

CHAPTER FOUR

Research design and methodology

4.1 Introduction

In this chapter, the research design adopted for this study is discussed and justified. The discussions revolve around the research paradigm and the data collection practices. Therefore, the research methodology and the data analysis procedures are also explained. In addition, the trustworthiness and other methods that were utilized, including ethical issues regarding this research are explained as they apply to this study. The research design chosen for this study is the qualitative/interpretive approach to construct meaning and find answers to the research questions.

4.2 Research paradigm

According to Guba (1990:17), research paradigm implies a ‘basic set of beliefs that guides action’. Henning, Renburg and Smith (2004) define a paradigm as “a theory or hypothesis” or “rather a framework within which theories are built which fundamentally influences how you see the world; your perspective and how it shapes understanding of how things are connected. Holding a particular worldview influences individual’s personal behaviour, professional practice and ultimately the position taken with regard to the subject of research”.

A paradigm may be viewed as a set of basic beliefs or assumptions... that deals with the ultimate of first principles. It represents a worldview that defines for its holder, the nature of the world, the individuals in it, and the range of possible relationships to that world and its part ...The beliefs are basic in the sense that they must simply be on faith (however argued); there is no way to establish their ultimate truthfulness; if there were, the philosophical debates...would have been resolved millennia ago” (Guba and Lincoln, 1994:107-108).

“Research paradigms define for the researcher what they are about and what falls within and outside the limits of legitimate research” (Guba and Lincoln, 1994:108). The basic principles and fundamental assumptions that describe a particular paradigm are categorized into: ontology, epistemology and methodology. These assumptions justify the paradigm adopted in

this study. “Ontological assumptions give rise to epistemological assumptions. These in turn, give rise to methodological considerations (which give rise to issues of instrumentation and data collection” (Cohen, Manion and Morrison, 2007:5). They are discussed below.

4.2.1 Ontology

The central endeavour of the interpretive context is to “understand the subjective world of human experience, that is, to retain the integrity of the phenomenon being investigated. Since the examination of the situations is through the eyes of the participants rather than the researcher”. There are ‘multiple interpretations of, and perspectives on single events; situations and reality is multi-layered and complex’ (Cohen, Manion and Morison, 2007:21). The researcher accepts that reality is multiple and subjective and constructed by the participant and that, it is best understood from the perspective of the participant who experiences it (Cresswell, 2007:15-34).

Therefore, the researcher sought different views and the opinions of the participants as they emerge from their own world, because as stated by Healy and Perry (2000:123-132) realities are “multiple” depending on peoples’ and what they have in their minds. Exploring this context to construct reality will depends on the interactions between the interviewer and respondents, that is, the researcher became a “passionate participant” during his or her field work. Hence, the researcher in this study had a one on one interaction with the participants in order to understand their world-view on how leadership and management dynamics contribute to school effectiveness.

4.2.2 Epistemology

Seeking knowledge is about seeking the truth and seeking the truth is about understanding the phenomena that one is dealing with and; understanding what works best in a particular context (Cresswell, 2007:15-34). “Epistemology looks at how one knows reality, the method of knowing the nature of reality or how one comes to know reality; assuming the relationship between the knower and the known” (Nieuwenhuis, 2007:55). Epistemological reflection depicts individual epistemology as socially created and context-bound and “the consequence of the context in which the action occurs is shaped by the cultural, historical, political and social norms that operate within the context and time” (Darlaston-Jones, 2007:19-27).

“People actively construct or make meaning of their own experiences – they interpret what happens to them, evaluate it using current perspective and draw conclusions about what experiences mean to them” (Magolda, 2004:31-42 and Darlaston-Jones, (2007)19-27), but these socially constructed knowledge may vary contingent on the circumstances (Golafshani, 2003:597-607).

To understand the phenomenon under study better, the researcher interacted closely with the participants through interviews and observation of occurrences in the natural settings and each participant constructed their perceptions of their leadership and management practices and experiences. This enabled the researcher to understand how the participants’ leadership and management practices contribute to school effectiveness; because the aim of qualitative research is to engage in research that makes inquiry for in-depth understanding rather than probing the surface features of a phenomenon (Golafshani, 2003:597-607).

