



UNIVERSITY OF ZULULAND

**CHALLENGES FACING PRINCIPALS IN MANAGING THE TEACHING OF
AGRICULTURAL SCIENCES IN THE FET BAND**

by

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DECLARATION

I, Azwindini Robert Mutshinya, Declare That the dissertation entitled “Challenges Facing Principals In Managing The Teaching Of Agricultural Sciences In The FET Band” is my own work and that it has not been submitted for any degree or examination purpose at any other institution or university and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.



Signature

03 April 2018

Date

DEDICATION

This dissertation is humbly dedicated to God my shelter and refuge, my mom, Vho-Matamela Mutshinya and my late father Vho-Mudzunga Jonathan Mutshinya, my wife, Elizabeth Mutshinya and my children, my brothers, the late Takalani Zacharia Mutshinya, Thilivhali Mutshinya, Dalton Mutshinya, Collen Mutshinya and my brother-in-law's family Mr & Mrs Ralioma Murendi Robert, who all instilled the value of education and gave everything of their best for me to be what I am today.

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ABSTRACT

Principals are facing challenges in managing the teaching of Agricultural Sciences in the FET band, and this leads to some schools phasing out Agricultural Sciences. The aim of this study was to investigate the factors contributing to challenges principals experience in managing the teaching Agricultural Sciences in the FET band. The study adopted mixed methods approach and used quantitative and qualitative methods. Questionnaires were used to collect quantitative data and were completed by forty teachers. An interview schedule was employed to collect qualitative data, and ten principals were interviewed. Simple random sampling was used to select participants for quantitative data and purposive sampling was employed in the selection of participants for qualitative data. Quantitative data was analyzed through the Statistical Package for Social Science (SPSS) version 24 while qualitative data was analyzed thematically. The study revealed that principals lack managerial skills in the teaching of Agricultural Sciences. It was recommended that principals should be capacitated in managerial skills of teaching the subject, and this should be a continuous process because of the constant curriculum changes.

KEY WORDS: Agricultural Sciences, Teaching, FET Band, Curriculum, Redeployment, SPSS.

LIST OF ACRONYMS

ASAAC	:	Association of South African Agricultural Educators
BA.ED	:	Bachelor of Arts in Education
B.ED	:	Bachelor of Education
CASS	:	Continuous Assessment
CAPS	:	Curriculum Assessment Policy Statement
CHE	:	Council of Higher Education
FAO	:	Food and Agriculture Organization
DoE	:	Department of Education
FFA	:	Future Farmers of America
FET	:	Further Education and Training
GET	:	General Education and Training
GNP	:	Gross National Product
GTCE	:	General Teaching Council of England
HOD	:	Head of Department
IBE	:	Institute for Better Education
LTSM	:	Learning and Teaching Support Materials
NARIC	:	National Academic Recognition Information Centre
NCS	:	National Curriculum Statement
NSFAS	:	National Student Financial Aid Scheme
NRF	:	National Research Foundation
OBE	:	Outcome-based Education
OECD	:	Organisation for Economic co-operation and Development
PGCE	:	Postgraduate Certificate in Education
QCE	:	Queensland Certificate of Education
SAQA	:	South African Qualification Authority
SADTU	:	South African Democratic Teachers Union
SASE	:	South African Society of Education
SBA	:	Small Business Administration
SC	:	Senior Certificate

SGB	:	School Governing Body
SMT	:	School Management Team
STD	:	Secondary Teachers Diploma
SPSS	:	Statistical Package for Social Science
UED	:	University Education Diploma
UK	:	United Kingdom
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
US	:	United State
ZPD	:	Zone of Proximal Development

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CHAPTER 1

BACKGROUND OF THE STUDY

1.1 INTRODUCTION

This chapter provides an overview of the entire study. It also presents the background to the study, the problem statement, aim of the study, research questions, research methodology followed, assumptions and significance of the study. The chapter further gives a breakdown of the chapters.

1.2 BACKGROUND OF THE STUDY

Agricultural Sciences is an integral part of the economic system and by means of direct and indirect links, has an important influence on the economic and social activities in general, especially in respect of the industrial sector (Van Ransburg, 1989). Agricultural Sciences need to be viewed just like other subjects in the secondary schools.

Food and Agriculture Organization (FAO) indicated that the total school enrolment has grown faster in Africa than in any other developing continent. This is because the greatest challenge is presently to generate adequate food production to sustain the increasing population; Agricultural education therefore plays an important role. There is a need to rationalize the qualifications of agricultural manpower and the utilization of manpower and for the improvement of the pass rate of agricultural sciences in the Soutpansberg Cluster, Vhembe District. South Africa is experiencing a different trend to what FAO has claimed.

This study was informed by the dynamic processes of teaching and learning that need to be regularly adjusted to meet the changing needs and opportunities (Kidane & Worth, 2012). The number of learners pursuing agricultural sciences as a subject at Further Education and Training (FET) schools and other Agricultural Colleges throughout South

Africa has been on the decrease in a post-apartheid. According to Peterson and Arends (2004), only one in five learners write Agricultural Sciences in South African Senior Certificate Grade 12 school leaving examinations. The reason for this decline is multifaceted and includes factors related to poor motivation; which leads to lack of interest in the subject and learners deciding to study agricultural sciences when they lack the necessary background. It is obvious that if learners are made to choose a subject without considering whether they are interested in the field or not, it could result in learners developing a negative attitude towards the subject; hence the challenges facing principals in managing the teaching of Agricultural Sciences in the FET band.

