CHAPTER 4
RESEARCH METHODOLOGY,
DESIGN AND METHOD

"Excellence is never an accident.
It is always the result of high intention, sincere effort, and intelligent execution;
it represents the wise choice of many alternatives –
choice, not chance, determines your destiny."
— Aristotle

4.1 Overview of Chapter 4

When one embarks on Ph.D. research, there are many challenges with regard to the research questions and the research methodologies throughout the entire inquiry process. In Mason's (1996) terms, this is about constructing a workable 'research design' that asks philosophical questions "for the researchers' own use and for the coherent and rigorous development of their project" (Mason, 1996, p.25). This workable research design raises issues pertaining to the philosophical, ontological and epistemological foundations of one's research project.

Taking Mason's view as a proposition to build on, this chapter embraces the notion of 'thick description' to provide detailed descriptions of the research inquiry process. Holloway (1997) explained that thick description refers to a detailed account providing context and meaning to the field experiences of the researcher. Therefore, thick description will help the reader to understand how I have conducted my data generation and analysis and reached my findings and conclusion within the contexts governing the research. In addition, it is also relevant for quality assurance, as it helps the reader to judge the consistency of the analysis and findings with the description provided. By providing detailed illustrations on the development and operationalisation of the whole inquiry process, such details constitute an 'audit trail' (King and Horrocks, 2010) not only for the quality issues, but also for my development and learning progression as a researcher, which emphasises the reflexive approach of this research.

The research objective is to enquire into postgraduate accounting and finance students' perceptions of critical thinking in the context of group learning. Constructivism is identified as the most suitable paradigm for the research after establishing its link with the research objective of the study. The chapter examines and explains the rationales of this paradigm and how the paradigm informs the research design and approaches of this study in section 4.2.

Section 4.3 introduces the contexts of this research as they give rise to the data that is later analysed and interpreted. The research looks at the students' perceptions and experiences in group learning. The inquiry process is heavily contextually dependent. Therefore, it warrants consideration and deliberation, to give sufficient information for readers to understand the contexts involved.

Sections 4.4 to 4.5 explain the translation of those research decisions made earlier into a strategic and purposeful research design and approaches. As mentioned earlier, this part also provides a thick description detailing as much information as possible to enable the reader to perform an 'audit trail'. The evaluation of the research is also examined in section 4.6 of this chapter.

To sum up briefly, the study adopts a qualitative approach which is primarily informed by the philosophical research paradigm and the fit with the nature of the problem identified. In other words, this chapter explains how methodology and methods are considered sound and provides rigour in addressing the research objective identified in Chapter 3.

4.2 Justifying the choice of a constructivism paradigm

4.2.1 Considering research philosophical issues and rationales for the choice of methodology and methods

The research objective is to enquire into postgraduate accounting and finance students' perceptions of critical thinking in the context of group learning. This study identifies the perception, meaning-making and experiences within oneself and with others in the social context of group learning that are important for this research. A particular paradigm is implied based on the nature of the subject matter and the inquiry process itself. This section, therefore, builds upon Chapter 1 to consider the philosophical issues of constructivism and explain why the constructivist paradigm is adopted in this study.

Ontology and epistemology are closely related and interlinked in research. Ontology asks questions about reality, while epistemology addresses how we can come to know that reality. Why do they matter? Mason (2002) says that ontological questions lead to ontological perspectives that lead to different approaches to inquiry. Similarly, asking epistemological questions also informs the approach one takes to acquiring the 'knowledge'. In other words, epistemology should help to answer the ontological questions about the social world/reality to which one subscribes. To explain the inseparable relationship between them, Marsh and Furlong (2002) described it in a very interesting way. They pointed out that these issues are important and should not be ignored or downgraded. They illustrated and argued that ontology and epistemology cannot be treated like a sweater, putting them on when we address the philosophical issues and taking them off when we are doing research. They should be treated as skin, not a sweater: the researcher should not put them on or take them off as they please (Marsh and Furlong, 2002).

The central questions for constructivism might include: how do the people in this setting construct reality? What are their perceptions, beliefs and responses? What are the inferences of their constructions for their behaviour,

beliefs and actions and for those with whom they interact? These are the questions that this research attempts to answer.

According to Guba and Lincoln (2005), constructivism assumes a relativist ontology (there are multiple realities), a subjectivist epistemology (knower and respondent co-create understandings), and a naturalistic (in the natural world) set of methodological procedures. Drawing from their arguments above, each perspective is considered here in order to provide the justification for using a constructivist paradigm.

1. Ontology: Constructivism's relativism assumes that there is no objectivity reality, but that there are multiple, apprehendable and sometimes conflicting realities that are constructed by human beings who experience a phenomenon. These realities are often shared among many individuals and they may change as their constructors become more informed and sophisticated (Guba and Lincoln, 1994).

   The objective of this research is to enquire into postgraduate accounting and finance students' perceptions of critical thinking in the context of group learning. Constructivist ontology argues that the 'critical thinking' in the question will be constructed by social interaction and that it can be checked via the students' perceptions and interpretations.

2. Epistemology: Constructivism's subjectivist epistemological assumptions see knowledge as created by the interaction between the researchers and the participant. 'Findings' are generated as the inquiry proceeds and involve both the researcher and the participant.

   Constructivists believe that the researcher cannot maintain a detached, objective position. Both researcher and participant should be interactively linked in the meaning-making process and both should be constructors of knowledge and not conveyers and receivers of it. Most importantly, different people may construct meaning in different ways, even within the same phenomenon (Crotty, 1998).

This study examines both individual and social construction of 'reality' – perceptions, reflection, group learning, interaction, discussion – where the 'real' world exists depending on the meaning that is attached and constructed by the participants and their actions. I suggest that no observers can be 'objective' because they live in a social world and the world is socially constructed.

3. The choice of which methodology to use is dependent on one's ontological and epistemological positions. Researchers need to be aware the strengths and limitations of both methodologies. Referring back to the research objective and the position of the constructivist paradigm identified for this study, a qualitative methodology is implied and adopted. My own ontological and epistemological views inform the choice of inquiry methodology.

A qualitative methodology sees the world from the point of view of the social actors (research participants). It tries to understand the meaning and behaviour constructed by a particular group. Constructivists usually employ qualitative methodologies. In light of their ontological and epistemological perspectives, a 'world' is only socially constructed and all knowledge is subject to interpretation.

The interconnections between ontology, epistemology and methodology are linked to the methods used to collect data. To illustrate the case, if the researcher has his/her ontological, epistemological, and methodological perspectives based upon the positivist stance, then the instruments employed to gather research data in the inquiry process, to be consistent, must be quantitative and are likely to be termed 'experiments' and 'tests'. The choice of method demonstrates the positions that researchers take in terms of how they see reality and how knowledge is built. In this case, qualitative methodology uses interviews, focus groups, accounts and many other methods to obtain a richness of description that is not possible using a quantitative methodology. The aim is to find out the meaning of social behaviour.

Mason (2002, p.52) argues that the term *method* in qualitative research implies more than a data gathering technique: it also implies "a data generation process involving activities that are intellectual, analytical and interpretive". In other words, it involves a careful and purposeful selection process in determining the choice for the research study.

To be consistent with the philosophical issues already considered, qualitative methods that are predominant in the constructivism paradigm, such as interviews, observations and document reviews, may be considered. Referring back to the research objectives, I have argued that it is the perceptions, meaning-making, and experiences that are the foci for this research. Therefore, the methods proposed are semi-structured interviews and reflective reports. The case for these two identified methods will be discussed more fully in section 4.4.

An overview of the philosophical issues of this research study may be illustrated as in figure 4.1 below.
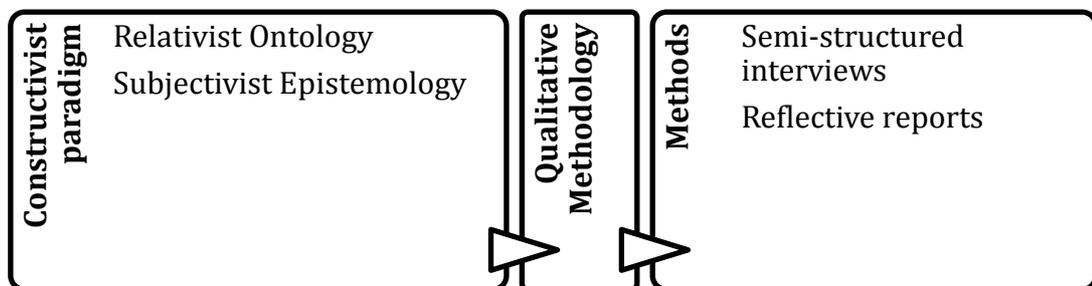
Figure 4.1: An overview of the philosophical issues of this research study: paradigm, methodology and instruments

Using Mason's (2002) arguments and working model on what is qualitative and applying it to this research methodology, the following points set out the positions and stance embraced in this research:

1. This study is grounded in a philosophical position which tends toward a constructivist paradigm, in the sense that it concerns how the social word is construed and constructed by individual(s).

2. Data are generated rather than collected, involving both researcher and participant, both of whom are flexible and sensitive to the context.

3. Data analysis, explanation and arguments are derived from an understanding of complexity, detail and context to provide multiple voices (Guba and Lincoln, 1994).

4. The whole inquiry process is conducted strategically, adopting a flexible and open-minded approach to the dynamic and changing contexts and situation.

5. This research involves rigorous scrutiny by the researcher and active reflexivity. The researcher constantly reflects upon his actions and decision-making in the inquiry process. This is because I take the stance of constructivism, where the researcher cannot be neutral, detached, or objective from the knowledge and findings generated.

6. The research should be conducted as an ethical practice, with the researcher being responsible for both the participants with whom, and the institution within which, the research is conducted.

After establishing the philosophical positions and assumptions, section 4.3 sets out the context of this research, which is another core area that plays an important role.

4.3 The context of the research

4.3.1 The importance of context

Grounded with the paradigm of constructivism, context plays a significant role in this thesis for the following reasons:

1. Critical thinking is contextually dependent, as explained in Chapter 2. Critical thinking, in this case, cannot happen in a vacuum and it has to be thinking about 'something'.