4.3 The qualitative research applicable to the investigation

Qualitative research is the umbrella term used for a wide range of approaches such as the interpretive and constructivist approach to research (Nieuwenhuis, 2007:50). The basics to the understanding of qualitative research lie in with the meaning being constructed. Meaning can be socially constructed by individuals through interactions with their world, implying that reality is not fixed or single. Instead, there are “multiple constructions and interpretations of reality that are in flux and that change over time” (Merriam, 2002:3). In essence, qualitative research is utilizes the naturalistic approach that seeks to understand a phenomenon in context-specific settings, such as “real world” settings in which the researcher does not attempt to manipulate the phenomenon of interest (Merriam, 2002:4; Golafshani, 2003:597-607 and Cresswell, 2007:37).

This means that, “qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings that people bring to them. It begins by accepting that there is a range of different ways of making sense of the world and is concerned with discovering the meanings seen by those who are being researched and with understanding their view of the world rather than that of the researchers” (Denzin and Lincoln, 2005:3). Moreover, Cohen (2007:8) cites Burrell and Morgan (1979) and Kirk and Miller (1986:14) that, emphasis on qualitative research is on explanation and understanding

of the unique and particular individual case rather than the general and the universal; the interest is on a subjective, relativistic social world rather than an absolutist, external reality.

Interpretivist research set-out to understand the interpretation of individuals interpretation of the world around them (Cohen, et. al., 2007:22). Therefore, the interpretive research believes that reality is not objectively determined, but socially constructed (Denzin and Lincoln, 2005:1 and Kelliher, 2005:123-132). Therefore, “the underlying assumption is that by placing people in their social context, there is greater opportunity to understand the perceptions they have of their own activities. By its nature, interpretivism promotes the value of qualitative data in pursuit of knowledge and the research paradigm is in essence concerned with the uniqueness of a particular situation, contributing to the underlying pursuit of contextual depth” (Kelliher, 2005:123-132 and Williams, 2000:209-224). In addition, there is no attempt to manipulate behaviour of participants (Ary, Jacobs, Razavieh and Sorensen, 2006; Cresswell, 2007:78).

Therefore, the researcher of this study seeks to understand in-depth social reality from the viewpoint of how individual participants in the study understand their leadership and management practices and experiences. Interpretive research allows maximum involvement in data collection by the researcher. When conducting qualitative research there is active participation by the researcher, because the researcher often immerses himself in the research setting, thereby becoming part of the participants under study, in order to understand meaning and significance; since data analysis and interpretation is an on-going activity for the interpretivist researcher (Schultz and Hatch, 1996). "In contrast to the causal mode of functionalist analysis, interpretive analysis is associative" because, for the interpretivist, what is meaningful emerges from the data therefore, the process of presenting the narrative of the participant that speaks is inductive.

4.4 Research method/design

Research methodology is an orchestrating dynamic for data collection strategies used for research. The suitable method for this research is the case study, because this research “revolves around the in-depth study of a single event or a series of a linked cases over a defined period of time” (Hitchcock and Hughes, 1995:317). A research design, according to Yin (1994:19), is “an action from getting from here to there, where ‘here’ is the initial set of

questions and ‘there’ are the set of answers” Research design is ruled by the notion of the fitness of purpose (Cohen, Manion and Morrison, 2007:78), hence, the purpose of the research is to explore how leadership and management dynamics contribute to school effectiveness.

Therefore, the case study research design was employed in this study. Cohen, et. al., (2007:254) hold that case studies could be used to “portray ‘what it is like’ to be in a particular situation, to catch the close up reality and the ‘thick description’ of participants’ lived experiences of, thoughts about and feelings for a situation”. They involve looking at a case or phenomenon in its real life context, usually employing many types of data. They are descriptive and detailed, with a narrow focus, combining subjective and objective data. Case study is particularly useful “especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 2003:13). In essence, a clear evidence is necessary to indicate how teachers and SLMT exhibit leadership and management towards attaining school effectiveness or otherwise.

