4. RESEARCH METHODOLOGY

4.1 Introduction

The two previous chapters provided various sources of information regarding the investigation and compilation of data. Key issues were defined and a summary of the findings was given. The focus of this chapter will be on defining the research perspective by presenting the research design and methodology. The research question will be defined in terms of paradigm, purpose, techniques and context. Measurement of reliability and validity with regard to the effectiveness of music education, the current state of primary school music instruction, resources and staffing are also discussed. In addition, procedures involving sampling methods, data collection and capturing are analyzed. The chapter concludes with the discussion of the shortcomings and sources of error in survey, design and methodology.

4.2 Design and methodology

Research designs are plans that guide the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Smith:1981). A research design therefore provides a chronological plan that specifies the way that the research is executed in order to address the research question. A research design must be dynamic in plan with regard to the practical implications that eventually influence the findings. Cohen et al (2000:73) state that the setting up of research is a balancing act, for it requires the harmonizing of planned possibilities with workable, coherent practice, and the resolution of the differences between idealism and reality. According to Durrheim (2002), research design may be viewed as a process consisting of four stages as follows:

Stage 1	defining the research question
Stage 2	designing the research

Stage 3	implementing or executing the research including data collection and analysis
Stage 4	writing up the research report

(Durrheim 2002:30)

Mouton presents a typology of research designs that illustrates two major types of study, namely empirical study and non-empirical study. According to Mouton, empirical studies are observational or experimental rather than theoretical, whereas non-empirical studies are based on theory (Mouton 2004:57).

This study is a result of the observation that music education in Buganda has a low priority and faces a danger of total decline. The research therefore seeks to collect data under real-life study conditions on a larger scale than was hitherto possible, and from a wider variety of perspectives (Miller and Dingwall 1997), in order to evaluate the delivery of music education in primary schools in Buganda. This will also be achieved by identifying the factors that affect its current status through the quantification and qualification of primary data collected. Primary data for this research is what I collected through personal interviews, questionnaires and in my personal experiences in the area of music education in Buganda for the last eleven years. Statistics from the Statistical Data Abstract of the MoES were of paramount importance in qualifying this study as an empirical one. Surveys need to be comprehensive in order to achieve qualified findings. Reimer proposes that the planning of a survey needs clarification in the following areas:

- research questions to which answers need to be provided
- a conceptual framework of the survey, specifying the concepts to be used and explored,
- operationalising of the research questions (for example, into hypotheses),
- instruments to be used for data collection, for example, to chart or measure background characteristics of the sample, academic achievements and behaviour,
- sampling strategies and subgroups within the sample,
- data collection practicalities and conduct (for example, permissions, funding, ethical, considerations, response rates),

- data preparation (for example, coding, data entry for computer analysis, checking and verification),
- data analysis (for example, statistical processes, construction of variables and factor analysis, inferential statistics),
- reporting of findings (answering the research questions).

(Reimer 1992:154)