2. The research study suggests, in Chapter 3, that the contextual condition that facilitates/promotes/encourages critical thinking in learning is

mediated by group learning – a learning environment that is underlined by a social constructivist perspective.

3. The experiences, responses and perceptions are the important data, as explained in section 4.2 above: these are dependent on a context and cannot be 'created' without context.

4. The findings of the data are contextual: as a result, it is essential to understand the context that gives rise to the data.

5. Detailed description of the context may help to achieve transferability.

The context of this research is set out as follows:

1. The institutional context

2. MSc Finance and MSc Financial Management programmes

3. Fundamentals of Financial Management module (FFM)

4. Research participants: MSc Finance and MSc Financial Management cohorts

4.3.2 The Institutional Context: The University and the Faculty

The university where the research was undertaken has around 30,000 students and 3,500 staff. It is the largest provider of Higher Education in the South West of England. Students come to the university from all parts of the UK, as well as a significant and growing number of international students from over 140 countries worldwide.

The research was conducted in the Business School within the Faculty of Business and Law. The Business School has been recognized by HEFCE[1] and the QAA for its excellence in teaching and learning on many occasions since the 1990s. Based on its marketing literature, one of the key strengths of the School

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[1] The Higher Education Funding Council for England (HEFCE) promotes and funds high-quality, cost-effective teaching and research in universities and colleges in England, to meet the diverse needs of students, the economy and society. HEFCE is legally responsible for ensuring that the quality of teaching is assessed by contracting the Quality Assurance Agency for Higher Education (QAA) to devise and apply ways of ensuring the maintenance of academic standards and assuring the quality of teaching and academic support (Source: www.hefce.ac.uk).

is its capability in, and reputation for, teaching and learning for the programmes offered. The School also claims that this not only enables students to acquire relevant knowledge and skills, but also promotes the development of capacities for critical thinking and problem solving.

The Business School has about 3,000 students with 200 full-time staff. The age range of students varies from under 20 to 40+; different ethnic groups and international students make up around 8% of the total student cohort in the School.

4.3.3 The MSc Finance and MSc Financial Management programmes

The research was conducted in the context of the Business School's MSc Finance and MSc Financial Management programmes.

MSc Finance aims to both build upon the existing educational background of students in finance and to extend upon and deepen their finance skills and knowledge whilst providing a conversion programme to those students with a non-finance background. On the other hand, MSc Financial Management aims to provide an opportunity for graduates and experienced practitioners in the field of accounting and finance to deepen and broaden their knowledge and skills by building on undergraduate and professional curricula - covering much of the content of the final stage of professional syllabuses but, by re-engaging with the underlying conceptual fundamentals, going beyond the conventionally imposed constraints.

The entry requirements differ between the programmes. MSc Financial Management students would normally have one of the following qualifications:

1. A good first degree in Accounting or Accounting and Finance;
2. A good first degree in a business area with a strong financial management bias, (normally at least 120 credits) ;

3. Work experience in an appropriate accounting environment with successful completion of CIMA or ACCA professional examinations up to the final stage or the equivalent with the ICAEW.

On the contrary, MSc Finance requires students to have an honours degree in a business, business-related or quantitative discipline (that is, a degree showing significant evidence of competence in numerical subjects) from a recognised UK Higher Education institution or an equivalent qualification from a recognised overseas institution. In addition, MSc Financial Management would consider prospective students with more than five years' significant managerial working experience, whilst MSc Finance considers those with at least two years' working experience.

In other words, the programmes are offered to graduates who are looking to move into a career in accounting or finance. Therefore, the courses have been designed to be practical, comprehensive and industry-relevant with academic grounding in accounting and finance. Only MSc Financial Management was accredited by both the Association of Chartered Certified Accountants (ACCA) and the Chartered Institute of Management Accountants (CIMA) at the time the study was undertaken. Accreditation means that students enrolled on these programmes would be eligible for exemptions from specific professional examinations. Thus the syllabus and structure of the programme are designed to align with accreditation requirements.

Both programme specifications contain learning outcomes which include specialist skills and knowledge related to accounting and finance, as well as intellectual skills. The intellectual skills aim to develop students' abilities, including critical thinking.

4.3.4 The Fundamentals of Financial Management (FFM) module

Fundamentals of Financial Management (FFM) (See Appendix 1), is a compulsory module for both MSc Finance and MSc Financial Management

programmes. The module aims to equip students with an understanding of the principles governing the function of finance and financial management in a business, so that students develop the knowledge and skills as finance managers in relation to financing, investment and controlling decisions. Besides covering subject-specific and knowledge skills, the learning outcomes of this module also include the development of students' team working, time management, communication and critical thinking skills.

The module utilises the teaching and learning strategies which include using real-life, practical examples to help engaging the students in financial planning and decision-making processes. For example, by using cases, students are encouraged to approach the issues from a variety of different angles, from a financial management and financial investment perspective. In addition, students are actively encouraged to study independently in order to gain a deep understanding of the issues covered, as well as recent developments in the theories and practices of financial management. In addition to the scheduled contact hours, students are expected to engage with essential reading, case study preparation, assignment preparation and completion.

The module is assessed by means of an unseen written exam (60%), a written coursework assessment (15%), an independent reflective report (15%) and a group case study that students would have to present (10%). Each form of assessment addresses particular learning outcomes: the coursework and case study develop and assess a range of learning outcomes but with particular emphasis on transferable skills, the reflective report focuses on developing students' understanding and critical thinking skills, while the examination emphasises, in particular, cognitive and subject-specific skills.

The module specification highlights the use of the case study and reflective reports in the assessment "to assess a range of learning outcomes but with particular emphasis on transferable skills and the reflective report focuses on developing students' understanding and critical thinking skills" (Appendix 1).

In summary, after reviewing the content of the module specification (Appendix 1), the appropriateness of using FFM for this research is supported by the following points:

1. The learning aims and outcomes are addressing elements of critical thinking. According to the module specification, students are given the opportunity to develop their critical thinking in the course of learning. Some key words used in the learning outcomes, such as 'evaluate', 'debate', and 'engage', implied the necessity of critical thinking in students' learning.

2. Other learning outcomes in the module specification emphasise the importance of communication both individually and with others. Students are also encouraged to develop skills in communicating their ideas, arguments, concepts, theories, and reflections, in the form of an essay or report, as well as with their peers. The module specification also specifically states that it intends to develop students' team working and critical thinking skills. Such emphases provide a promising environment for facilitating and promoting critical thinking, as well as encouraging student to learn in a social context, i.e. group learning.

3. Teaching and learning approaches encourage students to see things from different perspectives: thus, the experience and knowledge of their peers are valuable in their learning. Again, in order to facilitate the pedagogical aims and benefits stated, group learning and critical thinking could be potential approaches and strategies to be considered for the teaching and learning objectives set out in this module.

4. The assessments, particularly the case study and individual reflective report, are suitable for the adoption of group learning and for gathering students' perceptions of critical thinking in such a socially setting of learning. This afforded the researcher the opportunity to use assessments that could achieve both the aims of the module and the research objective of this study.

4.3.5 Participant sample: FFM students

This study identified that FFM module, assessments and learning activities could provide an appropriate context, as discussed above. As a result, the participants would be student cohorts from both MSc Finance and MSc Financial Management.

According to Mason (2002), data sources are "those places or phenomena from or through which you believe data can be generated" (p.51). In this sense, the cohorts of students from both programmes identified above could potentially be the data source. However, research should take a wider view and ask purposefully 'What are the potential sources, besides people in this case, from which data can be generated?' Referring back to the research objective, sources of data for the study did not only include people (individual or groups), but also language expression, texts, feelings, experiences, interpretation, memories, thoughts, reflections, ideas, opinions, arguments, actions, beliefs, perceptions, behaviours, interactions, inner self and so on. As a result, being able to identify the sample was not sufficient for a rigorous and robust study: I needed to identify clearly the sources of data I was interested in and from which I would be able to collect the data.

Further, Mason (2002) argues that though the assumption in a quantitative study is that sampling is about the representation of a wider population, this is not the predominant logic in qualitative sampling. With qualitative research, people, texts or events *are not necessarily* selected as being representative. For this study, it is the perceptions, thoughts, reflections, ideas, opinions and experiences that I am interested in collecting from the participants (sample). Therefore, statistical representativeness is not a prime requirement when the objective is to understand social phenomena (Mason, 2002). Mason (2002) argues that the sample can be strategically designed to encapsulate a "relevant range" of a wider universe, but not to represent it (p.124). For example, this qualitative study is looking for a range of accounting students' experiences in group learning in relation to critical thinking. In this sense, Mason (2002) also

relates strategic sampling with purposive (or theoretical) sampling. Mason (2002) explains that theoretical sampling means "selecting groups or categories to study on the basis of their relevance to the research questions, the theoretical position and analytical framework, the analytical practice, and most importantly the argument or explanation that you are developing" (p.124). Therefore, it is important to work out what the researcher wants the sample to do in the context, and Mason (2002) suggests that 'strategic sampling' is warranted. She argues that what the researchers seek to investigate in a qualitative study is likely to be "complex, nuanced, situated and contextual" (ibid, p.125). As a result, the samples must be selected strategically and must take account of the range of contexts or phenomena that have vital significance in relation to the research, which will help to develop and test the research objective(s). Moreover, sampling must also be strategic, as the researcher can face both practical and resource-based issues (Mason, 2002).

Likewise, Smith, Flowers and Larkin (2009) also suggest to qualitative researchers that samples must be selected purposively, rather than through probability methods, because they can offer the study insight for a particular experience or perspective on the phenomena under study. In this sense, the sample 'represents' a perspective rather than a population (Smith, Flowers and Larkin (2009). The basic logic is that if one is interviewing a small sample, it is not very helpful to think in terms of random or representative sampling. Therefore, Smith, Flowers and Larkin (2009) argue for purposive sampling, and advise qualitative researchers to find a more closely defined group for whom the research question will be significant.