Case study research is concerned with systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest (Nieuwenhuis, 2007:75), in a social setting to permit the researcher to understand how it operates or functions (Berg, 2001:225). Qualitative research uses a case study research design to “denote that the data analysis focuses on one phenomenon, which the researcher selects to understand in-depth regardless of the number of sites or participants in the study” (McMillan and Schumacher, 2001:398). Case studies offer a multi-perspective analysis in which the researcher considers not just the voice of one or two participants in a situation, but also the views of other relevant groups of actors and the interaction between them (Nieuwenhuis, 2007:75).

Nevertheless, the two case studies were adopted in this study. That is, the researcher investigated each case of two schools - a performing and under-performing secondary school - in terms of the internal school leadership and management practices of the role players within the school. That is, how the principal, vice-principal, Head of Department (HOD) and teacher contribute to school effectiveness. The two case studies provided wider scope of the context and also gave detailed description and analysis by providing in-depth understanding of the two cases (Cohen, Manion and Morrison, 2005; Ary, Jacobs, Razavieh and Sorensen,

2006; Cresswell, 2007:78). Since two different schools with different academic performance results (performing and under-performing were compared in this study, an in-depth understanding of each of the schools was established based on their profiles, including those of the participants sampled in this study. The profiles gathered about both schools are summarised in the Table 4.1 below.

Table 4.1: Profiles of achieving and under-achieving schools: A and B

School	A	B
History of the school	Established in 1983 with a total of 385 students.	Established in 1979 with a total of 472 students.
Socio-economic environment of the school	Far from main roads and shopping malls and therefore serene.	Far from main roads and shopping malls, but Somewhat serene.
Principal's experience and qualification	First worked as a clerk of a secondary principal, as a young boy after completing his secondary education. Afterwards, he served as a teacher and a HOD for sixteen years. He has been serving as a principal for five years as a Principal.	First worked as a secondary school teacher before obtaining his Masters' degree and later served as a teacher and HOD for nineteen years. He has been serving as a Principal for eight years.
Vice-principals experience and qualification	Possesses a Masters' degree in science Education. Served as Biology teacher and later moved to the position of HOD, before becoming a vice-principal after twenty years of service in the teaching profession. Has spent four as a	Possesses a Masters' degree in French Language. Served as French teacher and later moved to the position of HOD after fifteen years of service, then later become a vice-principal after twenty-five years of service in the teaching profession. Has just spent four as a vice-principal.

School	A	B
	Vice-principal.	
HODs experience and qualification	Previously served as an English teacher in a private high school for ten years and currently serving as an HOD for the past six years in present school.	Served as a History teacher for ten years with a private school and currently serving a HOD. He has been a HOD for eight.
Students Leaders – [class captains]	The students' leaders or class captain is in the final year of her study - SSS III. She serves as intermediaries between the students' class and the teachers in relation to instruction delivery by the teacher.	The students' leaders or class captain is in the final year of his study - SSS III class. She serves as intermediaries between the students' class and the teachers in relation to instruction delivery by the teacher.
English Teacher's experience and qualification	Possesses a Masters' degree in English Language and has been teaching English Language for eleven years.	Possess a Masters' degree in English Language and has been teaching English Language for thirteen years.
Number of teachers in the school and percentages of their academic	Twenty-two teachers with 51% of them having Masters degrees and 49%, Honours degree.	Twenty-two teachers with 21% of them having Masters degrees and 79% Honours degree.

School	A	B
qualifications.		
Student enrolment (Present)	1,337 students' population. 63% girls and 37% boys.	1,389 students' population. 54% girls and 46% boys.
Average teacher/student ratio	1:60 (Teacher student ratio).	1:60 (Teacher student ratio).
Parental support	Regular attendance of Parents-Teachers' Association (PTA) meetings (at least 90% attendance) and regular and prompt payment of PTA annual fees.	Irregular attendance of PTA meetings (at most 38 % attendance) and no prompt payment of PTA annual fees
Technical support	Two Career guidance counsellors available (One of them employed by the PTA).	Two Career guidance counsellors available.

