

## METHODOLOGY

This chapter describes the methodology and methods employed in this study. I explore the logic of inquiry with an analysis of how the research proceeded and the techniques used to gather and analyse data and answer the research questions (Minichiello, Aroni & Hays, 2008). Rather than adopt a linear model, the research process here has been viewed as a social process (Burgess, 1984, p.2). This comparative project adopted a qualitative approach with an interpretative case study in two settings, Singapore and NSW. I embraced a constructivist ontology with an interpretivist epistemology.

### Philosophical Underpinnings

Numerous research methodologies exist, often with different, if not competing epistemological and ontological positions. Greenwood and Levin (2000) observe that there are wide variances in the kinds of social science practised in universities, “quantitative, qualitative, mixed method, positivist, constructivist, postmodernist, poststructuralist, and so on” (p.92) while Meyrick (2006) notes that often there is a “polemic [*sic*] debate, pitting quantitative research against qualitative” (p. 801) and refers to a ‘disciplinary tribalism’ within the arena of qualitative research.

Eisner (1992) and Pring (2000) are critical of the extreme positions some researchers take arguing against such a ‘false dualism’. Creswell describes “a middle ground” (2003, p.179) and advocates a “pragmatic worldview” (2009, p.10) while Hammersley (1996) believes that selection between qualitative and quantitative approaches “requires judgment according to the situation and purpose, rather than judgment based on a commitment to one or another competing philosophical view of the world” (p.164). While empathising with the above, I believe that in educational research, where there are complexity and contextual factors, qualitative methods would likely provide the most suitable approach for this study. Due to the illuminative nature of the inquiry I have borrowed largely from an interpretivist-constructivist philosophy. I sought the rich detail characteristic of qualitative research data to achieve ‘thick description’ by describing and probing “the intentions, motives, meanings, contexts, situations and circumstances of action” (Minichiello et al., 2008, p.5).

My ontological position was largely informed by constructivism which suggests that individuals take an active role in the construction of social reality and that the world can be viewed as a subjective reality rather than an objective reality. As argued by Bryman (2001) “the social world and its categories are not external to us, but are built up and constituted in and through interaction” and “social phenomena and categories are social constructions” (p.19). A proper understanding of people’s words and actions can only be achieved if these are related to the wider context in which they have occurred. In this research I argue that the philosophical stance adopted aligns well with Schatzki and Freire who both advocate a critical analysis of context in order to understand a social phenomenon.

Freire (1970, 1974, 1985), for example, is opposed to the notion of ‘banking’ education and ‘transfer-teaching’ subscribing instead to a constructivist philosophy. He asserts that learning is an active process of construction on the part of the learner. Freire believes that knowledge is socially constructed, learning is an active process, and knowledge is constructed from experience. Schatzki (2001, 2002) similarly believes that learners actively construct meaning and information, moreover, through a process of variation and selection. People will act towards and understand the same phenomenon or entity in different ways perhaps adopting different sets of ends, beliefs, ideas, rules and understandings. Thereby, a set of activities only constitute a practice when participants adopt the same set of understandings, rules, and teleoaffective structures. Furthermore, their varied environments results in people appropriating and implementing practices differentially.

The prime means of collecting data in this study was through the qualitative interview as a form of social interaction. Adopting Holstein and Gubrium (1995) I view the interview is a “dynamic and meaning-making occasion” where knowledge is produced by the subject/respondent “in collaboration with an equally active interviewer” (p.9). Interviews encompass not just the ‘whats’, the substantive findings, but also the ‘hows’, the contexts, particular situations, nuances, and so on. Fontana and James (2000) similarly take the position that “interviews are not neutral tools of data gathering but active interactions between (two) or more people leading to negotiated, contextually based results” (p.646). I also strived to remain reflexive throughout the research process, remaining sensitive to my own background and how this might shape the study. As Creswell (2003) states, “the

researcher filters the data through a personal lens ... [and so] one cannot escape the personal interpretation brought to qualitative data analysis” (p.182).