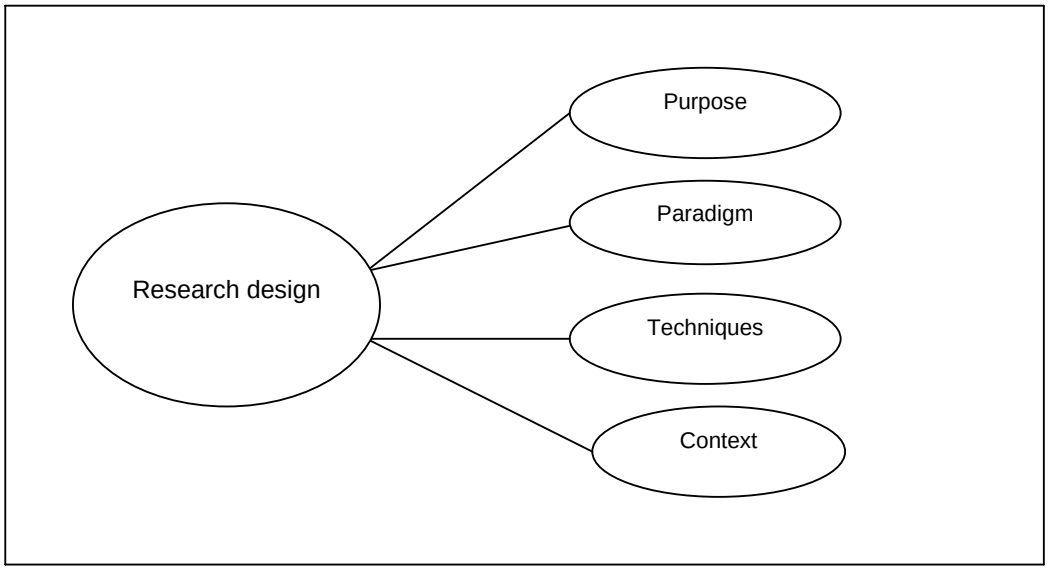
4.3 Defining the research question

In defining research questions, four dimensions are suggested by Durrheim (2002: 33). The dimensions in question include:

- the theoretical *paradigm* informing the research
- the *purpose* of the research
- the *context* or situation within which the research is carried out, and
- the research *techniques* employed to collect and analyse data

The outcomes of the above dimensions must be synchronized effectively in order to ensure the validity of the research findings. The following is an illustration of the four dimensions of research decisions:

Figure 21 Dimensions of design decisions



4.3.1 Paradigm

As Klopper (2004) states, paradigms are systems of interrelated ontological, epistemological and methodological assumptions. They act as a perspective that provides a rationale for the research and commit the researcher to particular methods of data collection, observation and interpretation.

Positivism is my position in this study. It involves a definite opinion of social scientists as analysts and interpreters of their subject matter. Positivism may be characterised by claims that science provides one with the clearest possible ideal of knowledge. According to Cohen, methodological procedures of natural science may be directly applied to the social sciences. Positivism therefore implies a particular stance or position concerning the social scientist as an observer of social reality. The end product of investigations by social scientists can be formulated in terms parallel to those of natural science (Cohen et al 2000:9).

4.3.2 Purpose

In determining the purpose of this research, it is necessary to establish the type of this research first. Durrheim suggests three ways of distinguishing types of research, as follows:

- exploratory, descriptive and explanatory research,
- applied and basic research,
- quantitative and qualitative research (Durrheim 2002: 34).

Qualitative research revolves around the collection of data through observations, interviews, and surveys. Data is recorded and analysed through identifying and categorising themes. Quantitative research is the exploration of traits and situations from which numerical data can be obtained (Charles 1995:21). Qualitative research therefore is that which explores traits of individuals and settings that cannot easily be described numerically. It allows for selected issues to be studied in depth, as well as for openness and detail.

The study is empirical in nature because it seeks to attain primary data that are statistically modelled in order to describe findings. Since this research seeks to collect data examining the quantity and quality using statistical numerical data, the approach is therefore both quantitative and qualitative.

Furthermore, because this study is based on a dichotomy of empirical investigations already discussed in chapter 2, it is empirical in nature.

4.3.3 Techniques

This section deals with how the research was implemented. The techniques employed to execute the study can be explained under the following:

- sampling,
- data collection, and
- data analysis.

4.3.3.1 Sampling

Sampling revolves around representativeness, which is achieved through randomly drawing samples (Durrheim 2002:44). The sample area must be determined by practical constraints and must be representative enough to allow for such interference. The sample drawn for this study was Buganda, the central district of Uganda. This original sample allowed for access to a cross section of primary schools both privately and government owned. Subsequently, it involved those schools that are not, and those that are under the Universal Primary Education program. The participants in the research included learners, school administrators, music teachers and training music teachers, who effectively aided the statistical and quantitative analysis of the study.

The main instruments employed in the research were questionnaires to music teachers, interviews of music teachers, pupils and school administrators and observations of music lessons and lectures in various institutions in Buganda. In addition, various general and policy documents were searched.

4.3.3.2 Data collection

Data may be gathered by a variety of data collection methods. Mouton presents a typology of data collection methods as follows:

- **Classifications of data collection methods**

In collecting data, the following methods were used:

- Observation

At various times while observing the teachers delivering music lessons, at both rural and urban schools, experimental and controlled recordings were carried out. In addition, systematic field observations were done especially with regard to live music performances of school pupils, choirs and bands. And, as a music teacher myself, participant observation was always present.