4.5 Research sample and sampling technique applicable to the study

Sampling refers to the process used to select a portion of the population for study (Nieuwenhuis, 2007:5) draws conclusions about the whole population (Zikmund, 2000:338). As stated by Cresswell (2007:37), qualitative researchers tend to collect data in the site where participants experience the issue or problem under study. The study sample was drawn from one, out of the five of the Education Districts in Lagos State-Nigeria and purposive sampling method was used to carefully sample the appropriate schools. The reason for the researcher's focus on the sampled Education District is, because there are quite a number of under-performing schools and few number of performing schools, which is not common in other education districts. In purposive sampling, researchers choose the cases to be included in the sample on the basis of judging their typicality, or possession of

the particular characteristics being sought, that is, build on a sample that is satisfactory to their specific need (Cohen, et. al., 2007:115). Purposive sampling was done to also increase the utility of the information obtained from small samples (McMillan and Schumacher, 2001:401).

Because qualitative approach to research is characterised by a lower sample than quantitative research, the participants are selected to increase variability and represent the natural population. Usually, forms of non-probability sampling such as accidental or purposive are used (Sarantakos, 1993:140). Therefore, two public secondary schools were purposefully sampled from a comparable socio-economic environment area with less than five kilometres apart - one performing and under-performing school respectively – from one of the six existing Education Districts in Lagos State.

These schools were purposively sampled as they constitute sample that is satisfactory to the specific needs of this investigation (Cohen, et. al., 2007:114-115). Moreover, two principals, vice-principals, Head of Departments (HODs), English Language teachers and student leaders (class captains) from each of the two sampled schools were interviewed. The reason for purposively sampling principals, vice-principals and the HODs in each school is, because they constitute the internal leadership and management team members in the schools. However, the HOD participants sampled were chosen, because they possess more years of work experience as HODs compared to the other HODs in the sampled schools, as evident by the revelation of their profiles to the researcher through documentation.

Drawing from Merriam's (2001) description of purposeful sample, the researcher's participants possess similar criteria in terms of profile (see Table 4.1) which guaranteed some heterogeneity in my sample. The reason for selecting English Language teachers is, because they teach a compulsory subject that must be offered by every student in Nigerian schools. Hence, English Language is an over-arching subject that is taught in every school in Lagos State. Therefore, English Language class is usually filled with students and such a class can be used to measure a teacher's leadership and management practices during teaching and learning.

In addition, the profile records of the sampled teachers indicate that they are the most experienced and qualified English Language teachers who possess most years of teaching

English Language at the final year (Senior Secondary School [SSS] III classes), compared to other teachers who teach English Language at the SSS III classes within the sampled schools.

On the other hand, student leaders (class captains) of the particular classroom that were chosen for teaching practice observation of sampled teachers, were automatically chosen as participants, because they are the only ones authorized to lead (captain) and provide leadership in a class and their activities may also contribute to effective teaching and learning in the classrooms. That is, their activities contribute to the successful delivery of instruction in the classroom as they may also give accounts of the leadership and management teaching practice of their teachers. Therefore, the students' leaders' responses were utilized to corroborate or refute the interview responses of the teachers, as regards their leadership and management practices during teaching and learning. Merriam (1998:61) states that identifying participants specifically for that purpose enabled the researcher to discover, understand and gain insight from those who can most be learned.

After all, five participants emerged from each of the sampled schools, adding up to a total of ten participants from the two schools. More so, the principals, vice-principals, and HODs were sampled in order for the researcher to discover points of convergence or divergence in the participants' responses to interviews, as regards how their leadership and management practices contribute to school effectiveness. In addition, the students' interviews were meant to corroborate or contradict the interview responses of the sampled teachers on issues of how they manage their classroom during teaching.