### **The Qualitative Research Paradigm**

Long and Godfrey (2004) have pointed out that, “within the qualitative tradition there is no single definition of, or approach to, qualitative research” (p.182). However, all qualitative methodologies seem to share general characteristics which include: the research takes place in the natural setting; it employs multiple methods that are interpretive; it is emergent rather than tightly prefigured; the researcher views social phenomena holistically, and since the researcher is fundamentally interpretive - the role of the researcher is as interpreter (Bogden & Biklen, 1992; Creswell, 2003). Creswell (2007) states, “The qualitative researcher uses complex reasoning that is multifaceted, iterative, and simultaneous. Although the reasoning is largely inductive, both inductive and deductive processes are at work” (pps. 182-183). The general aim of qualitative research is to “understand experience as nearly as possible as its participants feel it or live it” (Sherman & Webb, 1988, p.7).

### **The Qualitative Interpretive Case Study and Its Place in Educational Research**

In case study research, the researcher “examines, in depth, many features of a few cases over time ... [carefully selecting] one or a few cases to illustrate an issue and analytically study it (or them) in detail” (Neuman, 2006, p.40). Neuman further contends that “Case studies help researchers connect the micro level, or the actions of individual people, to the macro level, or large-scale social structures and processes” (p.41). Data can be collected using diverse forms including observations, formal and informal interviews. Kemmis (1980) has clarified the complex and multi-dimensional nature of case-study work, highlighting the cognitive and cultural aspects of this type of investigation (pp.119-120).

Merriam (1998) explains that a *descriptive* case study in education presents a detailed account of the phenomenon under study while an *interpretive* case study contains rich, thick description where the data is used to develop conceptual categories or to illustrate, support, or challenge theoretical assumptions formed *prior to* the data being gathered. Merriam posits that:

The level of abstraction and conceptualization in interpretive case studies may range from suggesting relationships among variables to constructing theory. The model of analysis is inductive. Because of the greater amount of analysis in interpretive case studies, some sources label these case studies analytical. Analytical case studies are differentiated from straightforward descriptive studies by their complexity, depth and theoretical orientation. (p.39)

Like other qualitative methodologies, there is not one definitive description of what a case study is. Bassey (1999), Merriam (1998) and Stake (1995, 2006), whose works I consulted to develop my methods for collecting and analyzing data, vary slightly in their views. One area of agreement appears to be that a case study is a “bounded system”. As Merriam states, “the single most defining characteristic of case study research lies in delimiting the object of study, the case” (p.27).

Long and Godfrey (2004) advise that critical appraisal of any study “requires understanding of the strengths and weaknesses of ... that particular research design”. Because of its aforementioned strengths a case study approach is a particularly appealing design for this research. Case studies are a popular choice in education and have “proven particularly useful for studying educational innovations, for evaluating programs, and for informing policy” (Merriam, 1998, p.41). The limitations are that an interpretive case study can be time consuming and costly, may oversimplify or exaggerate a situation, be selective on what is focused on and presented, and introduce bias and not be generalisable. But by exercising a critical awareness many of these limitations can be circumvented.

### **Research Strategy**

This study aimed to be “illuminative” to “make key behaviors or attitudes in a given context visible for contemplation” (Hart, 1998, p.46). A qualitative approach was adopted as qualitative research offers “valuable insights into how people construct meaning in various social settings” (Neuman, 2006, p.308). Semi-structured interviews were used as the main data-gathering device as this technique “is particularly good at enabling the researcher to learn, first hand, about people’s perspectives on the subject chosen as the project focus” (Davies, 2007, p.29) and because of the capacity of interviews to capture the depth and

complexity of participants' experiences. Through this approach the interviewer can get an insight into the values, preferences, attitudes and beliefs of those from whom information is sought. A cross-cultural comparison was also made between schools in Singapore and metropolitan NSW, Australia, to explore any commonalities and differences that exist between the two cultures in terms of teachers' experiences and how policy and planning may have helped to shape these experiences.

For this study I interviewed a cross section of people. The main sample group was teachers with experience as practitioner researchers. In addition, Department / Ministry officials and school management were interviewed to determine their level of support for practitioner research within the system and the school, as well as academics to triangulate findings.