Drawing from the discussion above, the important role of the context for this study warranted such strategic and purposive sampling. FFM students were strategically selected and considered for the following reasons:

1. The programme and module set out the contexts that are appropriate with regard to critical thinking and group learning.

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2. The students, who had been required to learn and work in groups, could be sources of data, especially their perceptions, experiences, meaning making, beliefs, actions and behaviour.

3. The social context of group learning could also be a potential source of data. The social interaction or phenomena derived from this setting could provide a useful context or situation for the generation of data.

Twenty out of forty students from the FFM class agreed to participate in the research. The size of the sample should not be an issue, as Mason (2002) argues that qualitative samples are usually small. This sample should not be considered as a convenience group, as I have already explained and argued for the purposive and strategic sampling for the study. What is more important is whether the samples provide enough access for data generation, and whether they are strategically placed in the right context to enable the research objectives to be addressed. In addition, it is also the objective of the study to obtain 'maximum variation' in the data that are collected, as the study enquires into the students' perceptions in the context of group learning. To get the 'maximum variation' means that in the selection of the sample, efforts are made to include "special instances – ones that are extreme, unusual, best or worse… a broad spectrum rather than a narrowly focused source of information" (Denscombe, 2007, p.26). A final note on sampling: one always has to be pragmatic when doing research (Mason, 2002) and the sample decision can be partly a practical issue and defined by the participants who are prepared to be included in it. This sample, therefore, may be seen as self-selection sample, who volunteered to participate in the study. There was likely to be a degree of self-selection bias. However, as I was fully aware of this limitation, I hoped the self-selection bias would be mitigated by the strategic sampling issues considered above.

The demography of these twenty participants is presented in section 4.4.4 when the operationalisation stages are considered.

4.3.6 My role in the research context

At the time of interviews, I was a full time Ph.D. student in the business school of the university and was employed as an associate lecturer for the school. I had no responsibility for the programme, did not teach the FFM module and was not known by the students in the FFM class. The module leader was the gatekeeper, who introduced me to the students and allowed me to gain access. The assignments for the FFM module were already in place before the study was undertaken. With the current cohort, the module leader wished to introduce the Individual reflective report (IRR) in response to the external examiner's suggestions and comments on the module. The module leader allowed me to work with him to select a case study for this cohort and to introduce the element of the reflective report with particular focus on their understanding of critical thinking. I had provided my input for the selection of a case that we both agreed would provide an opportunity for students to engage in critical thinking and the context for students to work together as a group. This will be discussed more fully in section 4.4, which describes and considers the design of the study.

4.4 The research design and approach

4.4.1 Overview of the research design and approach

This section describes and elaborates the stages involved in the development and operationalisation of the research design and approaches for this research. First, it considers the stages in developing the research instruments, i.e. the semi-structured interview questions and the individual reflective report (IRR). The case study assignment that provided the context for potentially facilitating and promoting critical thinking when students learnt and worked in groups will also be discussed in detail. Next, the operationalisation stages of utilising the instruments are considered, i.e. conducting the interviews, data analysis and interpretation of data.

The section is set out according to stages 1-6 presented in figure 4.2 below. Stage 6 (data analysis) is considered in section 4.5 and stage 7 (findings, discussion and conclusion) is considered in a separate chapter.

Stage 1: Developing the interview protocol		
Pilot interviews	Review and reflection	Lessons learnt

Stage 2: FFM as context
FFM assignment: case study and individual reflective report (IRR)

Stage 3: Sample, ethical issues and gaining access

Stage 4 Collecting data: Semi-structured interviews and IRR

Stage 5: Interview transcriptions and proof-reading

Stage 6 Data analysis

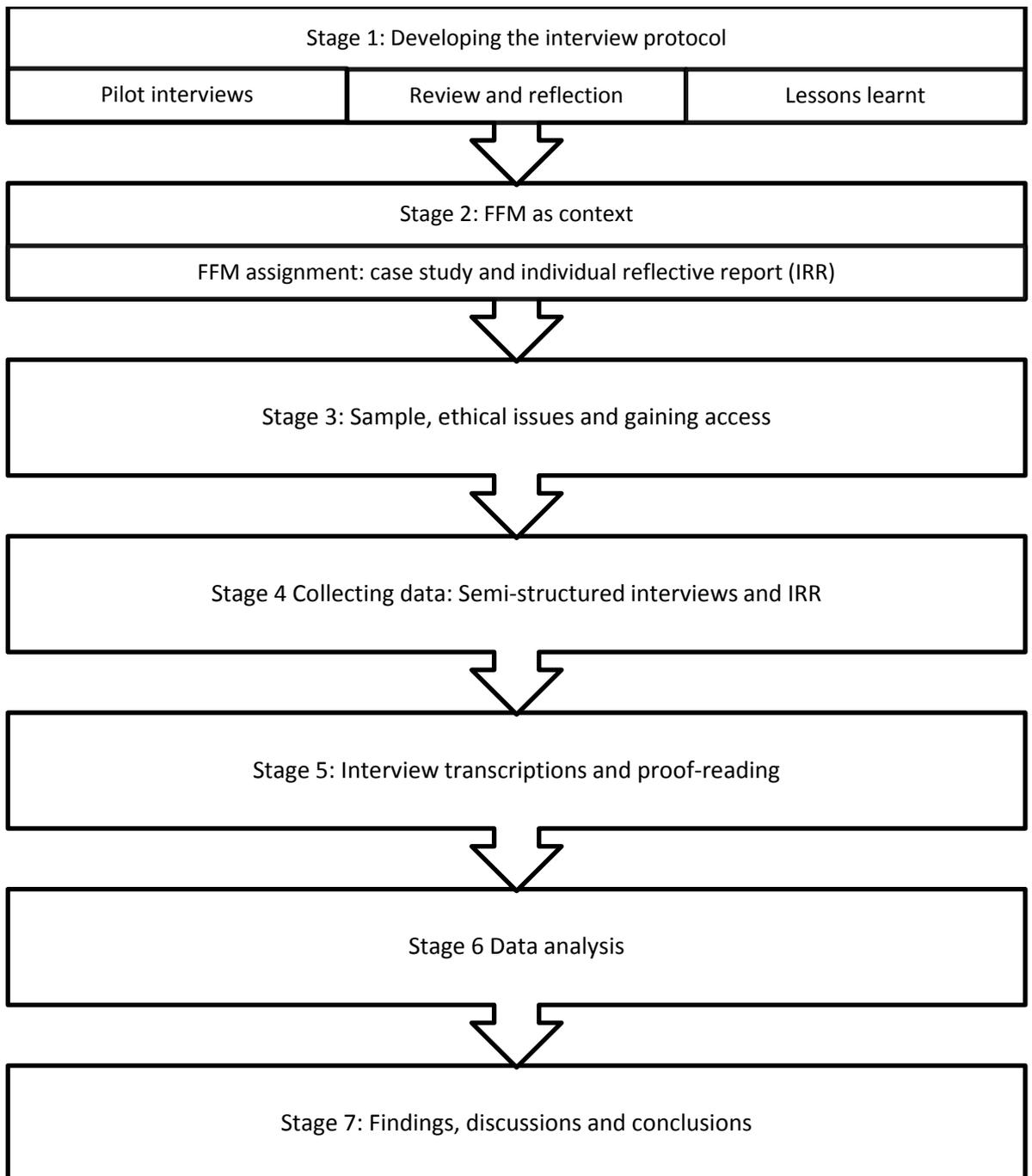| Stage 7: Findings, discussions and conclusions |
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Figure 4.2: Development and operationalisation stages of the study

4.4.2 Stage 1: Developing the pilot interview protocol

a. Developing the pilot interview

Bryman and Bell (2003) point out that the benefit of conducting a pilot study is to ensure that the instrument, particularly the semi-structured interview, "as a whole functions well" (ibid, p.170). The purposes and objectives of the pilot interview were:

1. To ask open questions before asking semi-structured question with the main samples. This allowed the interviewer to refine the questions to better serve the research objective(s).
2. To identify areas for improvement in terms of drafting the interview protocol and questions.
3. To confirm the appropriate use of the selected method, or whether the researcher should consider an alternative instrument.
4. To provide a training ground for the interviewer to develop his interview skills and cultivate confidence in the later main research.
5. To provide an avenue for reflexivity for the researcher to further improve his inquiry instrument and processes.

I developed a list of questions that relate to critical thinking and group learning in advance to help me to carry out pilot interviews as set out in Appendix 2. This would help me to develop the skills needed in the main interviews at a later stage. My supervisor also gave me a document with general tips for interviewing (Appendix 3), which was helpful during this piloting stage.

b. Selection of pilot interviewees

Three postgraduate students, who were doing their Ph.D. studies, agreed to participate in the pilot interview. Besides the virtue of their availability and accessibility, the interviewees, I believed, possessed the following features which could be informative and useful for the main study. All had group learning experiences and were educated to at least Master's degree level, which

was similar to the main sample. They were within a similar age range to the main sample because it was their first year of Ph.D. studies at the time of the interview. For example, two interviewees from this pilot interview had just graduated from their Masters' degrees. Also, all of them, at the point of the interview, would have undergone the demands of critical thinking in their previous studies in UK universities. The pilot sample also consisted of one male and two female participants, who made up one home (UK) student and two international students. These demographic factors were close to the main sample.

They were given a simple consent form (Appendix 4) to sign and agreed to participate in this pilot interview.

c. The pilot interviews

The pilot interviews were conducted in April 2010. The general tips given by my supervisor were utilised here: for example, reminding me to check that the digital recorder was functioning. These tips were helpful for later stages, especially reminders such as note-taking during the interview and reflection points and lessons learnt after the interview.

The interviews lasted between 45 minutes and one hour. They all took place in the Ph.D. student room and were as informal as possible. The reasons for conducting the interviews were explained to the participants at the beginning and they were reassured about confidentiality and anonymity. The interviews were recorded using a digital recorder. The interviews were sent to a professional transcriber and, once I received them back, I proof read them at least twice to make sure the transcripts were as accurate as possible. This was followed by an evaluation of the appropriateness and effectiveness of the interview process.

d. Review and reflection

The review and reflection focused on two main activities of the pilot interview. One was the conduct of the interviews, and the other the data analysis for these interviews.