The table below shows the categories and numbers of samples:

Table 4.2: *Categories of samples for interview*

Categories of Schools	Principals	Vice-principals	HODs	Teachers	Students	Total
Achieving school	01	01	01	01	01	05

Under-Achieving School	01	01	01	01	01	05
Total	02	02	02	02	02	10

4.6 Data-gathering methods

The evidence for a case study can come from six major sources, namely: interviews, documents, archival records, direct observation, participant observation and physical artefacts (Yin, 2003:13). A blend of data-gathering techniques was used for obtaining the data for this study. They include:

4.6.1 The literature

Literature review is a process of reading some background information that has been published and appears to be relevant to the research topic (Bless and Higson-Smith, 1995:22). Primary and secondary literature relevant to the study were critically examined, evaluated and objectively recorded to achieve the purpose of this study. The literature was also used to develop and identify sub-themes or indicators used to generate the interviews questions, documents analysis and; school and classroom observations schedule.

4.6.2 Interviews (semi-structured)

Interview is an interchange of views between two or more people on a topic of mutual interest. It allow participants - be they interviewers or interviewees - to discuss their interpretation of the world in which they live and to express how they regard situations from their own point of view. The order of the interview may be controlled while still allowing room for spontaneity and the interviewer can press not only for complete answers, but also for responses to complex and deep issues (Cohen, et. al., 2007:349). "Semi-structured interview contains a mix of more and less structured questions in which specific information is desired from the participants, and the largest part of the interview is guided by questions or issues to be explored" (Merriam, 2002:12). The guided interview was the main instrument to obtain

first-hand and in-depth information. Hence, the interview exercise was done based on a semi-structured format.

The principals, vice-principals and HODs were interviewed at agreed time of appointment for a period of at least 45 minutes at each time of appointment. They were interviewed on issues varying from teachers' development and training, how curriculum issues are solved, organisation of curriculum, creation of organisational climate and culture, management of changes in relation to the curriculum, resolution of conflicts, their expectations in relation to students' academic achievement, etc. [see interview schedule, Appendix 8]. On the other hand, the teachers and students were interviewed on issues pertaining to classroom management and teaching for a period of at least, 45 minutes at each time of appointment. Issues like, planning of teaching, teachers' method of teaching, how decisions are made during teaching, classroom climate, motivation of students during teaching and academic expectations of students were dealt with during the interviews [see interview schedule, Appendix 8].

The questions asked were semi-structured and they allowed the researcher to be flexible and probe deep in order to clarify misunderstanding of participants' response to questions asked. Interviews were conducted on dates of appointments given by the participants. The researcher interviewed the participants until data were saturated, that is, until no new information was forthcoming from the participants. The directions for the interviews were established by the researcher through probing of the last remarks made by the participants, making encouraging noise to show amazement, probing ideas preceding the last remarks by the informant, probing an ideas expressed earlier in interviews and introducing a new topics (Cohen, et. al., 2007:362-363). The in-depth interviews were audio-taped, generating a large amount of data.

Therefore, there was evidence of face-to-face interviews, because the researcher was able to probe and explain more and fully on the views of the participants concerning the phenomenon under study. Non-verbal behaviour to encourage the respondents to participate in the environment in which the interview was conducted with respect to the phenomenon was also possible. The face-to-face interview also enabled greater opportunities to control noise and external distractions. The potential for trust and cooperation between the interviewer and the respondents is high in face-to-face interviews (Cohen, et al., 2007:

219-221).

4.6.3 Observations

“Observation is the best technique when an activity, event or situation can be observed first-hand, when a fresh perspective is desired or when participants are not able or willing to discuss the phenomenon under study” (Merriam and Associates, 2002:13). Complete observation was adopted in this study, because it provided the researcher with more valid data that could have been routine to the objects or participants in the field, viewing the natural situation from a distance. The complete observer is typically hidden from the group or may be simply in a public setting observing public behaviour and observe and records events as they naturally occur (Ary, Jacobs, Razavieh and Sorensen, 2006; Cresswell, 2007:78). By observing behaviour first-hand, any discrepancy between perception and reality can be identified. However, observation of the school was carried out after obtaining the consent and approval of the school principals of the two sampled schools.