### **The Researcher's Role**

Research is a dynamic process where the researcher plays an active role in the research. Through this study I wished to gain an insider's perspective by illuminating a previously unexplored area. Therefore there was a double hermeneutic or dual interpretation process at play. As stated by Smith and Osborn (2003), "the participants are trying to make sense of their world; the researcher is trying to make sense of the participants trying to make sense of their world" (p.51). These processes are necessary in order to make sense of that other personal world through a process of interpretative activity.

Access to the participant's experience depended on, and was complicated by, the researcher's own conceptions. As Creswell (2003) states, the qualitative researcher needs to systematically reflect on who he or she is in the inquiry and be sensitive to his or her "personal biography".

This introspection and acknowledgement of biases, values or interests (or reflexivity) typifies qualitative research today. The personal-self becomes inseparable from the researcher-self. (p.182)

The role of the researcher, then, as the primary data collection instrument necessitates the identification of personal values, assumptions and biases at the outset of the study. Meyrick (2006), in establishing what constitutes quality qualitative research states that objectivity can

be assisted by defining the researcher's proximity through reflexivity. She believes that a researcher may focus on aspects of a topic that resonate with his or her own experience thereby shaping his or her findings and this should be acknowledged (p.804).

In order to establish rigour, as required by Meyrick (2006), a brief account of my relationship to the data is given here. I would be described as a middle-aged, white, Australian male. As established in the opening chapter, my experience of working as an educator for over 30 years, in NSW and in Singapore, in a teaching capacity and in school management, enables me to speak about both contexts with "some authority" (Crossley & Watson, 2003, p. 26), having considerable insider knowledge of the two. During my work in education I was involved in practitioner research in various guises, either directly myself or in leading research teams. I was therefore able to make observations, often on the same issues, from a number of different perspectives.

I observed that while some teachers enthusiastically embraced practitioner research there were others who strongly resisted the practice. It was my belief that the adoption of the practice seemed to be largely determined by the disposition of the teachers, the context in which they functioned and the perceived or real barriers faced by each individual. These observations sparked my interest in the experiences of different actors within the practitioner research stage and I was curious to determine the extent to which these experiences were consistent.

### **Ethical Issues and Considerations**

The ethical position adopted for this study is strongly informed by Bassey (1999) who advocates respect for democracy, respect for truth, and respect for persons. Trustworthiness is "significant" he states and researchers must "be truthful in data collection, analysis and the reporting of findings" (p.74), a position that was vigorously practised throughout this study. Neuman's suggested caution that "Many ethical issues involve a balance between two values: the pursuit of scientific knowledge and the rights of those being studied" (2006, p. 129) was adhered to. When collecting data I ensured that the interviewee appreciated what the research was about, its purposes, and that his or her answers would be treated confidentially (Bryman, 2001, p.318). Voluntary consent was secured prior to the interview and every

effort was made to safeguard the anonymity and confidentiality of the subjects and ensure that no unnecessary harm was caused to subjects during the interview process. As a cross-cultural comparison was made, I was also mindful of both “topic sensitivity” and “courtesy bias”, being aware that topics that are noncontroversial in one culture may be highly sensitive or even taboo in another.

Approval was sought and gained to conduct the research inquiry from the University of Sydney Human Research Ethics Committee (HREC), the NSW DET State Education Research Approvals Process (SERAP) and the Singapore Ministry of Education. All participants were issued with a participant information statement and gave written consent prior to being interviewed. Copies of the approval letters from each of these authorities, the participant information sheet, and consent form are included as Annexes A-E.

### **Method**

Subscribing to Meyrick (2006) I agree that for research to be good, the aims, objectives, and appropriate methods need to be stated clearly and that the sampling techniques and rationale for their use needs to be made clear to the reader. In good quality qualitative research, the researcher needs to make transparent and include sufficient detail about how the data were collected “to allow the reader to judge if the methods used and the decisions made ... were reasonable” (p.805).

