting data.

I wrote these memos while I was conducting my data collection on a daily basis. For example, I wrote a few memos while waiting to meet the school principals. These memos involved aspects which were interesting in my data and were relevant to my study. I also made it a point to write memos at the end of each day on various aspects which relate to my study, like teachers' comments in the staff room, my communication with school teachers who were answering my questionnaire, and the problems I encountered in my data collection on that particular day.

Also to reflect on the job and to reduce the element of bias, I used a two-column approach while taking fieldnotes. One column was to write the verbatim report or the interaction and the other column to write my own thoughts about the interaction that was taking place. These notes helped me in at least two ways: to write my thoughts in context; and also not losing any of the important reactions that I had on the happenings.

There is also another criteria that I used in the data collection that assisted me in reducing or eliminating bias. That criteria is the framework I used to collect data. As stated earlier, I was investigating the preparedness of teachers teaching higher-order thinking skills in language classrooms. As Nickerson (1988) has suggested, "if there is one point on which most investigations agree, it is that thinking is complex and many faceted and, in spite of considerable productive research, not yet well understood" (p.9), there seemed to be confusion amongst teachers about the definition or an understanding of thinking.

There were many terminology related to thinking used interchangeably by teachers. Critical thinking, creative thinking, lateral thinking, mind maps, graphic organizers, and CoRT tools were some of the terminology used frequently by teachers. The outcome was that there was no clear understanding of the definition of thinking amongst teachers (Rajendran, 1998).

As such, I needed to use a broad definition of thinking to avoid bias towards any particular type of thinking and at the same time capturing almost everything that assists students acquire better thinking. Another reason was that, what may be termed as creative thinking may also have elements of critical thinking and such confusion may arise on other types of thinking. It would have made my job of capturing the finer details of the teaching and learning processes and later analyzing those data a formidable task. To overcome this problem, I used a broad definition of

thinking, higher-order and lower-order thinking (Onosko & Newmann, 1994) while collecting and analyzing data. I am of the opinion that this broad definition actually assisted me in all aspects stated above.

I also conducted pre- and post teaching conferences with the teachers for every class they taught. The pre-teaching conference was to better understand their weekly, and daily plans for their classes. The post-teaching conferences provided opportunities to discuss with the teachers some of the activities they conducted in their classes with particular focus on the teaching of higher-order thinking skills. The teachers were very cooperative in giving me the time to have this brief pre- and post teaching conferences with them.

I also made audiotape recordings of all observations of the classes. The audiotape was placed at a strategic place in the class where it could capture the teacher's talk and most of students' talk during the class level teaching and learning. The audiotape was placed randomly among students in groups whenever there were small group discussions. The students were initially a little self conscious about the tape recorder placed near them. I found this not to be a problem starting the second or third days in each of these classes.

Challenge 3 : Analyzing the Data to Ensure the Validity and Reliability of the Data

As expected, I ended up with an huge amount of quantitative and qualitative data. The next thing I had to do was to draw up a comprehensive plan to organize my data. My plan needed to include how I was going to organize both my quantitative and qualitative data. For the qualitative data, for example, I needed to find the means to transcribe the interviews, and classroom observations. I also needed to find ways to code my data. All this and other related procedures needed an elaborate planning.

I read very carefully all the transcripts and conducted the coding using a set of themes I produced. Respondent validation, which represents one kind of triangulation (Hammersley and Atkinson, 1993), was used to validate the data. This involved the checking of inferences drawn

from one set of data sources by comparing with other sources of data. More specifically, data source triangulation involves the comparison of data relating to the same phenomenon but deriving from different phases of the fieldwork, different points in the temporal cycles occurring in the setting, or as in respondent validation, the accounts of different participants differently located in the setting.

The basic contention of the validation process is that data should not be taken at face value. In this study, validation was conducted largely in the form of cross reference between the different sources of data. There are at least five major sources of data in this study, namely, the quantitative data from the survey questionnaire, observation of classroom teachings, teacher interviews, student interviews, and interviews with ministry and district education officials. Each of the qualitative data sources have sub-categories, like observation of classroom teachings (4 classrooms), teacher interviews (2 teachers), student interviews (4 groups), and ministry and district education officials (4 of them). It needs to be noted that, in total, there are 15 different sources of data which could be used for the purpose of cross-reference.

Besides this, there were also analytic memos, records of teachers' weekly and daily lesson plans, and collection of all materials distributed to students in the four classes. These documents also provided the necessary information to make cross-references of the inferences. For example, when inference is made from any one of the teachers' interview data, cross-reference of the inference from the interview may be made with interview data from another teacher, from the classroom teaching, the ministry or district education officials' data source, or with the responses of teachers in the school district from the survey questionnaire.

Challenge Number 4: I Was a Teacher and Also a Researcher

I have moved from being a primary school teacher, from where I started, to be a university lecturer. I have also taught in secondary schools and teacher education colleges. Although I have moved through different stages of the teaching career, I always considered myself a teacher. This is largely due to my love for teaching. Teaching has become part of me more than I being part of

teaching. I had already spent more than 20 years teaching at various levels by the time I conducted this investigation.

It was no secret that my personal feelings towards teaching and my knowledge about exemplary teaching practices that encourage the acquisition of higher-order thinking skills by students were there to influence by data collection and data analysis processes. While being conscious about the influence of these thoughts on my data collection and data analysis processes, I also had to function as a researcher conducting research using 'objective' methods and procedures.