For the interview session, this exercise alerted me to the need to develop my interview skills. It was apparent when I listened back to the recordings that there were awkward pauses from my end, mainly due to my lack of skill to probe further. It also informed me that the wording of some of the questions needed to be more general, allowing interviewees to answer as freely and openly as possible. The development of probing questions was essential to avoid missing interesting areas to draw from the interviewees' experiences, feelings and meanings. One problem I noticed was that I had not listened attentively to the interviewees and was rushing to get all the questions asked in the sessions. All these observations and reflections were lessons learnt and they led to subsequent improvement and changes in the main study.

In reviewing the transcriptions of these pilot interviews, I assessed the importance of emotion and feeling expressed in the transcription, since the transcriber had noted the pauses, umms and aahs. Most importantly, the questions were too structured: the focus of the interview was too narrow and restricted to areas that I wanted to hear rather than the *voice* of the interviewees. This confirmed the need to redraft the interview questions.

e. Lessons learnt

As discussed earlier, the purpose of conducting the pilot interviews was to develop both my interview skills and the protocol for the main study. The key learning points derived from this exercise were:

1. The importance of wording interview questions: they should not be too structured, nor too open so that the interviewees find difficulty understanding and responding. These include questions that make the

interviewees uncomfortable, questions that were avoided during the pilot interview and questions that are ambiguous, which the interviewees do not understand well enough to answer.

2. The need to listen actively and attentively and to probe promptly, to allow free flow of responses from the interviewees and to allow for surprises (deviant responses) to emerge in the process.

3. The need to develop skills of data analysis: this may warrant using some techniques in the field to generate findings as effectively and efficiently as possible. This point drew my attention to the Interpretive Phenomenological Analysis (IPA), which will be discussed in section 4.5.

The pilot interviews also were useful and informative in formulating the interview protocol, questions and prompts for the main study (Appendix 5).

f. Appropriateness of methods: Semi-structured interview

The research aims to explore people's knowledge, views, experiences, understandings, meanings, interpretations and their perceptions of social reality. With constructivist ontological and epistemological perspectives, the approach to generating data relies on interaction with people, asking questions and listening to them, gaining access to their experiences, interpretations, meanings, and their perception. In addition, constructivist epistemological perspectives also require me, as the researcher, to be critical in judging the whole interview process, right from the beginning of designing the questions to the end of completing the interviews.

The semi-structured interview was identified as an appropriate instrument for the following reasons (Mason, 2002):

1. It is a relatively informal style compared to highly structured interviews. Control is given to both the interviewer and the interviewee, where the interaction and inter-view (Kvale, 2009) are important features.

2. The interview is open but with some key questions in the background. In this case, I had questions to ask about critical thinking and group learning, but at the same time I was open to the interviewees to tell me what their important, interesting and relevant points were within the focus of my key topics.

3. The *Interview* is not 'interview as excavation' (Kvale, 2009), but rather 'interview as co-constructed' (Forrester, 2010). The constructivists' subjective perspective was emphasized here, so that the interviewer had a role to play in the co-generation of data.

4. A semi-structured interview, like any other type of interview, regards knowledge as situational, contextual and interactional. This aligns with point 2 above, where I would ensure that interviews would be as contextually based as possible in view of the importance of context in this research.

However, interview as an instrument has its limitation and weaknesses. The main concerns were as follows: First, the interviewees might not have perfect recall – they were being asked to remember things that happened a few weeks ago and it is unlikely that they would actually remember fully what happened. Second, the interview will always be retrospective: i.e. the interviewees would try to make sense of their behaviour and actions. Therefore, their recall and explanation for their behaviour and actions, with hindsight, may be very different from what they actually felt at the time. Lastly, the interviewees may answer for the sake of answering the questions, which was quite apparent in one of the interviews. For example, interviewees might give simple 'yes and no' answers and simple response rather than their perceptions and experiences in the context of the study.

4.4.3 Stage 2: Fundamentals of Financial Management (FFM) as context

This section focuses on describing the processes of developing the assignments for the FFM module, particularly the case study and the individual reflective report (IRR).

The case study (component B3, Appendix 1) was already in place and being used for FFM before this cohort of students and before my involvement. However, the individual reflective report (IRR) (component B2, Appendix 1) was a new element for FFM and for this cohort. The module leader acted on the external examiner's comment that the module needed some additional individual elements for assessment, besides the final examination. As a result, IRR was suggested and introduced for FFM for this cohort of students. My involvement in developing the FFM assignment was straightforward and minor, as explained in section 4.3.6. I only intended to use both elements of assessment to provide context for critical thinking (discussed in Chapter 2) and group learning (in chapter 3). The module leader played a key role in finalising the questions, deciding the weighting for each element and the assessment criteria and strategies.

Global Ltd is a case study which involves management accounting and control issues. Global Ltd is a small company which supplies quality inspectors to the pipeline industry. The company is financed solely by bank overdraft and it has just broken even, as set out in the case. Global Ltd has been given an opportunity to bid for a contract to supply a large number of inspectors to a new client. The accountant is required to prepare a cash flow budget for the new contract. With relevant information, the case questions required students to construct a cash flow budget for the new contract, making their own assumptions and justify their approach. With this case study, students were also required to work in a group and present their solution(s) orally as part of the assessment. Students' experiences in tackling this case study with their group members in the context of group learning were also important in writing the IRR. The details for these assessment components are set out in the assignment brief and the IRR guide (Appendix 6 and 7).

In this section the following areas are considered in turn:

1. The rationales for using case study and IRR in FFM for critical thinking and group learning;

2. The development of the case study and the IRR;

3. Using the case study and the IRR with students.

a. The rationale for using a case study and IRR in FFM

The rationales for choosing a case study to facilitate critical thinking in group learning for the research are twofold:

1. Case studies, which usually present real-world problems in a dynamic and complex business environment, require students to make reasoned, reflective decisions that provide the potential for involving critical thinking. Open-ended case studies, as reflected in this dynamic and complex real-world scenario, pose uncertainties in various ways, such as the problem contexts, conflicting stakeholders' expectations and interests, multiple solutions or no solution. Therefore, the characteristics of open-ended, unstructured case studies require more than just 'straight' thinking. It is this type of case study that is used in the study, as discussed in detail later.

2. As mentioned above, the complexities of an open-ended case study usually require alternative solutions; therefore it is best to use it for group learning. This is to allow multiple perspectives and different viewpoints from different students. Case and group learning also reflect what is happening in the real business world. Solving a business problem usually involves more than one party – a team effort rather than one person's decisions and actions.

Case and Wright (1997) argue that if the answers to the case were readily apparent, waiting to be found, it would be like playing the "Where's Wally?" game where students attempt to 'locate' answer(s) because there is a lack of critical challenges that require critical thinking. In addition, the challenges must be meaningful to students, mainly because they are unlikely to engage in critical thinking if they regard it as a trivial exercise.

In addition, the use of a case study has been advocated in accounting education to promote critical thinking (Ballantine and Larres, 2004; Kimmel, 1995; Knechel, 1992; Campbell and Lewis, 1991). The case study not only required students to apply critical thinking, but also provided a context for students to engage in critical thinking. Using a case study with group-based learning enhances the possibility that students will engage in critical thinking.

The Individual Reflective Report (IRR) was a report which FFM students were required to write as one of their assignments. The main objective was to examine how students had progressed in their learning in FFM as well as anything relating to critical thinking and group learning. The report required them to reflect on their views, experiences, perceptions, beliefs, and change of behaviours pertaining to their learning in FFM.

The IRR was introduced to compensate for the shortcomings identified in interviews mentioned in section 4.4.2(f). The IRR provided students with an opportunity for critical reflection as advocated by Dewey (2004), discussed in Chapter 2. The IRR was used alongside the reflective workbook. Students were required to maintain their own reflective workbooks in which to write about their reflections during their individual and group learning as they worked on the Global Ltd case. Then, they used these entries to write the IRR, focusing on their learning experiences and critical thinking. These two documents are popular in HE because they "allow students to examine their beliefs, values, experiences and assumptions about subject matter at hand" (Minott, 2008, cited in Dyment and O'Connell, 2011, p.82). However, one particular "troubling" finding in Dyment and O'Connell's review (ibid, p.82) was that the majority of students were "journaling for a grade". In other words, they were writing descriptive entries.

In view of this, the IRR used in this research was designed by considering some of the factors discussed by Dyment and O'Connell (2010):

1. Clarity of expectations: Students were informed about the purpose of this IRR and the requirements put in place with regard to the FFM assignment. An assignment brief document (Appendix 6) was prepared and distributed to students to help them to understand how this IRR aligned with the overall learning and assessment of the module. The elements of learning outcomes, particularly on critical thinking, were highlighted and students were fully aware of the weighting of this component in the overall assessment.

2. Training: According to Dyment and O'Connell (2010), training is essential to enhance the quality of reflection in an IRR. The guide for the IRR directed the students to relevant tools and web links such as the Thinking Actively in a Social Context (TASC) wheel (www.tascwheel.com) and Higher Education Academy web resources (www.heacademy.ac.uk). A session to explain reflection and descriptive writing was conducted with students. In addition, students were aware that they could seek help in this area with two module tutors whenever they had issues with writing. The tutors were prepared to give training to the students.

To use IRR with the students, a guidance document (Appendix 7) was prepared so that they were able to write more effectively. The guide was produced to minimise the possibility of 'random reflection and writing' from the students. The questions above informed the students that they should write within their learning context (i.e. group learning and FMM assignments), within a specific time frame (i.e. during the time when they were working on the assignments and group meetings) and with specific foci (reflection, views on group learning and critical thinking and how interaction with others helped or hindered their subject skills and critical thinking). The IRR required students to submit a reflective report of a maximum of 1,500 words.

b. Using the Global Ltd case for FFM

Global Ltd:

The case study was chosen from a management accounting textbook and adapted to suit the FFM assignment. The module leader and I developed our own questions using this case study, with the objective of incorporating both subject-specific skills and critical thinking. I now discuss how the questions for Global Ltd could encourage students' engagement in critical thinking in order to provide a range of possible solutions.