### **Participants / Sample**

As indicated earlier, my primary population was secondary school teachers in Singapore and metropolitan NSW, the population parameter being ‘experience as a practitioner researcher’. However, in order to triangulate and cross-reference responses concerning level of support for practitioner research, I interviewed a cross section of people. This included personnel from both the central education bureaus as well as university lecturers expert in the topic of practitioner research to obtain background information, e.g. on the philosophy, policy, and development of practitioner research. The study thereby included “theorists, policy makers and practitioners” as advocated by Crossley and Watson (2003, p.81) for comparative

research in education. Because of the descriptive nature of my investigation, I employed a number of non-probability sampling methods.

Different types of secondary schools function both in Singapore and NSW. In Singapore, all secondary schools come under the purview of the MOE and include ‘independent schools’, ‘specialised’ schools (such as the arts and sports schools), ‘autonomous schools’, and ‘neighbourhood’ schools. In NSW, in addition to the variety of government schools under the direct jurisdiction of the DET there exists a multiplicity of private secondary schools including those with religious affiliations as well as non-denominational independent schools.

Purposive sampling was used to select three schools from metropolitan NSW and three schools from Singapore, active in practitioner research, that represent a cross-section of the different types of secondary schools, both government and independent schools. The sample included schools that had an established culture of research and schools that were newly embarking on practitioner research in order to investigate any variance that might exist between the different contexts.

As there was no definitive sampling frame for teachers as practitioner researchers, either for teachers in Singapore or in NSW, I used experts, key informants, and “gate-keepers” to identify suitable schools and staff. Before interviewing teachers in schools I gained written permission from the relevant authorities, which in Singapore is the Singapore MOE and in NSW the NSW Government DET, and obtained the express permission from the principal of each school I wished to enter before proceeding to interview teachers. When arranging to interview experts, such as department or ministry officials or academics, I approached them directly to get their consent to take part in the research.

A type of quota sampling was used to interview a cross section of people from each school (that is, one representative from school management as well as three different teachers). I soon realized that I needed to be flexible as suggested by Taylor and Bogdan (1984) viz. “Qualitative interviewing calls for a flexible research design. ... The researcher starts out with a general idea of which people to interview and how to find them, but is willing to change course after the initial interviews” (p.92).



The primary sample group is illustrated in Table 2 and consists of school leaders (members of school management or the school executive) and teachers who were involved in practitioner research in their schools. Personnel were interviewed from a total of six schools, three in Singapore and three in NSW. This included two independent schools and four government schools. Two schools were co-educational, two were all girls' and two were all boys' secondary schools.

Table 2

*Primary sample group: Number of personnel from each school and country*

Research culture	Singapore		NSW	
	Type of school	n	Type of school	n
Established ethos and culture of research	Independent girls' school *	5	Private girls' school	4
	Government neighbourhood coeducational school	4	Government comprehensive boys' school	4
Newly embarking on research	Government neighbourhood coeducational school	4	Government comprehensive boys' school	4
<b>TOTAL</b>		<b>13</b>		<b>12</b>

*Note.* In Singapore, an Independent School\* remains under the purview of the MOE

Of the six schools taking part in the study, four had been identified by key informants (academics, cluster superintendents, regional directors, school education directors, team leaders and the NSW Manager of AGQTP) and self reported, as having an “ethos and established culture of research” in the school while two were identified as “newly embarking on research”. In Singapore, any school approached to take part in the study assisted. However, in NSW, three schools rejected the offer to be involved before enough schools could be recruited to satisfy the sampling frame. Those schools declining the invitation all cited the ‘busyness of teachers’, one Principal responding, “There is too much going on in the school to do anything more at present”.

In addition to the primary sample it was intended that a sprinkling of experts be interviewed, including at least one academic from each culture who had worked collaboratively with teachers on practitioner research projects, a senior personnel from both the Curriculum Policy and Pedagogy Unit (CPPU), MOE, in Singapore and the Professional Learning and Development (PLLD) Directorate, DET, in NSW and a manager or consultant from both the Teachers' Network in Singapore and the NSW DET Australian Government Quality Teaching Program (AGQTP).