I had to reflect on an ongoing basis to avoid omitting vital data during data collection and analysis. I had to remind myself that I am not the teachers who taught those classes where I was a participant observer. I also had to remind myself that the teachers who taught those classes taught in ways they were most comfortable with. And also, teachers taught in ways they were taught by their own teachers which were quite different from the type of teaching expected of teachers nowadays.

The two-column fieldnotes taking strategy, the analytic memos I wrote, the pre and post teaching conferences, and the interviews helped me overcome the bias. Writing my own thoughts while taking fieldnotes using the two-column strategy and writing analytic memos helped me reflect on the process and to a large extent avoid being bias and as a result reject vital data. The pre and post teaching conferences and interviews with teachers, on the other hand, assisted me in cross-checking many of my 'doubts', 'prejudices', and 'expectations'.

Challenge Number 5:

I Was Studying a Program of Which

I Had Been a Major Part From the Beginning.

The formal teaching of higher-order thinking skills through content instruction was implemented in the teacher education colleges in June 1994 (Rajendran, 1998). For this, in 1993 the Teacher Education Division had to make changes to its Five Semester Basic Teacher Education Program

and the Two Semester Post-Degree Education Program to accommodate the necessary changes to teach higher-order thinking skills.

Teacher Education College lecturers were exposed to the 'Boston Model', CoRT Thinking Tools, the ways to incorporate the teaching of thinking skills using the 'infusion approach' in the various content areas, and teaching and learning strategies during four-day workshops in their respective colleges in early 1994. Various materials on the program, strategies and techniques, and model lesson plans were distributed to the lecturers in these workshops. Specifically, model lessons showing how thinking skills could be taught using the infusion approach on various subjects like Malay Language, English Language, Math, Science and History were prepared by the Teacher Education Division and were used as important resource materials in these workshops.

Since I was an officer at the Curriculum Unit of the Teacher Education Division, I was involved in the process of policy planning for teaching thinking skills in the teacher education colleges from the beginning. I was also involved in the preparation of various materials used to train teacher education college lecturers. I also became one of the master-trainers selected to conduct four-day workshops for teacher education college lecturers nationwide.

After having played a significant role in the introduction of the teaching of thinking skills in teacher education colleges, I was looking at the preparedness of teachers, who were trained by the teacher education college lecturers, to teach thinking skills through content instruction. I obviously ran the danger of being biased towards many of the practices in schools related to the teaching of thinking skills. This is because I was a very informed participant of the program I was studying.

To avoid being biased, I had to constantly remind myself that I have to be objective about the data collection and data analysis processes. Once again, I had to depend a lot on the two-column fieldnotes taking strategy, the analytic memos I wrote, the pre and post teaching conferences, and the interviews to minimize the influence of bias. Writing my own thoughts while taking fieldnotes using the two-column strategy and writing analytic memos helped me reflect on the process and to a large extent avoid being biased and as a result reject vital data. The pre and post teaching conferences and interviews with teachers, on the other hand, assisted me in cross-checking many of my 'doubts', 'prejudices', and 'expectations'.

Conclusion

No credible research strategy advocates biased distortion of data to serve the researcher's vested interests and prejudices. Validity enhancing practices do not guarantee that research is accurate, correct, certain, trustworthy, or objective. Both qualitative-naturalistic inquiry and quantitative-experimental inquiry seek meaningful, credible, valid, reliable, accurate, and confirmable findings. Any credible research strategy requires that the investigator adopt a stance of neutrality with regard to the phenomenon under study. As such, in the case of qualitative inquiry, the investigator needs to do a balancing act dealing with biases, especially when there are no clear guidelines to deal with them.

Reference:

- Bogdan, Robert, C. & Biklen, Sari, K. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn & Bacon.
- Centre for Applied Research in Education - CARE. (1994). *Coming to terms with research*. School of education, University of East Anglia.
- Chi. M. T. H. (1997). Quantifying qualitative analysis of verbal data: A practical guide. *The Journal of the Learning Sciences*, 6(3), 271-315.
- Hammersley, Martyn. & Atkinson, Paul. (1993). *Ethnography: Principles in practice*. London: Routledge.
- Junker, B. (1960). *Field work*, Chicago., University of Chicago Press.
- Maxwell, J. (1992). Understanding and validity in qualitative research. *Harvard Educational Review*. 62 (3) Fall, pp.279-300
- Meloy, Judith. (1994). *Writing the qualitative dissertation: Understanding by doing*. Hillsdale, NJ: Lawrence Erlbaum Asso.
- Miles, Matthew B. & A. M. Huberman. (1984). *Qualitative data analysis: A sourcebook for new methods*. Beverly Hills, CA: Sage.
- Nickerson, R.S. (1988). On improving thinking through instruction. In E. Z. Rothkopf (Ed.). *Review of Research in Education*, 15, pp.3-57.
- Onosko, J.J., & Newmann, F. M. (1994). Creating more thoughtful learning environments. In J.N. Mangieri & C.C. Block (Eds.). *Creating powerful thinking in teachers and students: Diverse perspectives*. Fort Worth: Harcourt Brace College Publishers.
- Patton, Michael, Q. (1990). *Qualitative evaluation and research methods*. London:Sage Pub.
- Rajendran, Nagappan. (1998). *Teaching higher-order thinking skills in language classrooms: The need for transformation of teaching practice*. Unpublished doctoral dissertation, Michigan State University, East Lansing, MI:Michigan State University.