Observations were made by obtaining the consent of the school principal and the classroom teacher. The complete observation was used in the school and the classroom, because it was assumed that the awareness of the researcher’s presence in the school and classroom respectively, might influence the behaviour of the object or participants being observed - students and teachers. Consequently, the data gathered through this method relate directly to the sampled schools and lessons in the classroom.

Observing the participants allowed consideration of both formal and informal interactions, because it was conducted in the school and classroom’s natural settings on a long-term basis, in order to promote the reality of the participants. Observation in the school concerned issues such as, observed interactions where the morning announcements on the assembly ground, late arrivals in school of students and teachers in the school, interactions between staff members, and students, etc., was carried out through the research field-work. Observations helped the researcher to understand their practices and experiences of leadership and management, which the research participants described in their interviews better.

The behaviour check-list designed prior to the observation assisted in the complete observation of the schools and teaching in the classroom. The school observation schedule is

categorised under the following headings: school environment [climate and culture], sanitation and general physical outlook of the school environment, display of bulletin boards and adequacy of hallways space, well stocked and well used learning laboratories and library, well-structured classrooms and office buildings, play-grounds and teaching equipment, e.g. chalkboards, overhead-projectors, etc. and clearly defined policies on notice-boards on issues such as bullying and student welfare); school organisation (administrative and support staff to meet the needs of the students, class size and designs with good indoor air quality, comfortable environment, lightning, air temperature and design of classroom furniture (seats and desks).

On the other hand, the classroom observation schedule is categorized under the physical environment (physical environment and sitting arrangements, etc.), lesson presentation (organisation and assessment, students' participation, teaching aids utilization, teaching planning, teaching style, communication and motivation of students) and student/teacher relationship/interaction. Qualitative observations often use check-lists and behaviour observation tools developed by the researcher, prior to the observation in order to record document and observed behaviour (Ary, Jacobs, Razavieh and Sorensen, 2006).

4.6.4 Document analysis/review

Documentary information is seen as a major source of evidence used in case studies (Ary, Jacobs, Razavieh and Sorensen, 2006). The strength of documents as a data source lies with the fact that they already exist in the situation and are imbedded in the context, do not intrude upon or alter the settings in ways that the presence of the investigator could; nor are they dependent upon the whims of human beings whose cooperation is essential for collecting data, for example, via interviews and observation (Merriam, 2002:13). More so, documents are materials that can be used to supplement the interviews and stimulate the researcher's thinking about concepts emerging from the data (Strauss and Corbin, 1998). Documentary data are particularly good sources for qualitative case studies, because they ground an investigation in the context of the problem being investigated (Merriam, 2001:126).

Therefore, documents were collected from the schools visited and analysed. They are school policies, code of conduct for students, teacher's lesson plans and evaluation records of students. However, these documents served as secondary source of data and were used

mainly to support the interview and observation data. The school policy regarding the code of conduct of teachers and students on teacher on teaching and learning was reviewed by the researcher. This was done to discover how teaching and learning are guarded and ensured in the two case study schools. Moreover, the teachers' lesson plans which detail the lesson design, time allocation, procedure of teaching and lesson objectives, were sighted and reviewed by the researcher.

Data gathering was largely qualitative, but the final academic records of students' performance in each school for the past three years (2007-2009) were also retrieved, observed and reviewed. The results were culled from the national examination body - the West African Examinations Council (WAEC), which is the body in charge of the conducts of Senior Secondary School Certificate (SSSC) final examination- Hence, it was also confirmed by the sampled Education District office, where the schools are situated. The results were used to ascertain the high academic achievement and under-achievement status of the sampled schools. The performing schools and under-performing academic achievement records of the SSS students for a period of three years (2007-2009), were first identified with the assistance of the Education District officials and afterwards, they were traced to WAEC for final verification and inspection.

4.6.5 Field notes

Field notes can be used by researchers to justify, according to available information, the modifications and reformulations of the research problem and strategies (McMillan and Schumacher, 2001:398). The researcher's field notes also present data that were later analysed to provide an understanding of the research setting and the behaviour of the people within that setting. Field notes was used to record what the researcher hears, sees (observes), experiences and thinks in the course of collecting and reflecting on the process of data collection. Each tour in the school was based on the two schools' principal's permission enabling field notes to be taken. The field note data contributed to further steps in subsequent field-work and issues relevant during the analysis stage (Merriam, 1998:106; Ritchie and Lewis, 2003: 133).