Borrowing from grounded theory (Glaser & Strauss, 1967), a tentative or preliminary analysis of data was conducted simultaneously with the collection of data. This provided valuable opportunities to explore slightly different ideas and themes which Ezzy (2002) describes as “essential” in a study which is “interpretive, inductive and exploratory” (p.61). Further embracing Ezzy, the data collection itself became an interpretative process, whereby:

Choices about what to ask and who, or what to sample, are products of interpretative understandings. If the researcher conducts systematic data analysis during data collection, then the process of data collection will be guided not only by the researcher's pre-existing interpretations but also by the emerging interpretations of participants. (p.78)

Adopting “snowball” sampling, further participants were recruited where it became evident they would add value and another dimension to the study. This included a teacher who had experience as a practitioner researcher at both her current and former school, a senior academic who had extensive experience working collaboratively with teachers on research projects both in Singapore and NSW, additional academics expert in practitioner research, and a professional learning consultant.

Consequently, the total sample, as illustrated in Table 3, consisted of a broad range of people from a wide range of backgrounds and abilities with varying viewpoints which also allowed to test for triangulation by looking at the level of agreement between respondents. A total of 42 people were interviewed. This includes the primary sample group, a total of 25 personnel from schools, as well as another 17 people deemed to be experts; academics and consultants from universities or private practice, and policy makers and administrators from the MOE

and DET. Within the total sample group 25 of the respondents were female and 17 were male.

Table 3

*Total sample group: Number of participants*

Description	Singapore		NSW	
	Position	n	Position	n
Academics and other experts	Academics	3	Academics	4
			Professional learning consultant	1
MOE / DET	Deputy Director CPPU	1	Director PLLD	1
	Cluster superintendents	2	School education directors	2
	Teachers Network consultant	1	NSW AGQTP managers	2
Schools	School management	3	School leaders	3
	Teacher researchers	10	Teacher researchers	9
<b>TOTAL</b>		<b>20</b>		<b>22</b>

I am cognizant there are limitations to the non-probability sampling methods I have chosen to use. While the findings of the research might provide “a springboard for further research or allow links to be forged with existing findings in the area” (Bryman & Bell, 2007, p.198) they will have limitations in terms of generalizability. Also, a weakness of some of these sampling techniques is that they can “limit the diversity of your informants” (Taylor and Bogdan, 1984, p.93).

### **Data Collection**

There are no specific methods of data collection or of analysis which are unique to case study as a method of enquiry, rather it is an eclectic process, researchers using “whatever methods seem to them to be appropriate and practical” (Bassey, 1999, p.69). In espousing Bassey, I constructed this case study in such a way so that the approach was “systematic” and sufficient

data was collected for me to be able to; explore *significant* features of the case; create *plausible* interpretations of what is found; test for the trustworthiness of these interpretations; construct a *worthwhile* argument or story; relate the argument or story to any relevant research in the literature; convey *convincingly* to an audience this argument or story; and, provide an audit trail by which other researchers may validate or challenge the findings, or construct alternative arguments (p.65).

Wishing to provide an “insider’s perspective” I adopted the strategy outlined by Minichiello et al. (2008) that data be collected through semi-structured interviews, that it then be analysed by themes from descriptions by informants, and it then be reported in the language of the informant.

The semi-structured interview was selected as the primary research instrument to best provide an in-depth examination of the people and topics. Compared with the structured interview, it provides greater scope for discussion and learning about the problem, opinions and views of the respondents. It is less formal and a more “flexible and dynamic” (Taylor & Bogdan, 1984, p.88) method. Between the two methods, it is a better way of catching the point of view of respondents and getting inside information. Semi-structured interviews enabled the participant to provide a fuller, richer account than would be possible with a standard quantitative instrument and allowed the researcher considerable flexibility in probing interesting areas which emerged. It provided the researcher an opportunity to “understand the significance of human experiences as described from the actor’s perspective and interpreted by the researcher” (Minichiello et al., 2008, p.11).