Global Ltd: Question 1 (See Appendix 6, p.10)

As mentioned earlier, Global Ltd had the opportunity to bid for a new contract and the accountant was to prepare a cash flow budget for the first six months of the new contract. Part A of question 1 required students to construct a cash budget for the first six months and state the assumptions underpinning the budget.

The students were tested on subject-specific skills in the preparation of the cash budget. However, in the process of doing so, there were many issues they had to consider, particular assumptions they made in constructing a sound budget, such as the timing of the cash flow. Making the question as open as possible allowed them to think critically about the relevant and justified assumptions they had to make. It also allowed the students to think 'freely' as long as they were grounded with what they had learnt about budgeting, the business environment, the cost elements and behaviours. The aim was to allow them to explore as many possible solutions as possible.

Part B required students to present their findings to Alex (the managing director) about the viability of the new contract, commenting on the cash budget they had prepared and explaining the rationales for the assumptions they made.

This part required critical thinking from the students to reason and make judgements on what they had produced in part A. In other words, it required them to evaluate critically the data and information in the case, and to provide evidence for their suggested solution(s). The case study was written in a way that provided relevant but not complete information. Therefore, it provided avenues for students to interpret the available data and information and to explore possible solutions.

c. Potential areas to encourage students to engage in critical thinking in Global Ltd case

Global Ltd: Question 1

In respect to question 1, there were some areas that required careful attention to the case, for example:

1. Number of days required to calculate the subsistence.
2. The calculation of the sales invoice
3. Timing for receiving the sales receipts.
4. Timing for payments such as supervisors' rates and workers' salaries.

Students applying their subject knowledge in constructing the cash budget without thinking critically might produce less appropriate ideal solutions. The question was open-ended in nature and welcomed students' rationales and assumptions made, as long as they were logical and reasonable within the context and information provided in the case.

Assuming that students engaged in critical thinking, some potential issues for students to identify after constructing the cash budget and presenting their findings to the managing director included:

1. There was no opening cash in the case, and this should be highlighted as the reason for the initial deficit.
2. Sales receipts only arising in May could be a contributing factor to the deficits in the first four months.

3. In this situation, students might advise Alex to consider the following options:

   a. Obtaining additional working capital for the project.

   b. Obtaining an overdraft from the bank to fund the project.

   c. Asking clients for payments earlier in the initial months of the contract.

   d. Sourcing another investor, since cash seemed to be a real problem for the company.

Global Ltd: Question 2

Students were required in question 2 to advise Alex by critically evaluating possible alternative courses of action other than their findings in question 1, to enable the company to be more competitive in the marketplace, with the assumptions they made and limitations that they were aware of in the case.

There were consistent demands for students to think critically in both questions, affecting the answers to both questions. In brief, it would be possible to see that if students had not thought critically in question 1, there would be no evidence of critical thinking in question 2.

Potential areas for students to pick up in the case with regard to this question if they had engaged in critical thinking were:

1. The company was short of cash.
2. Alex's excessive personal spending.
3. There were no clear areas of responsibility.
4. Some staff was inefficient and ineffectual: thus, key tasks such as recruiting were not being carried out; other tasks may be overlooked or duplicated.
5. There is no information as to which contracts/inspectors were profitable.
6. Poor recording of information and reliance on informal channels: e.g. Alex was not passing on information.
7. Pricing without costing information.

These are areas that students should address in their discussion, and therefore in advising Alex of possible courses of action. Some possible suggestions include the following:

1. Organisation structure: A new structure with clear areas of responsibility (the student might draw a new organisation structure with the new accountant at middle management level and examples of new responsibilities).
2. IT: New technology (e.g. computers) would be needed, although this purchase must be subject to a cost/benefit analysis.

For students to demonstrate that they had engaged in critical thinking, they should discuss and explain how these changes might be implemented and whether such suggestions were likely to be effective. They should also discuss the implications of each suggestion above.

It was important that students were aware that there is no one correct answer to this question. However, their recommendations and suggestions must adhere to the context and situation the company is facing.

d. The production of an assignment brief and IRR guide for students

An assignment brief and IRR guide (Appendix 6 & 7) were produced with the aim to guide the students to attempt the case study and the IRR as effectively as possible. At the same time, the assignment brief reemphasised the criteria, learning outcomes, weighting and requirements of this element.

Students were informed that this case study, Global Ltd, was used for both case study presentation (element B3 stated on the module specification, Appendix 1) and IRR (element B2, Appendix 1) and members would be sharing the same mark when a mark was awarded to the group.

The purposes of both assignments were clearly communicated to the students: that the development of team working skills and critical thinking were the key foci of the assignment objectives.

Students were required to form groups of a minimum of three and a maximum of five students. The groups were student selected rather than imposed. The module leader set the requirement for group formation that groups must be heterogeneous (Kagan, 1994; Johnson, Johnson and Holubec, 1993), reflecting at least a different mix of education backgrounds (UK and international students) and gender. These requirements on group formation were to achieve better interaction and acceptance among the group members in the hope that they would be effective groups for this research. The module tutors would monitor this requirement by asking students to send in their group members' names after group formation. All groups adhered to this requirement.

To encourage students to fully participate in group learning, they were advised to meet at least four times over a month. Evidence of group meetings must be shown in both the IRR and the reflective workbook. The reflective workbook was a log to record their reflection points, experiences in the group meetings and anything else they wished to record, drawing from both their independent learning and group learning. This reflective workbook would then be the key source for their IRR.

It was demonstrated here that the assignment brief and IRR guide were to help students to engage in their group learning and critical thinking as effectively as possible. Consequently, the reflective workbook and IRR helped to capture and generate *meaningful* data for this study.

As highlighted in section 3.6.2, it is not possible to achieve genuine cooperative learning groups with students due to ethical and resource-based constraints. However, the assignment was used to feature these five key elements in their group learning experience to provide the social contextual condition for critical thinking (discussed in Chapter 3).

The module leader took a number of considerations in incorporating the five key elements in the assignment so that the groups would function cooperatively by following the recommendations in Johnson, Johnson and Smith (1998). For example, setting a minimum number of meetings, keeping workbooks and oral defence during the group presentation were meant to ensure that elements such as individual accountability, small group skills and group processing would be cultivated in the process. In addition, as students met together and worked together for the group presentation and case study, and they would be assessed and would share the same grade, elements such as positive interdependence, face-to-face promotive interaction and interpersonal and small group social skills would be potentially encouraged and facilitated in their learning experience.

In this area, the theoretical frameworks of cooperative learning and Social Interdependence Theory (SIT) were used to guide students' group learning and make it an appropriate condition for them to engage more in critical thinking. To reiterate, this is not a cooperative learning research, but cooperative learning is used to provide a framework to design *meaningful* group learning for students.

It must be noted that the key aim for using a case study and IRR was to facilitate critical thinking in group learning for the study. However, there were some limitations inherent in the assessment which were not within the researcher's control. For example, the weighting percentage awarded for the case study and the IRR were relative small (the case study contributed 10 marks and the IRR 15 marks towards the overall assessment mark) compared to other components in the FFM module (see Appendix 1). In addition, the time-frame for the completion of the case study for group presentation and for writing up the IRR was relatively short. These were decisions made solely by the module leader.

After carefully developing the case study and the IRR for FFM, the next stage was to administer the interviews after students had completed their assignment. Before conducting the interviews with the students, there are

aspects such as samples, gaining access and ethical issues to consider, which are explained in the next section.

4.4.4 Stage 3: Sample, gaining access and ethical issues

Access to the participants was made possible by a gatekeeper. A 'gatekeeper' in research refers to the person who controls research access and makes the final decision as to whether to allow the researcher access to undertake the research. The gatekeeper for this study was the FFM module leader, who was also the lecturer and tutor for the module. The module leader had informed the students briefly about my visit in one of their lecture sessions a few days before I met them. It was the lecture during which the assignments were briefed; I hope to get as many participants as possible in this session, as students would want to know about assignments through first-hand information and would thus be likely to turn up for the lecture. I was introduced to the FFM students as a research student in the university and was given twenty minutes to explain the full nature and objectives of the research, particularly the interviews I planned to conduct with them. Consent forms (Appendix 8) were then distributed to the students and collected shortly afterwards. This was to ensure that the return rate of the forms was 100% and I managed to collect them all. Although the students were asked to make their decision and sign the consent forms in such a short time, I repeatedly assured the students that they had the right to withdraw from participation at any time they wanted, even though they had agreed at that point in time. In addition, I also reassured them that not participating or withdrawing from the research would not in any way affect their relationship with the module leader and tutors. Twenty students agreed to participate in the research and all twenty attended the interviews.

An overview of the demographics of the sample is presented in Table 4.1 below, extracted from Part C of Appendix 8. The information about students' background would be useful for data analysis at a later stage. A detailed version is presented in Chapter 5.

Table 4.1: Overview of sample demography according to gender

	Male	Female	Total
Age range: 20-25	4	3	**7**
26 or more	4	2	**6**
Unknown age range	1	6	**7**
MSc Finance	7	3	**10**
MSc Financial Management	2	8	**10**
UK students	5	3	**8**
International students	4	8	**12**
Education background with professional degree	1	1	**2**
CT module	3	1	**4**
Total Number:	**9**	**11**	**20**

Kvale and Flick (2007) point out that "an interview inquiry is a moral enterprise" (p.23), because it involves human interaction. Researchers will employ their own moral compass (King and Horrocks, 2010) throughout the whole inquiry process; as a result, the ethical issues cannot be neglected because consideration safeguards the researcher and the participant.