4.6.6 Reflective diary

Reflections allow a researcher to question his or her experience, in order to have insight and understanding with a view to planning further action. It is a critical link between experience of the judgment and taking new action as a key to learning, because it enables one to develop ability to uncover and make explicit of what has been planned, discovered and achieved in practice (Coghlan and Brannick, 2010:24-25). The researcher encouraged each of the teachers observed to keep a reflective diary or notes, which contained details of their informed self-judgments on each of their classroom lessons with a view to improve their teaching.

4.7 Trustworthiness

In the process of data collection and analysis, triangulation is used to ensure that findings and analysis of the research are accurate (Cresswell, 2008:259) hence; findings are validated in the process. Validating findings means that the researcher determines the accuracy or credibility of the findings through strategies such as memoing or triangulation. In its use of multiple methods, triangulation may utilize either normative or interpretive techniques. It is also an influential way of establishing concurrent validity, particularly in qualitative research (Cohen, et.al., 2007:142).

Triangulation is used as an inquiry tool to corroborate evidence from different participants in the study and among different data sources. For instance the views of the SLMT in the each of the case study sampled schools were weighed against each of the participant's views in order get evidence of corroboration or contradiction in their responses to the interviews. Moreover, the participant teacher's expression in the interview was corroborated or refuted with the comments of the student leader (class captain) in the classroom, to the extent that the results from each method covered indicate the similar result, bringing about greater credibility of the findings (Mcmillan and Schumacher, 2010:26). As per the use of different data collection sources, see section 4.6).

Research is concerned with "producing valid and reliable knowledge in an ethical manner" (Merriam, 1998:198). Therefore, it is necessary that the research results are trustworthy.

Trustworthiness refers to the degree to which the data obtained and the interpretations made captured the reality as seen from the perspective of the participants (Cresswell and Miller, 2000:124-130). Trustworthiness has “further been divided into *credibility*, which corresponds roughly with the positivist concept of internal validity, *dependability*, which relates more to reliability and transferability; which is also a form of external validity, *confirmability* which is largely an issue of presentation” (Rolfe, 2006:304-310).

Triangulation strengthens a study by combining methods (Patton, 2002:247). Therefore, it is a validity procedure whereby the researcher searches for convergence among multiple and different sources of information to form themes or categories in the study (Cresswell and Miller, 2000:124-130). In order to establish the multiple truths and realities in my research, a collection of data collection strategies were used (see 4.6 above) and the researcher’s professional knowledge assisted in constantly reviewing data in terms of the participants’ perspectives.

Throughout the process of data collection and analysis, a researcher should make sure that his findings and interpretations are accurate (Cresswell, 20008:259), to the extent that data was obtained from many respondents using multiple methods to ensure consistency up to the point of saturation. In qualitative research, saturation is described as the point when the issues contained in data are repetitive of previously collected data (Merriam, 1998:180-182). In addition, the researcher coded and recoded the collected field data over an extended period. The researcher used more than one method of data collection and consulted peers in the field of education leadership and management to check the consistency of the coded data.

Another strategy used to determine the credibility of the findings was member checking. Member checking is a process in which the researcher asks one or more participants to check the accuracy of the account. This check involves taking the findings to the participants and asking them (in writing or in interviews) about the accuracy of the report (Cresswell, 2008:259). Therefore, participants were asked to provide confirmation of the interpretations of the individual interview data collected after the transcriptions. Ensuring that the final account of the raw data is accurate is a crucial step to maintain credibility (Anafara Jr., Brown and Mangione, 2002:28-38). It was through member checking - a process of refinement - that the participants accepted the transcribed interview.