In the semi-structured interview, as described by Bryman (2001), the interviewer has a series of questions that are in the general form of an interview schedule but is able to vary the sequence of the questions. The interviewer also has “some latitude to ask further questions in response to what are significant replies” (p.110). Taylor and Bogdan (1984) view the interview guide as “a general list of areas to be covered” (p.105). The open-ended questions are used to gain rich and detailed descriptions of the phenomenon being studied.

Using the literature I identified a number of factors that were likely to help shape, or pre-figure, a teacher’s experience as a practitioner researcher and used these as a base to develop

a number of questions which explored broad themes based on these factors. These included the impetus and motivation for doing practitioner research, the highs and the lows (affective domain) of the experience and facilitators and barriers encountered during the process. There was also a question on the emancipatory capacity of practitioner research. The open-ended questions served to explore different facets of teachers' experience as practitioner researchers and encouraged and stimulated reflection and exploration. Unstructured follow-up questions were then used to encourage further elaboration and to check the meaning that interviewees associated with key words they used.

The original interview schedule comprised ten main questions exploring different ideas, written in simple language. The questionnaire was pilot tested with two teacher practitioner researchers to examine whether the questions asked were clear, comprehensive and provided a valid explanation of "the informant's perceptions and constructions of reality" (Minichiello et al., 2008, p.51). Data generated were analysed to investigate tentative themes but this information was not included or reported in the main study. Some minor changes were made mainly in the wording and order of the questions. A copy of the final interview schedule for teachers is attached as Annex F.

More focused variants of this schedule were then developed for the other groups of participants included in the study, separate schedules being designed for school leaders, academics, and policy makers. 'Unproductive topics' as described in Minichiello et al. (2008) were excluded while questions specific to the experts' knowledge and expertise concerning practitioner research were added. A sample of one of these interview schedules is attached as Annex G.

During the process I endeavoured to keep the tone of the interview conversational and informal. Where and when I felt necessary, I guided the conversation in such a direction to ensure all the topics on the outline were covered. Taylor and Bogdan (1984) state, "Far from being an impersonal data collector, the interviewer ... is the research tool" (p.88). I was mindful of the sensitivity and skill required on the part of the researcher - that it is important to be aware of "researcher effects", not to introduce bias, to remain focused, and not be diverted from the original purpose of collecting information. I subscribed to Taylor and Bogdan's belief that "One of the keys to successful interviewing is to know when to probe"

(p.106). “By asking the other person to explain what is meant, you try to make explicit what both of you might know but may take for granted and are ordinarily unable to articulate”

(p.107). Adopting the role of the researcher as summarized by Neuman (2006, p.406) I asked questions, listened, expressed interest, and recorded what was said.

Each respondent was interviewed once in a setting that was conducive, convenient and mutually agreed upon. The conversations were recorded using two digital recorders, one as the main recorder, the other an auxiliary (which on two occasions proved prudent). The shortest interview was 33 minutes in duration while the longest interview lasted 99 minutes. On average, interviews lasted approximately 55 minutes.

In order to further develop interviews as “active interactions” (Fontana & James, 2000, p.646) I explored the notion of “co-authored statements” (Fensham, Power, Tripp & Kemmis, 1986, p.328). The edited transcripts of notes of the interview were sent back to the interviewee for checking along with a series of additional questions on what was collected to further open dialogue. However, other than acknowledging the accuracy of the transcripts very few of the participants responded in any detail.

So as to further triangulate data, other forms of data collection were utilized. This mainly consisted of a close study of websites, policy documents, and policy speeches made publicly available by the central education bureaus and related authorities as well as other publications and printed material that was made available to me through gatekeepers, key personnel and respondents during the course of the study. As Neuman (2006) states, “Qualitative researchers consider a range of data sources and employ multiple measurement methods” (p.196), Creswell (2003) also suggesting including data collection types “that go beyond typical observations and interviews” (p.188).