- Interviewing

I designed and passed out structured, self-administered questionnaires for teachers, training teachers and administrators to fill in and return. In addition, structured telephone interviewing was done, semi-structured focus group interviewing was carried out on the school pupils and MAT cell members, and also free attitude interviewing methods were employed on free-lance music teachers, music performers and other forms of musicians, both within and out of the country.

- Selecting and analysing texts

A substantial amount of comparative analysis was carried out and subsequently the textual analysis that involved content analysis, textual criticism and textual exegesis was carried out too. In addition, discourse analysis, conversation analysis and ethnomethodology were carried out. And lastly, historical and narrative analysis was used.

The typology of this research, that is, the type of data both numeric and textual, was collected in each case. Data was gathered through observation, interviewing and selecting and analysing texts. As already ascertained, systematic field observation as well as participant observation methods were employed. In addition, structured telephone interviewing and self administered questionnaires were used. Finally, textual analysis, discourse analysis and historical analysis were also employed as a way of collecting data for this study. In gathering information pertaining to this study, the following common errors occurred as a result of non-response, refusal to participate, social desirability effects evaluation apprehension and demand characteristics, though not to such a degree as to affect the overall research findings.

- Non-response

There are participants who did not respond to requests made because of the unreliable mail and postal surveys including questionnaires. Others just did not create the time to respond.

- Refusal to participate

A cross-section of prospective respondents refused to participate because of “oversurveying” of certain schools and the untimely interviewing times that they said infringed on their privacy. This happened with those respondents that were far from the urban centres where public transport is usually a problem.

- Social desirability effects

A few respondents told me what they thought I would like to hear rather than what the facts were on the ground. Stern points out that subjects might say what they feel they should believe, or what they feel will please the interviewer. They would be trying to impress whoever is evaluating their IQ scores or some level of competency (Stern 1979: 65).

4.3.3.3 Data analysis

All fieldwork culminates in the analysis and interpretation of some set of data, be it quantitative survey data, experimental recordings, historical and literary texts, qualitative transcripts or discursive data.

> Analysis involves breaking up the data into manageable themes, patterns, trends and relationships. The main aim of the analysis is to understand the various constitutive elements of one's data through an inspection of the relationships between concepts, constructs or variables, and to see whether there are any patterns or trends that can be identified or isolated, or to establish themes in the data (Mouton 2001:108).

A variety of statistical analyses was employed to make sense of the data. This was done through both univariate and bivariate distribution percentage tables and graphs, all of which will be described later in this chapter.

4.3.4 Context

The context under which this research is viewed is the evaluation of music education in primary schools in Buganda. Education reform, universal primary education, pupils' own music, resources for music education, education decentralisation and education management were discussed in chapter two in order to ascertain the historical and current status of music education under the performing arts and physical education program in Buganda.

Furthermore, the logistical aspect of music education in primary schools in Buganda including scholastic resources, teacher training, school buildings and music equipment was hinted at in the earlier chapters.

In addition, the music practices that prevail currently in Buganda that include traditional indigenous music practices for example, Kadongo Kamu, Zairwa, choral music, band music, the Kiganda Orchestra, Dramatic Societies and fusion, were all discussed.

4.4 Fieldwork and data gathering plan

This section deals with the research process, tools and research procedures employed in executing the research design. In describing the methodology employed in detailing the data gathering plan, I adopted the format of Vithal and Jansen (1997:48) for figure 22 as follows:

Figure 22 Data gathering plan

Questions	Data gathering plan
Why was data collected?	▪ To ascertain the status of music education in primary schools in Buganda. ▪ To ascertain the problems that infringe on the delivery of music education in primary schools in Buganda.
What was the research strategy?	▪ Surveys including questionnaires, interviews, observation, analysis of texts/documents ▪ Analyses of documents including government policies like UPE, ESIP, UPSC and UERP. ▪ Analysis of relevant sources with regard to qualitative and quantitative research in social sciences.
Who and **what** were the data sources?	▪ Questionnaires and interviews were conducted amongst teachers, principals and learners in government and private primary schools in Buganda. ▪ Interviews with education administrators at the Ministry of Education and Sports (MoES). ▪ Internet sites relevant to this research. ▪ Books, newspapers, magazines. ▪ MAT cell members of Uganda, centrally located in Buganda.
How many sources of data were accessed?	▪ Questionnaires were filled in by 103 participants, who were mainly principals and teachers. ▪ Interviews were conducted amongst 25 individual participants as follows: **Rural settings** ❖ three teachers from South Buganda ❖ three teachers from East Buganda ❖ six teachers from Central Buganda ❖ three members of the MoES ❖ three teachers from West Buganda ❖ three educators from North Buganda ❖ four school principals randomly selected ▪ Free interaction amongst 7 MAT Cell members of the Kampala MAT cell in Buganda. ▪ Internet sites ▪ Systematic observation as participant observer in classrooms. ▪ Email and telephone communications with music educators across the country.