4.8 Data analysis

The process of making sense and meaning of the findings of a research study is called data analysis (Merriam, 1998:178). Most qualitative analysis is a relatively systematic process of coding, categorizing data to provide explanations of a single phenomenon of interest (Mcmillan and Schumacher, 2010:367). The data from the field interviews were coded according to leadership and management sub-themes or indicators which were derived from the literature of this study. More so, because there is no one and multi-purpose set of procedures prescribed for data analysis (Mcmillan and Schumacher, 2010:367), the data analysis of this study contain interpretations of the literature and past studies, to indicate how the codes generated from the field work in this study support or contradict prior studies (Cresswell, 2008:258).

Data begin with the first data collection strategy, which involves the organisation of data and making sense of it. “Emerging insights, hunches and tentative hypotheses direct the next phase of data collection, which in turn, leads to the refinement or formulation of questions” (Merriam, 1998:158). The process of data analysis was iterative and not a linear process. Before the data collected were analysed, they were documented. Interview data were transcribed; document analysis and observations were documented. The rich data were documented in context (achieving and under-achieving schools), before they were transformed into text in readiness for analysis. The documentation process involves three steps namely the recording of data, transcribing or editing of the data and the construction of the new reality produced by the text.

The above processes complement the levels of analysis process stated by Merriam (1998). The first step of data analysis used is the *descriptive account*. This enables the researcher to compress and link data in a way that provides meaning. The *category construction* step follows and it focuses on construction of recurring indicators from the literature. The categories are most commonly constructed through a constant method of data analysis (Anafara Jr., Brown and Mangione, 2002:28-38) where units of data are sorted into groupings that have something in common.

Pertinent codes and categories identified in the literature were used to analyse research questions three, four and five based on a *a priori* research analyses approach. “Using a

deductive approach where the categories of information required from the data are formulated in advance (called a *priori* categories distilled from the literature on the topic), may often obscure or render key themes invisible (Nieuwenhuis, 2007:99)". Thus, the codes and categories from data gathered through interviews, observation and document analysis or review, were weighed against the identified leadership, management and classroom and management sub-themes or indicators in Chapters 2 and 3 respectively.

Since this study was a case study conducted over two school sites, data collected were analysed both individually and then compared, in order to discover what school A does in terms of school leadership and management to achieve effectiveness as compared to school B, which is not effective.

4.9 Ethical considerations

In adhering to the ethical principle of the University of Pretoria, clearance for collected data from the field was sought and granted by the Faculty of Education Ethics Committee, after permission to conduct research in two public secondary schools in Lagos-State had been sought and granted by the Lagos State Government. Afterwards, the following established rules or protocols guided the ethical procedures of this research:

Voluntary participation: Participants were not manipulated, forced or intimidated to participate in the research. Informed consent was received from every participant in the interviews after they were told about the goal of the study and what the researcher hoped to achieve. By implying that the participants participated in the study stemmed from their own will and conviction and they were assured that they might withdraw from the research at any time if condition(s) warranted them to do so (Ary, et. al., 2002:348; Denzin and Lincoln, 2002:138-139; Ritchie and Lewis: 2003:66-67).

Confidentiality and anonymity: This implies that participant's privacy was upheld and not invaded. They were informed about the research process and purpose and they voluntarily consented to participate in the research. They were also assured of peace of mind (trust) and that their participation would not be made known to anyone (confidentiality); neither would their identity, via their names, age, names or addresses of their schools would be included in

the research (Denzin and Lincoln, 2000:139; McMillan and Schmacher, 2000:366-367; Ritchie and Lewis, 67-68).

Securing data and the right to privacy: Participants were assured that information gathered through them would not accidentally become public or fall in a wrong hand. Moreover, that information obtained during observations and interviews would not be carelessly discussed, thereby violating the respondents' privacy. That is, the researcher would not link the participants' identity or schools to the findings of the study (Denzin and Lincoln, 2000:139; McMillan and Schumacker, 2001:366-367; Ritchie and Lewis, 2003: 67-68).

Chapter 5 deals with the analysis of the research on how leadership and management dynamics contribute to effective schools. This was done by developing school leadership and management sub-themes or indicators from the literature in Chapter 2 in order to analyse the collected field data.