### **Data Analysis Procedure**

As explained by Keeves (1988) following data collection “the events recorded must be processed and categorized systematically in order to draw conclusions from the data” (p.471). However, there is no one particular method of data analysis prescribed in the literature for a qualitative interpretive case study approach. Bassey (1999), Creswell (1988, 2007), Merriam

(1988, 1998) and Stake (1995, 2006) describe somewhat differing approaches and employ different terminology. Bassey describes data analysis as “an intellectual struggle with an enormous amount of raw data in order to produce a meaningful and trustworthy conclusion” (p.84) while Creswell (2003) summarises it as “a detailed description of the setting and individuals, followed by analysis of the data for themes or issues” (p.191). In this study I adopted Stake (1995) who states:

I do not seek to describe the world or even to describe fully the case. I seek to make sense of certain observations of the case by watching as closely as I can and by thinking about it as deeply as I can. (pp. 76-77)

In addition to making digital recordings, summary notes were made of the main points or themes during the interview process. I also adopted Bassey’s suggestion that a day-to-day journal be kept which includes details on when and where the data were collected, observations and “speculative notes of ideas” (1999, p.70). Interviews were transcribed as soon as possible following the interview. After some deliberation about differing approaches, I decided to transcribe every interview verbatim, identifying major themes and making notes on these as a form of tentative data analysis as I proceeded. Each transcript was then sent back to the interviewee for member checking, usually within one or two weeks of the interview occurring.

In interpretive case study, as defined by Merriam (1998, p.38), data is used to develop conceptual categories or to illustrate, support, or challenge theoretical assumptions formed *prior* to the data being gathered. However, the approach I adopted would best be characterized as thematic analysis as described by Ezzy (2002) who notes that both “thematic analysis and grounded theory employ similar techniques” (p.87). While the general issues that are of interest were determined prior to analysis the specific nature of the categories and themes to be explored were not predetermined. I was aware, as described by Ezzy (2002), that “This form of research may take the researcher into issues and problems he or she had not anticipated” (p. 88). Both Gibbs (2002, p.2) and Neuman (2006, p.181) also state that it is common practice for qualitative researchers to conceptualise and formulate theory as it comes from the data.

Data analysis was iterative, recursive and dynamic and coincident with data collection. A preliminary analysis of the data was conducted simultaneously with the transcribing of interviews. Excerpts from the interviews as well as observations, notes and interpretations made by the researcher were entered into a database using Microsoft Excel as each transcription was done. This ensured the researcher remained close to the words of the respondents and was not distant from the data, a problem reported by Gibbs (2002) that may be encountered when computer-assisted qualitative data analysis software (CAQDAS) is exclusively used by researchers. Preliminary descriptive codes were then assigned as the data was amassed so that a tentative theoretical model could be contemplated.

When all 42 interviews had been transcribed the data was then more carefully scrutinised, considered and analysed utilising both a CAQDAS, specifically NVivo 8, and Microsoft Excel. The two programmes provided an effective way of handling data including helping to manage the coding and retrieval of text. As observed by Gibbs (2002, p.13), a CAQDAS remains though just a tool for analysis, “good quality analysis still relies in good analytic work by a careful human researcher” (p.13).

Analysis required careful reading then re-reading of the data, breaking it down into segments and using open coding to identify the different themes or issues that appeared. In particular the data from the interviews was studied for “themes in the natural language of the participants” (Minichiello et al., 2008, p.10). As Ezzy (2002) has described the process was one of “looking for in-vivo codes, terms used by respondents; and ... [then] making comparisons for similarities and differences between events and incidents” (p.88). It is an attempt to forge connections between themes with the ultimate aim of establishing super-ordinate themes. Stake (1995) describes the search for meaning as a search for “patterns” and “correspondence” (p.78). Two strategic ways that researchers reach new meanings about cases are through direct interpretation of the individual instance and through “aggregation of instances” until something can be said about them as a class (p.74).

Coding and concept building as described by Neuman (2006) was used so as to “organize specific details into a coherent picture, model, or set of interlocked concepts” (p.459). Data was then made more compact by looking for “abstract concepts in concrete data” (p. 461).