How was the data gathered/collected?	**Observation** - This was done through the participant observation method. - Also recordings were made. - Systematic field observations were carried out in various schools in Buganda. **Interviews** - Structured questionnaires were employed. - Structured telephone interviews were carried out. - Semi-structured focus MAT cell interviewing. - Free attitude interviewing methods were employed as well. **Textual analysis** - Content analysis of policy documents including the UPE, ESIP, UPSC and UERP.
Justification for this method of data collection.	**Observations** Observations helped a great deal in substantiating information gathered through literature surveys and textural analysis. Recordings helped in allowing repeated and comparative observations without having to reassemble the participants, that is, teachers, pupils and performing groups. **Interviews** Interviews and questionnaires provided me with the most up-to-date information regarding what is happening on the ground in terms of music instruction. MAT cell members were instrumental in providing current information on the nature of the schools, pupils, resources and the general attitude and feeling of both learners and school administrators about music as a subject. **Textural analysis** This played a tremendous role in providing information with regard to what has been documented about music education in the past, including training and resources.

In collecting data, one must employ a variety of ways in order to capture reliable and valid information. As in the table above, the most commonly used methods of data collection are questionnaires, personal interviews and observation including participant observation. In order to determine the validity and reliability of the data, which subsequently determines the value and nature of the research; it is paramount that one uses appropriate data gathering techniques. This research outlines three most important data collection techniques, which are questionnaires, personal interviews and observations.

4.4.1 Advantages of questionnaires in data collection (adapted from van Vuuren and Maree, 2002:281)

- It is the cheapest form of survey and can be disseminated to a very wide spectrum of participants, both geographically and categorically, without spending more than just the postage, or by sending as an email attachment.

- Secondly, the fact that respondents are usually anonymous in completing the forms, promotes confidentiality. In so doing, participants are willing to provide 'real answers' to 'real questions'. That is, controversial and sensitive questions are treated like any other question without the participant being worried about repercussions.

- Respondents can read the questionnaire over and over again before they embark on completing it.

4.4.2 Disadvantages of questionnaires in data collection (adapted from van Vuuren and Maree, 2002:281)

- Since questionnaires are filled in individually and in absentia of the researcher, respondents might face the difficulty of not understanding fully what the questions require. In situations like these, respondents will not have any clarification from anyone since the researcher is not present.

- Instruments that are too long: The length of a questionnaire usually has a directly negative impact on the respondents and subsequent quality of the responses.

- Questionnaires with sensitive and threatening questions including those about private behaviour and income may lead to non-refusal to participate.

- With questionnaires, there is usually a sizeable number of participants that will not respond or return questionnaires. This reduces the sample.

My success in data collection depended a lot on how much I documented accurately and in how much detail. I developed a code book in which almost every aspect of the survey was recorded. Furthermore, success also depends on how the questionnaires are administered before, during and after completion. According to Fielder (1995:8), there are usually four ways of administering questionnaires, which include a one-to-one approach, group approach, a semi-supervised approach, and an unsupervised approach.

Figure 23 Data collection approaches

The table outlines the above approaches, advantages and disadvantages:

Approach	Advantages	Disadvantages
One-to-one	- Interviewer available to answer questions. - Maximizes confidentiality. - Provides in-depth data in answering questions	Very costly to carry out.
Group	- Simultaneous administration to all respondents. - Consistent instructions. - Monitoring of communication between respondents. - Ensures completion by respondents	Not practical with the general public and scattered respondents.
Semi-supervised	- Administrator can answer questions. - Monitoring of communication between respondents. - Ensures completion by respondents.	Inconsistency arising from supervised and unsupervised periods.
Unsupervised	- Respondents feel free from working 'under pressure' of being supervised. - Free flowing information is obtained. - Works well with larger samples.	No control over respondents. No clarification in case of anxieties.