The ethical approach in this study adhered to the six key principles suggested by the Economic Social Research Council (2010), in its Research Ethical Framework (REF):

1. The research was reviewed by the University Research Ethics Committee of the university where the research was carried out. A detailed explanation and description of the nature of the research, its objectives and the instruments employed was reported in the application form,

including possible risks to the participants and the mitigation of such risks. This was to ensure integrity, quality and transparency (Principles 1, 2, 5 and 6 of REF).

2. FFM students were fully informed on the nature and purposes of the study and informed that data was to be collected using interviews and documents, particularly reflective workbooks and IRR, and their consent to participate was sought (Principle 2 of REF)

3. Students were assured that all data collected would be kept strictly confidential and only the researcher would have access to this information. They were informed that extracts from interviews and the IRR and the reflective workbook might be quoted within the Ph.D. thesis and other research reports, but that such extracts would be anonymous, through the use of pseudonyms (Principle 3 of REF).

4. Consent was sought for access to reflective workbooks and IRRs and to participate in the interviews. Students were assured that their participation was completely voluntary and that they could withdraw at any time (Principle 4 of REF).

Kvale and Flick (2007) and King and Horrocks (2010) also observe that ethical issues should be considered throughout the whole inquiry process. In other words, ethical issues do not stop with the interviews; they still need to be considered afterwards. I was fully aware of these ethical issues and strived to adhere to the six key principles throughout the whole inquiry process.

4.4.5 Stage 4: Collecting data: semi-structured interviews and IRR

a. Administering the interviews

The interviews took place within the period from mid-December 2010 to February 2011. The timing of interviews was crucial because they had to take place only after the students' submission of the case study assignment and IRR, which were scheduled on 2nd and 16th December respectively. The scheduling of interviews was entirely dependent on the students' preferred times and dates,

allowing students to commit to the interviews without having to rush off for other activities or plans. This was an important factor in creating a situation (Ghauri and Grønhaug, 2005) where students were motivated to offer their time for the interviews and also to answer the interview questions. Students were reminded via email and text messages that they were to read their IRR and the reflective workbook before attending the interviews. This reminder would help them to recall their learning experiences and reflective activities, given that there was a delay between the activities and interviews. The interviews were held in the Ph.D. students' common room, and a do-not-disturb sign was put up outside the door whenever the interviews took place to minimise interruption. The common room setting was informal, with two big sofas and a low table. This informal setting generated an atmosphere where students felt comfortable and at ease.

I brought with me the interview protocol (Appendix 5), which provided the prompting questions to avoid awkward pauses as experienced in the pilot interview. This interview protocol also allowed me to maintain a balance in structure, as I aimed to bring in the important questions that I thought to be relevant for the study; at the same time, students were able to bring in topics that they thought to be relevant and important. Students were informed that the interviews would be recorded using a digital recorder. Confidentiality and anonymity issues were reiterated at the beginning of the interviews. The purposes of the study and interview were briefed again here to orient the students and minimise any concerns relating to the interviews.

Each interview started with this question: **Tell me about the group assignment** (see Appendix 5, p.3, part 1, Q1). Subsequent questions would follow students' natural train of thought with probing questions from the protocol. Following Ashworth and Lucas's (2000) advice, the interview should be regarded as a conversational partnership, so that the questions posed should not be based on the researcher's presumptions about the phenomenon or the participant, but should emerge out of the interest to make clear their experience. In essence,

the interview protocol served as a reminder of key questions and prompts to ask, depending on the interviewees' responses during the interview.

With the research objective in mind, I also asked the following questions and prompts:

1. Tell me how would you do the assignment differently?
    a. Do you enjoy working with others? Why?
    b. Tell me why you prefer to work by yourself? (See Appendix 5, p.3, part 1, Q2)
2. What do you think are the key factors for a group to learn effectively? (See Appendix 5, p.4, part 1 , Q3)
3. What do you think about group learning? How do you feel about this learning experience? Why? (See Appendix 5, p.4, part 1, Q4)
4. How did you come about the assumptions made for the case study?
    a. What would you do if your views were challenged by your group members? (See Appendix 5, p.5, part 2, Q3)
5. Can you sum up the whole learning experience for me again by relating to group learning and critical thinking? (See Appendix 5, p.6, part 3, Q2)
6. What do you understand by critical thinking? (This question was not listed in the interview guide but I used it with the participants as a key prompt question for the interviews).

I also wrote down important points (field-notes) immediately after conducting each interview. I noted down the duration of each interview, the overall impression of the students and the interviews as a whole, non-verbal communication such as emotions observed, some observations that came to my mind at that point of time and my reflection on each interview. These notes were of great help when I listened back to the recordings and analysing the data in later stages.

After completing four interviews, I listened to the tape recordings to review and appraise the interview sessions. This allowed me to identify any weaknesses in

conducting the interviews and address them in future interviews. It also provided me with the opportunity to familiarise myself with the interview questions and the students' possible responses.

All interviews were recorded using a digital recorder and lasted between 35 minutes and one hour and 15 minutes each.

b. Collecting data from IRR

In view of the IRR as a *reflexive report* that was used to record an individual's interpretation, feelings, perceptions and behaviour changes from their experiences (Cohen, Manion and Morrison, 2000), it enabled me to collect information about behaviours and reflections that could not be communicated through interviews.

Students were required to hand in their reflective workbooks and IRRs, which enabled me to collect information about the sequencing of time and activities, since the IRR requirements were contextually based. According to Mason (2002), an IRR can be used to "verify or contextualize or clarify personal collections and other forms of data derived from interviewing" (ibid, p.108). In other words, the IRR is a *reflexive report* that was used to collect an individual's interpretation, feelings, perceptions and behaviour changes from their experiences (Cohen, Manion and Morrison, 2000).

4.4.6 Stage 5: Interview transcriptions and proofreading

All twenty interviews were sent to the same professional transcriber, and subsequently were proofread by me. The professional transcriber picked up the pauses, ums and aahs, as well as the laughter and interruptions that occur in some of the sessions. Such a transcribing manner increased the quality and reliability of transcription and the 'truthfulness and faithfulness' of data.

Each interview was proofread at least twice to ensure accuracy. The transcriber managed to capture about 90% of the interview content, with blanks that were

mainly referring to technical terms in accounting and finance subjects or names of people.

One of the weaknesses of written transcription is that it cannot capture the full expression of the feeling from the participants. For example, laughter noted in the transcript may not indicate whether it is laughter of relief, laughter out joy or nervous laughter. I paid special attention to the emotion expressed in written form by revisiting the tape recordings, so that the context and the true meaning of expression could be interpreted and understood as clearly as possible in later analysis stages.

After this, the inquiry process proceeded to the next important phase, i.e. data analysis. Data analysis is placed at stage 6 of the process in figure 4.3 (section 4.4). It involves a few more stages within itself: therefore, it is considered in another new section in this chapter, section 4.5.

4.5 Process of Data Analysis

The following sections explain the stages involved in the process of data analysis as set out in figure 4.3 below:
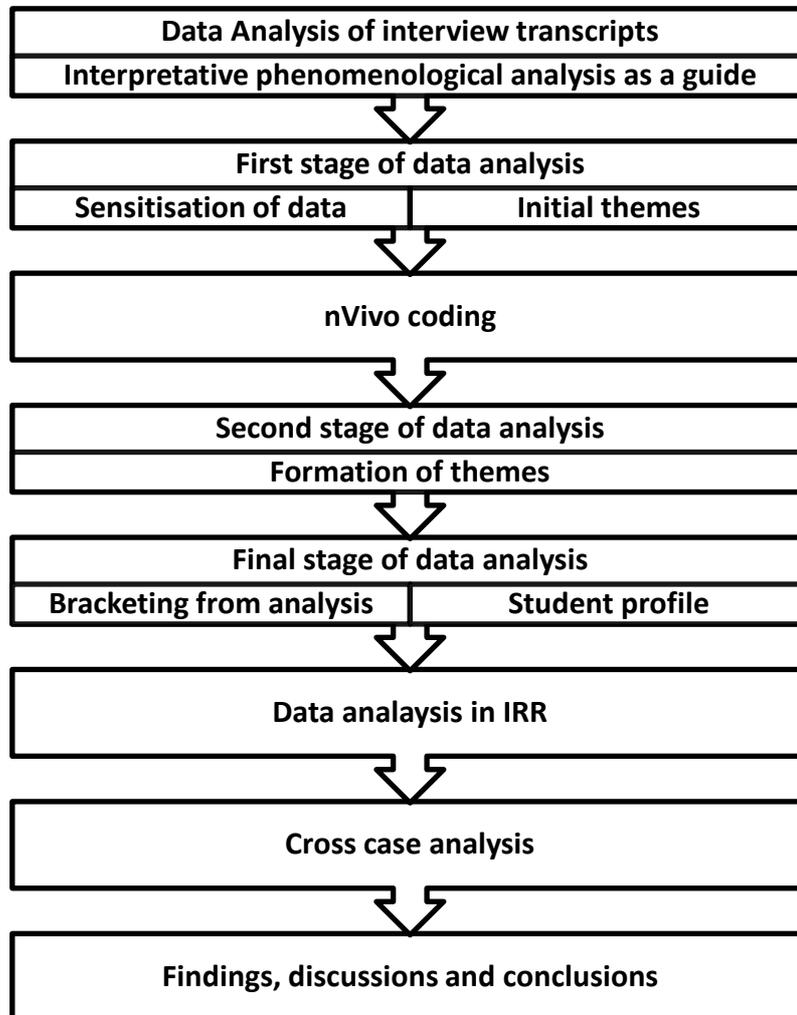
| Data Analysis of interview transcripts |
| Interpretative phenomenological analysis as a guide |

| First stage of data analysis | |
| Sensitisation of data | Initial themes |

| nVivo coding |

| Second stage of data analysis |
| Formation of themes |

| Final stage of data analysis | |
| Bracketing from analysis | Student profile |

| Data analaysis in IRR |

| Cross case analysis |

| Findings, discussions and conclusions |

Figure 4.3: Stages of Data Analysis

4.5.1 Interpretative Phenomenological Analysis (IPA) as the guide for data analysis

There is a range of approaches to qualitative analysis, and as a novice researcher, I have come across and read many 'how-to' descriptions and step-by-step qualitative data analysis guides. As mentioned earlier, I am convinced by the notion of pragmatism (Rapley, 2011) such that a practical approach

should be used if it helps me to achieve the ultimate objective of the exercise, i.e. data are analysed, interpreted and able to generate findings. My stance adopted for this practical approach to data analysis can be supported by the fact that many data analysis approaches can be reduced to generic analytic practices because they share common emphases and key phases, such as familiarisation with the data, labelling data systematically, and review and reflection on the analysis stages (Rapley, 2011).