Codes reflecting similar ideas were grouped to form more abstract categories, some codes being collapsed or re-labeled to better reflect the themes or issues that emerged.

At all times during the analysis of data, I attempted to remain aware of possible threats to quality that arise during the process of analysis as described by Gibbs (2002, p.13 - 14). This can include biased transcription and interpretation, the overemphasis on positive cases, a focus on the exotic or unusual, the ignoring of negative cases, vague definitions of concepts, inconsistent application of such concepts and unwarranted generalisations. I remained acutely aware that it is possible to produce partial and biased analyses.

Codes were also used to indicate any statements made by the interviewee that support or illustrate the concepts. This range of quotes was then ‘winnowed’ for the final report so as to capture the statements that most clearly or powerfully convey the ideas expressed by the interviewee. The data was thus transformed “to make the participants’ descriptions and experiences of their social world accessible to those who have not participated in it” (Minichiello et al., 2008, p.10). Codes assigned to participants and used throughout this study are indicated in Table 4.

Table 4

*Codes assigned to participants*

Participants	Singapore	NSW
Academics / Consultants	A1 – A3	V1 – V5
MOE / DET Administrators	B1 – B4	W1- W5
Teachers from the Independent / Private School	C1 – C5	X1 – X4
Teachers from Government School 1	D1 – D4	Y1 – Y4
Teachers from Government School 2	E1 – E4	Z1 – Z4

A number of analytical statements and tentative hypotheses were then formulated to explain the ‘patterns’ and ‘correspondence’ found in the data. As stated by Bassey (1999) “Analysis and data testing is an iterative process which continues until the researcher feels confident that the analytical statements are trustworthy” (p.71). A number of alternative explanations were considered and the data checked for evidence in support, or otherwise, of each explanation.

As the different themes emerged there was a need to scope the study. This was in order to make sense of certain observations rather than attempt to fully describe the case (Stake, 1995, p.76). Thereby one of the research questions was modified as I was analyzing the data as it seemed more relevant and thought provoking to the research than the previous question. The question, “To what extent do teachers in secondary schools in NSW and Singapore perceive practitioner research to be of value to them in their practice?” became subsumed within the question, “To what extent is practitioner research remodeled in different contexts?”

### **Verification and Validity**

Criteria such as reliability, validity and generalisability are used, by convention, to gauge the quality of quantitative research. An alternative to reliability and validity is the concept of trustworthiness which is seen as being applicable to case study research (Bassegy, 1999, p.75). The key guidelines I adopted to ensure quality were that the research is:

1. contributory in advancing wider knowledge,
2. defensible in design by providing a research strategy which can address the evaluation questions posed,
3. rigorous in conduct through the systematic and transparent collection, analysis and interpretation of qualitative data, and
4. credible in claim through offering well-founded and plausible arguments about the significance of the data generated.

Although data was collected primarily through semi-structured interviews, triangulation was achieved in a number of ways. First, different data sources were used. Experts, members of school management and teachers were used as informants and the data they volunteered carefully compared. Also, additional methods of collecting data were used, such as the examination and analysis of policy documents. Then as advocated by Bassegy (1999, p.72), I drew carefully on the evidence in a bid to convince the reader of the story’s trustworthiness.

### **Conclusion**

In this chapter I have provided a detailed account of the methodology and methods that I employed in this thesis. A qualitative approach was adopted because it is closely aligned and

therefore best suited to the purpose of the investigation and sympathetic with the ontology and epistemology espoused by both Schatzki and Freire. Qualitative interviews were conducted across a cross-section of schools and participants, including academics, policy makers and teachers, in order to elicit thick, rich description, my role as researcher being interpreter. Borrowing from grounded theory, data analysis was an iterative, recursive and dynamic process coincidental with data collection. Events were processed and categorized systematically, themes and categories being conceptualized and formulated as the study proceeded.

The following four chapters provide a narrative account of the main issues and themes that emerged from the analysis of the data supported by verbatim extracts from participants. Figure 1 overleaf provides a concept map of the categories that emerged from the data analysis and the relationship of these categories to the research questions.