(Adapted from Bourque and Fielder, 1995:8)

This study depended on interviews, both individual and group, as the main methods of data collection. Oppenheim (1992:32) cites two main types of interviews. These are exploratory and standardized interviews. The purpose of exploratory interviews is heuristic in nature and aimed at developing ideas and research hypotheses more than gathering data. On the other hand, standardized interviews are typically conducted for the purpose of collecting data. With this research, standardized interviews were employed because the research question was in place and so was the sample drawn.

4.4.3 Advantages of interviews in data collection

Interviews, too, were employed as a form of data collection, and below are the advantages of having carried out interviews:

- A substantial amount of information was accessed through semi-structured interviews. This is because, in most cases, one question or answer led to another which is not usually the case with questionnaires, where the questions are pre-set and cannot be altered.

- Respondents ended up getting as much clarification as they needed during the entire process of interviews in order to understand and answer the questions to the best of their knowledge.

- Personal interviews were the most appropriate means of data collection for this research, especially in rural areas. This was because in rural areas the majority of the population experiences low levels of literacy in addition to the lack of facilities like telephones, postal services and emails.

- Unlike with questionnaires, interviews turned out to be a more certain way of ensuring response. I or another interviewer was always present with the respondents, which was not the case with questionnaires that were just sent out and waited to be filled and sent back.

4.4.4 Disadvantages of interviews in data collection

Some of the disadvantages of the interviews are that the interviewer may bias the respondents if he or she has certain personal characteristics, such as perceived affiliation, race and gender effects (Mouton 2001:106). Furthermore, a biased interviewer causes a research selectivity effect because of the many methods that involve choices on the part of the researcher about which data to observe or select and which one to leave out (Stern, 1979:73).

Following is what was experienced during the interviewing process:

- Interviews were more expensive to organize, especially in terms of accessing respondents and paying the interviewers. Because the sample was wide, interviewers had to travel long distances, which proved to be difficult in terms of cost and availability of reliable transport.

- Refusal to participate because of oversurveying of certain schools and teachers, and untimely interviewing times, in case of rural areas where we relied on unreliable public transport most of the times.

- Social desirability effects did not help much in building up concrete data. This is when the respondents decided to say what they felt would please the interviewer rather than what they actually believed.

In conducting interviews for this research, I sent out a letter to schools and heads of schools ahead of the planned interview dates. These helped a great deal in getting respondents prepared for the interviews and also in minimizing various other hindrances. For this research, questions were made simple and short. No references were made to specific individuals. Reference was made to issues under the following categories that had been pre-determined prior interviewing:

- Institutions, training facilities, music instruments, educational materials, perceptions of students,

- Quality of teachers, teacher training models, school curriculum and the place of music in school and hours of music instruction per week.

I used descriptive statistics because of the above-mentioned methods. And because of the same methods, I collected standardized data, generated numerical data, and reached a fairly wide sample that encompassed both rural and urban corners of the province. As a result of the ethnographic method used in this research, of focussing on transmission and acquisition of music, that is, teaching and learning, I accessed both descriptive and explanatory information. By coming into direct contact with most of the participants, especially music teachers, I was able to visit various schools and saw qualitatively and quantitatively, the facilities they use in delivering music education that I describe in this research. In addition, I employed a phenomenological approach to understand the participants' perspectives and views of social realities. Here, I sought to perceive music education from learners' and educators' perspectives and to determine the beliefs of stakeholders and how those beliefs affect the delivery of music education. Most responses were descriptive in nature and it is these that gave me motivation for using descriptive statistics of data collected through questionnaires and interviews. Following the completion of each interview, I documented the data.

This documentation process helped to immerse me in the data and to reflect about what the interviewees were saying and how they were saying it. Each written document was read several times while listening to audio tapes in some instances or looking at a filled-in questionnaire to ensure accuracy of the documented data and to come to a better overall understanding of each participants experience and views. The process of re-reading and documentation prompted additional questions for a subsequent interview.

4.5 Data analysis and interpretation

Fieldwork or data documentation culminates in data analysis and interpretation, be it quantitative survey data, experimental recordings, historical and literary texts, qualitative transcripts or discursive data. Analysis involves breaking up the data into manageable themes, patterns, trends and relationships (Mouton 2001:108). This is done in order to understand the various constitutive elements of data through an inspection of the relationships between concepts, constructs or variables. Furthermore, it helps in ascertaining whether there are any patterns or trends that can be identified or isolated, or to establish themes in the data.