I decided to use Interpretative Phenomenological Analysis (IPA: Smith, Flowers and Larkin, 2009) as a guide rather than a 'rule book' for my data analysis exercise. IPA helped me to analyse my data with rigour, and strategically. In addition, IPA (within the interpretivist paradigm) shares many similar positions with constructivism, especially in relation to its ontological and epistemological perspectives.

The following sections detail the stages I undertook to analyse the interview data. In theory, there are four main stages in IPA (Smith, Flowers and Larkin, 2009):

- Stage 1: First encounter with the text
- Stage 2: Preliminary themes identified
- Stage 3: Grouping themes together as clusters
- Stage 4: Tabulating themes in a summary table

However, it can be seen in figure 4.3 that I did not follow this strict stage-by-stage process as suggested in IPA textbooks. I also used other approaches such as 'bracketing' and student profiles in between the stages to analyse my data because they were useful and practical; a pragmatic approach can be observed throughout this process.

To exercise and facilitate the reflexivity element in this data analysis phase, I kept a personal diary to record all thoughts, views, reflections, feelings and experiences each time I spent analysing data.

4.5.2 First stage of data analysis: sensitisation of data and generating initial themes

The objective at this stage was to familiarise myself with the data and become sensitive to it. I undertook six main activities for each transcription:

1. Activity 1: I listened to the recordings again and jotted down the *immediate* thoughts and ideas that came to me as I was listening to them. This was done without reading the transcripts at the same time.

2. Activity 2: This time, I read the transcripts and jotted down what was interesting in the data and what came to me as I read, without listening to the recordings at the same time.

3. Activity 3: Now, I listened to the tape recordings and read the transcripts at the same time, jotting down again what was interesting in the data and what ideas came as I listen and read. However, attention was given to the expression, like long pauses and sighing, and I underlined words or phrases when they were emphasised with louder tone.

4. Activity 4: I wrote a reflective account of the activities.

I always completed all four activities for each interview before proceeding with the next transcript, in order to become fully immersed in the data. The sensitisation of data was achieved, whereby I could normally associate the interviewees when key quotations were cited.

Following this, I wrote a descriptive summary in the left margin of the transcript (Activity 5). The entire text of the transcript was divided into descriptive summaries which captured the interviewees' meanings as closely as possible. This exercise was similar to that of creating meaning units or meaning condensation in phenomenological analysis (Giorgi, 1975, cited in Kvale, 2007, pp. 107-108).

After writing descriptive summaries for each transcript, initial themes or emerging themes were written down in the right margin (Activity 6). These

themes were just short phrases that attempted to capture the interviewees' perceptions, meaning-making and experiences which were relevant and significant for the study, drawing from the descriptive summaries.

The main objective of this stage was to allow me to slow down and dwell on what was being said and the manner in which it was being said, to be fully immersed in and familiar with the data in order to generate meaningful themes in a later stage.

Initial themes were identified as below:

1. Activities associated with group learning
2. Activities associated with critical thinking
3. Emotions, feelings, and reactions emerging from students' learning experiences
4. Meanings of critical thinking and group learning

4.5.3 nViVo Coding

After identifying the initial themes, I uploaded all the transcriptions (raw data) into the nViVo software.

I used nViVo for coding quotations with the initial themes above, and kept myself open to any possible themes and ideas emerging at a later stage. nVivo was used mainly for retrieving quotations effectively and efficiently in terms of time and speed. nViVo was not used as an analysis tool, as the objectives here were to understand 'deeply' the students' experience and to find their voices. I felt that nViVo could not provide the 'richness' in analysing the data compared to human analysis and interpretation. For instance, nViVo would not be able to pick up the emotion expressed in each transcript compared to human attentive listening to the recorded tape. This is one limitation of using software packages for data analysis and interpretation purposes.

4.5.4 Second stage of data analysis: clustering initial themes and formation of main themes

With the identification of initial themes, the second stage involved clustering the initial themes identified at the first stage. Here I looked at the connection of the initial themes in order to further summarise the data. By doing so, I aimed to summarise the data into meaningful clusters of themes. At this stage, I had been working with the data, listening attentively to the voices from the students and myself to establish the final themes – the end results, i.e. findings for this study.

The main themes started to take shape at this stage:

1. Perceptions on critical thinking and group learning
2. Interaction and discussion in group learning
3. Students' responses to learning
4. Students' orientation to group learning

4.5.5 Final stage of data analysis: bracketing and student profiles

The final stage involved a process of re-analysing of the themes with the intention to give the voice back to the students *more.* This involved bracketing and developing student profiles (Ashworth and Lucas, 2000).

Bracketing originated within the tradition of phenomenology advanced by Husserl (1931). According to Husserl (1931), bracketing means that prior knowledge can be suspended and set aside so that fresh interpretation can take place without the influence of these interpretive influences. For Husserl (1931), this demands that the researcher look beyond constructions, preconceptions and assumptions to the essence of the experience being investigated.

 For Ashworth and Lucas (2000), bracketing refers to "the need for the researcher to set aside his or her own assumptions, so far as is possible, in order to register the student's own point of view"(p.297). They argue that the

ultimate aim of 'bracketing' is to focus on the students' experienced world; therefore, steps must be taken to bracket anything that would divert us from the students' experience (ibid, p.297).

In other words, researchers should bracket anything that would affect the analysis. Ashworth and Lucas (2000) suggest a few presuppositions that must be bracketed. For example, one of the presuppositions bracketed from the process is those previous theories and findings that may be relevant to the study. Doing this not only gave the students their voice in the data and findings at a later stage, but also helped to achieve empathy and enhance engagement with the students' experiences (Ashworth and Lucas, 2000). Ashworth and Lucas point out that "it is the research participant's experience which should be revealed, not the researcher's expectations" (ibid, p.298).

A student profile was created for each student, and this involved reading through each transcript again, taking into consideration the students' backgrounds, experiences and unique expression from their interviews. Ashworth and Lucas (2000) also observed that an individual profile is an important context for the meanings of quotations. Therefore, creating such profiles reduced the risk of interpreting a meaning out of context. The production of student profiles also helped in understanding students' *unique* perceptions, responses and experiences, especially relating to critical thinking and group learning. Each student owned their respective salient aspects of their experience that recurred in the interview. In other words, the students' profiles helped to make their voices *clearer* in the data. In brief, the production of student profiles allows the researcher:

a) To be sensitised to the data,
b) To maintain the individual's unique experience during the cross-case analysis,
c) To provide evidence of 'internal validity', which refers to the consistency in students' accounts (Ashworth & Lucas, 2000).

However, this is a challenging task due to the students' command of and proficiency in English. For example, some students used the terms 'group work' and 'group learning' interchangeably, even though the interview questions were explicitly asking about group learning rather the task (group work) they undertook. Certain terms were also used very loosely in students' comments that could be open for me to interpret. Terms such as 'right' answer can be interpreted as 'absolutely correct answer' and 'optimum' answer. Therefore, these two activities and a careful and reiterative process that involved a continuous cycle of reduction and interpretation helped to clarify what students meant in their comments and responses. Most importantly, such awareness is vital in data analysis to minimise any meaning being taken out of context.

4.5.6 Analysing data in Individual Reflective Report (IRR)

The IRR was a reflective report of no more than 1500 words – a maximum of three pages in total – which was the additional source of data in this study. The stages involved in analysing data from the IRR were fewer but the essence and emphases were the same as with the interview transcriptions.

Before attending to the IRR, each transcript was read again and the tape recording was revisited if necessary. The objective was to examine whether the students' reflections were consistent with their interviews, particularly relating to the perceptions of critical thinking and group learning.

The development of themes from the IRR was easy in some cases and challenging in others, depending on students' reflective writing. This was also dependent on whether students appreciated the guide on the IRR which was given beforehand. Out of 20 reports, five were considered as not useful because of the nature of the writing, which was descriptive rather than reflective.

In the later data analysis stage, the IRRs were re-evaluated, and ultimately were not used as part of the data in this study. This was because the quality of reflection was questionable, due to the limitation of 'writing for a grade' as

discussed by Dyment and O'Connell (2011). For example, I asked students what critical thinking meant to them in the very first instance in writing up this IRR, but many students quoted other authors' definitions of CT rather than giving their own perceptions; one common example they used was from Cottrell's (2005) text. The IRR also suffered limitations relating to the time delay between recalling experiences and recording reflections. It was a matter of good faith that FFM students were taking heed of the advice from the IRR guide (Appendix 7) to make reflective points as often as possible in their reflective workbooks, to minimize this limitation. Many of them were 'reporting' the events and the entries were quite factual, rather than their reflection points. Due to the observations above, it was decided that the primary data collected via the semi-structured interviews would be the data set for analysis and findings for the study.

4.5.7 Cross-case analysis

As highlighted earlier, I went through all of these stages with one transcript before proceeding to the next one. Therefore, when working on the next interview transcription, I repeated the same stages and ended with the establishment of a final list of themes.

After completing the analysis of all the interview transcriptions, comparisons between students were made and studied. Analysis across the cases was achieved by putting the responses and comments from students, with related key themes, into matrices. By doing so, I attempted to draw some links about the final findings and also attempted to identify potential relationships between students' perceptions of critical thinking and the other findings of the study. The results of such analytical processes brought back the student profile as the unit of analysis again, but with the aim to explore and understand the relationships further, especially because 'outliers' were identified. The detailed analytical processes, using matrices, student profiles and outliers, are considered more fully in Chapter 7.