Interpretation involves the synthesising of data into larger coherent wholes (Mouton 2001:109). It is about interpreting and explaining observations by formulating hypotheses or theories that account for observed patterns and trends in the data. In interpreting data, we relate results and findings to existing frameworks to ascertain whether these are supported by the new interpretation. There are two types of data analysis, namely descriptive data analysis and inferential data analysis. Descriptive data analysis describes data through the investigation and distribution of scores on each variable. It determines whether the scores on the different variables relate to each other. Inferential data analysis deals with empirical proof, enabling the researcher to make conclusions on populations from the sample data of empirical evidence. Both these approaches were employed in this research and they resulted in the presentation of tabulations, tables and the use of statistical graphs. Qualitative analysis involves three processes namely describing the phenomena, classifying it and seeing how the concepts interconnect.

The initial stage in qualitative analysis is to develop a description of the phenomenon. Denzin (1978) refers to this as ‘thick’ description. If ‘thin’ description merely states ‘facts’, a ‘thick’ description includes information about the context of an act, the intentions and meanings that organize action, and its subsequent evolution (Denzin, 1978).

By employing the phenomenological approach as well as the ethnographic method, thorough descriptive and explanatory information of the context and intentions was accessed and documented in the previous chapters. This was done in order to determine the beliefs of stakeholders and how those beliefs affect the delivery of music education.

The second process in qualitative data analysis is classification, without which, there would be no way of knowing what it is that we are analyzing, neither would there be meaningful comparisons between different kinds of data. Therefore, classifying the data is an integral part of the qualitative analysis. Throughout the entire process of qualitative data analysis I kept a diary and recorded reflective notes the data. After the transcriptions, line by line I categorized the data into analytical units under descriptive words, or category names. Subsequently, I created a hierarchical category system where I organized the different categories into levels or hierarchies out of which a typology was developed (see figure 24 & figure 27).

Alvin Toffler (Coveney & Highfield, 1991) recount that, many times we dissect data that we often forget how to put the pieces back together again. In this thesis, this problem does not arise because description and classification are not ends in themselves but serve an overriding purpose that produces an account for analysis. For this reason, I made connections among the building blocks of concepts of my analysis. I offered tablature and graphic representation as useful tools in analyzing concepts and their connections. Also, I employed diagramming as a process of making a sketch to clarify the relationship between the categories and processes.

4.5.1 Sources of error in capturing, documentation, analysis and interpretation of data

Errors occur when data is documented and captured manually from questionnaires, transcripts and psychological tests.

Incomplete data documentation and insufficient information about response rates may occur (Neumann, 1997). In order to minimize errors, I kept complete information on each interview conducted and extensive field notes of observations and other forms of data collection as suggested by Burgess (1982). Post-coding becomes a problem to open questions in dealing with questionnaires and semi-structured interviews. This usually occurs when there is a difference in interpretation as a result of more than one post-coder working with the data. Post-coding schemata need to meet the criterion of mutual exclusiveness so as to avoid any overlap in classification categories. In order to avoid these errors I personally handled the post-coding alone, so that there was only one interpretation (Babbie 1998:23). Missing values may occur as a result of incomplete questionnaires during data capturing. This discrepancy was eradicated through administering the questionnaires at the time of filling them in where possible. Supervision was ensured through the one-to-one approach, group approach and semi-supervised approach as already indicated earlier in this chapter. Consulting Clark (1992) and Newton and Rudestan (2001) provided various other ways to avoid too many missing values.

4.6 Summary

Chapter one noted that the method employed in dealing with the research question was a survey, quantitative in nature, because of its aim of providing a broad overview with regard to a representative sample of a wide range of population. This chapter has outlined the difference between research design and research methodology. It has substantiated the use of questionnaires, surveys and personal interviews. Finally, data validation procedures were carried out. Validation checks were applied that involved reliability analyses of questionnaires responses and item analyses. Validity and reliability has been ensured in this chapter as a result of outlining the research design and methodology in addition to measures. Having achieved that, the study will now focus on the execution and presentation of the main research.