One important finding during this cross-case analysis was the identification of students' personal stance within the context of the study. Identification of the students' personal stance has become an important cornerstone for the whole data analysis at later stage: therefore, it warrants detailed discussion and attention in the next section (section 4.5.8).

4.5.8 Identification of students' personal stance and contextual responses

During the process of analysing students' interviews and developing student profiles, it was interesting to hear students expressing their views on particular issues, particularly their perceptions of critical thinking and group learning, critical responses and their orientations to group learning. To understand the possible relationship among these perceptions, responses and orientations, I considered Salmon's concept of 'personal stance' (Salmon, 1989), as discussed in section 1.4.3, and the Constructive Controversy Theory considered in section 3.3.1.

Salmon's (1989) arguments suggest a holistic nature of the personal stance and its purposes. The data analysis process drew my attention to this conception of stance that students revealed in the interview. Working through a series of cycles of data analysis and interpretation, the design of an interview protocol with probing questions served its purpose in this area. As I tried to capture the essence of students' perceptions and their ways of thinking and acting in this context of group learning, some of the interview questions were helpful to elicit the 'stance' (whether open, closed or avoidance) from students' comments. These included questions such as:

1. What do you understand by critical thinking?
2. What do you think about group learning?
3. Do you enjoy working with others?
4. What would you do if your views were challenged/rejected by your group members?

Students' orientations to group learning are also considered as a stance in this study, because it refers to the position/preference students take toward the social setting of learning. I argue that when students are asked to participate in group learning, they have already brought in their stance to this context of learning. In other words, students revealed an orientation that either favoured or was against this social setting for learning. In addition, I have also identified their stance about their willingness to engage in conflict in this social context of learning.

At the same time, in the process of analysing and interpreting data – for example, the perception of critical thinking – students would generally first describe and explain their perceptions in relation to these 'broad' questions. However, most students would then use some of their experiences and examples to further explain their perceptions. In this sense, the stance is first identified by responses according to these 'broad' questions and then substantiated by other supporting comments and responses throughout the interview. Arguably, if the stance is what students 'take up in life' (Salmon, 1989), it should be reflected in any situation that students are situated in or responding to. In this view, perceptions can be a stance that students take in learning.

The interview equations also asked about students' responses during their interaction and discussion in group learning. One particular area was the actions or responses students described, especially when their views or ideas were challenged during the interaction and discussion in the context of group learning. They are termed *'critical responses'* in this study.

The identification of stance and contextual responses also align with Biggs' (1999) 3P constructivist learning model (considered in Chapter 1), which conceptualises the learning process as an interacting system of three Ps: Presage, Process and Product. In this model, perception is one of the important elements in Presage, as well as the contexts of learning. The search for a way to

conceptualise the relationship of these stances and responses is presented in the analytical framework of the study, shown as Figure 4.4 below.
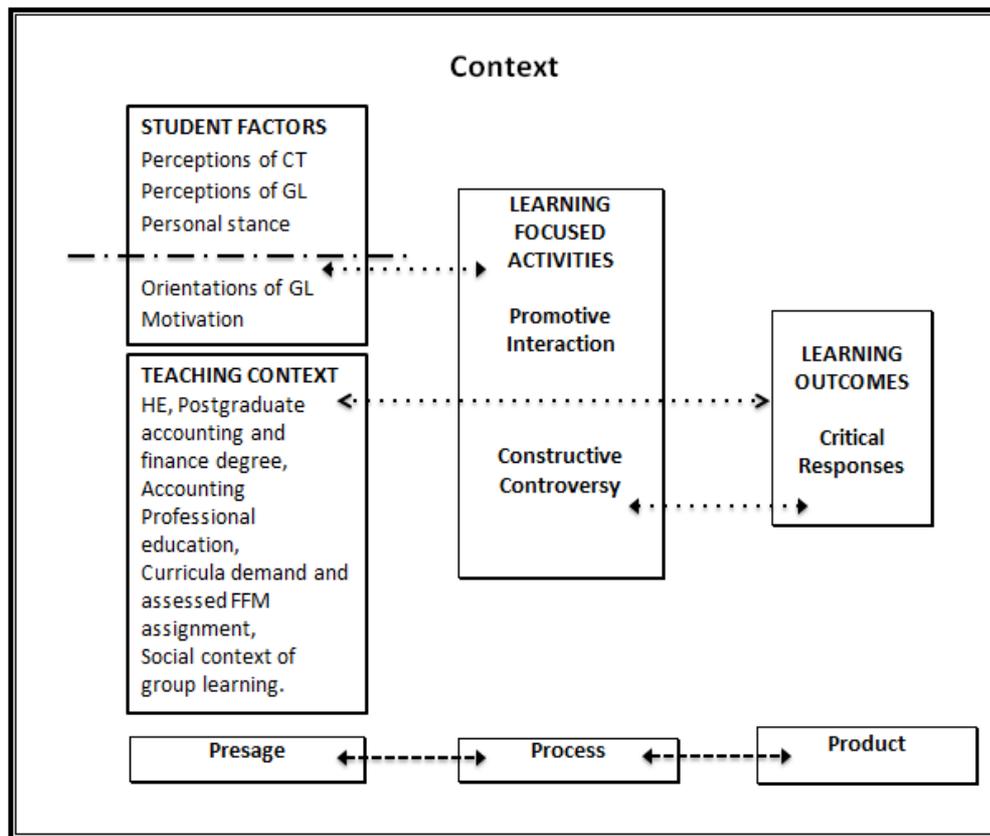

Figure 4.4: Analytical Framework of the study

To reiterate, the analytical framework for this study involves two stages. The first stage is to identify the significant variations of the ways in which students respond to the interview questions. The second stage is to explore the potential relationship among all the findings of the study by formulating matrices and student profiles, informed by Biggs' (1999) 3P model of learning.

4.6 Quality of this study

The sections above provide details about the whole inquiry process. However, the quality issues of a research study cannot be neglected and they are considered here. Although quality issues are deliberated at the end of this

chapter, it must be stressed that they have been considered thoroughly and carefully in the very beginning and throughout the inquiry process.

This study acknowledges the issues of credibility and validity of the research, referred to as 'trustworthiness' by some authors, such as Mason (2002). For constructivism as a research paradigm, Guba (1981) suggested the following four criteria that could be equated with the criteria employed by the positivist researcher:

1. Credibility (as equivalent to internal validity);
2. Transferability (as equivalent to external validity/generalisability);
3. Dependability (as equivalent to reliability);
4. Confirmability (as equivalent to objectivity)

Many authors have discussed strategies and approaches to enhance these criteria in qualitative studies (Silverman, 2010; Golafshani, 2003; Mason, 2002; Cohen, Manion and Morrison, 2000). These strategies and approaches were applied in every stage of this study in order to produce high quality research.

Hammersley (2007) deliberated the issues of criteria for assessing the quality of qualitative research and concluded that it is possible and desirable (ibid, p.300). Here, I will reflect on the inquiry process of this study, using Hammersley's (2007) and Seale's (2004) notions of quality. According to Hammersley (2007):

1. Credibility: The persistent engagement in the study and the process of continuous searching for meanings in data analysis and interpretation enhance credibility. The active and iterative stages of data analysis could also enhance credibility.

2. Transferability: The thick description approach enhances the possibility of transferability to future studies in relation to critical thinking and group learning in similar contexts in other institutions.

3. Dependability: This relies on the audit trail so that the reader can see how and where practices and approaches were adopted in this inquiry

process. I have kept a reflexive journal for this research, which helped in constant cross-referencing and auditing/examining the rationales and consistency of approaches used in this study.

4. Confirmability: The issue of confirmability is concerned with objectivity. In this study, the beliefs and arguments for favouring one approach and decisions taken for the inquiry were fully explained. Shenton (2004) stressed that the audit trail is important in this matter so that the reader can trace and understand the course of the study step by step. This audit trail can be both diagrammatic and descriptive (ibid, p.72); I have used both methods in this thesis so that the reader can understand the inquiry process in a systematic manner.

Lastly, Seale's (2004) idea of good quality research has also been adopted in this study. Good quality research "does not depend on the adoption of a particular philosophical or theoretical position" (ibid, p.417), but is the "result from doing a research project, learning from the things that did and did not work, and then doing another, better one, that more fully integrates the creativity and craft skills of the researcher, and so on until a fully confident research style is developed" (ibid, p.410). Seale (2004) correctly pointed out that research students often feel obliged to 'theorise' their work and sometimes blindly follow methodological rules from the textbooks. I believed such an attitude would not only hinder the quality of the research, but also produce a study that would not hold up to criticism and testing. This notion of a reflexive approach was evident in the adoption of IPA for data analysis.

To conclude, this study upholds the rigour and quality of research for the entire inquiry process. Besides emphasising the practical and strategic notions, I also embrace a perspective of reflexivity and self-scrutiny in this study.

4.7 Summary and Conclusion

This chapter has discussed the relationship of the philosophical, ontological and epistemological perspectives of this study and justifies the choices made. I explained the meaning and importance of each philosophical issue for this study. Constructivism as a research paradigm was identified as the most suitable and was therefore adopted. One key point that has been stressed in relation to these philosophical issues in research is that they are intimately interrelated. They inform and influence researchers about their positions, choices and decisions for their research design and approaches.

This chapter has also provided essential and sufficient details about the contextual conditions. This is because the context plays an important role in data generation, analysis and interpretation in the later stages of the study. It provides the essential information that give rise to the findings.

The research design and approaches used in this study were examined in detail, setting out the justifications for the identified sample, FFM module, case study, IRR and the choice of semi-structured interviews for the study. The process of data analysis is also documented in detail.

It was then important for me as a researcher to reflect critically on the practice and instruments that I was going to choose and apply for the study. This is the reflexivity that is so important in high quality qualitative research. This everyday reflexive exercise allowed me to make sense of my research journey. It is a way to think through my research project during the entire process (Eriksson & Kovalainen, 2008). The purpose of the reflective exercise is to add rigour and enhance the quality of the research. The quality of this study was examined to add credibility to the findings presented in Chapters 5 and 6.