Matshokge (2016) stated that the doors of teaching and learning shall be opened. This year we have re-opened our province's two leading colleges of Agriculture, Tompi Seleka and Madzivhandila, for full 3 (three) year Diploma Studies in Animal and Plant Production. In Vhembe District alone, there are few curriculum advisors, only 3 offering support to more than 212 schools, statement issued by the curriculum co-ordinator, 2016.

In view of the above, this study focused on dealing with the challenges facing principals in managing the teaching of Agricultural Sciences in the FET band. This subject does not seem to be seriously supported by the relevant stakeholders which include curriculum advisors and Department of Education in a way that can encourage and motivate learners to take it seriously.

1.3 PROBLEM STATEMENT

Agricultural Science is regarded as one of the scarce-skills subjects (DoE, 2016). It is one of the critical subjects in our lives as we solely depend on food for our survival and wellbeing. Interest in the subject should be shown by all concerned in the wellbeing of the future of our future generations in order to ensure that there is food security in the country. Lack of interest in the subject that is being shown by both learners and teachers is a challenge and if not addressed we will, in future, not have a sustainable

situation in Agriculture. This has become a serious challenge to principals who are leaders and managers in the teaching Agricultural Sciences in the FET band and this is leading to some schools phasing out the subject.

There could be many challenges which principals are facing in managing the teaching of Agricultural Sciences. Learners doing Agricultural Sciences seem not to be prepared to do the subject. It seems as if many learners are doing the subject because it is one of the subjects in the curriculum and or it is within the mainstream of the subjects or they are influenced to choose the subject by their peers or teachers.

While literature identifies some challenges principals of schools could be facing challenges in managing the teaching of Agricultural Sciences in the FET band elsewhere, I could not find any that identifies challenges in the Soutpansberg Cluster in the Vhembe District, Limpopo Province, which is rural and has been previously disadvantaged in provision of resources.

The present study answered the following research question: What are the challenges that principals face in managing the teaching of Agricultural Sciences in the FET band?

The following sub questions were asked:

- What are the factors affecting principals in managing the teaching of Agricultural Sciences in the FET band?
- What strategies can be developed and employed to address challenges facing principals in managing the teaching of Agricultural Sciences in the FET band?

1.4 AIM OF THE STUDY

The aim of the study was to investigate the challenges facing principals in managing the teaching of Agricultural Sciences in the FET band.

The following were the objectives of the study:

- To investigate the factors that affect principals in managing the teaching of Agricultural Sciences in the FET band.
- To develop strategies that can be employed to address the challenges facing principals in managing the teaching of Agricultural Sciences in the FET band.

1.5 INTENDED CONTRIBUTION TO THE BODY OF KNOWLEDGE

The study will generate valuable information for principals relating to factors contributing to the challenges facing principals in managing the teaching of Agricultural Science as a subject. This will make people aware of the challenges principals are faced with in the teaching of Agricultural Sciences in the FET band. This may help to revive interest and awareness of the importance of Agriculture as a subject. The strategies could empower all stakeholders with techniques to manage activities related to agriculture and how to use them for the benefit of all the people. The research may be used as reference by future researchers since there is insufficient research on this topic.

1.6 DEFINITION OF CONCEPTS

The following key concepts are discussed hereunder:

1.6.1 Further Education and Training Band

This is the band in which learners from Grade 10 -12 are categorized. According to the DoE (2014), in this band, learners study a variety of subjects, and Agricultural Sciences is one of them. The Further Education and Training Band is referred to as the band that is implemented in 2006 in Grade 10 according to the National Curriculum Statement Grades 10-12 (Schools), is applicable to schools and FET colleges. Schools can furthermore be subdivided into independent (or private) and public schools (Department of Education, 2002). In this study, the FET Band is the level at which Agricultural

Sciences is taught as an individual subject. The implication is that principals should be able to manage the teaching and learning process of Agricultural Sciences.

1.6.2 Curriculum

Curriculum is an outline of what will be done during a certain period of time, and it is used in education as a guideline to what will be done throughout the time frame of the course. According to the Department of Education (2008), curriculum is a complete programme of learning, which includes the following components: identified, desired results; a design for, and suggested sequence of activities; and suggested methods of assessment for evaluation.

A curriculum refers to the means and materials with which learners interact for the purpose of achieving identified educational outcomes. It consists of all the planned experiences that the school offers as part of its educational responsibility. It also includes not only the planned, but also the unplanned experiences (Edwards, Ebert II, Ebert, Michael & Bentley, 2013). In this study, curriculum will be used to guide all the principals to understand exactly what is taking place in the teaching and learning process in Agricultural Sciences.

1.6.3 Teaching

According to Wikipedia (2010), teaching is an educational approach whereby generally and specifically, education teachers work to deliver instructions to learners in the classroom. Teaching is a process of giving the person knowledge or skills and giving lessons, especially in a particular subject (Oxford School Dictionary, 2006). This study shows that teaching can be done using different methods such as lecture, question and answer, brainstorming, group discussion and problem-based method. These methods are used by teachers when they give knowledge to learners in the teaching of Agricultural Sciences. In this study, teaching will mean that learners can be actively involved in the teaching situation by using different methods.

1.6.4 Redeployment

Redeployment means the transfer of educators from over-staffed schools to under staffed schools (Mona, 2001). Redeployment refers to the reallocation and retraining of labour as changes in technology and business situation calls for labour mobility between skills (Hano & Terry, 1997). In this study, the term *redeployment* refers to the transfer of excess educators from their present schools to other schools where vacancies exist.

1.7 RESEARCH DESIGN AND METHODOLOGY

The study adopted the pragmatic paradigm following mixed methods approach which followed qualitative and quantitative methods.

In this study, interviews were used to collect qualitative data from the principals and questionnaire to collect quantitative data from the teachers. The population of this study comprised all principals and Agricultural Sciences teachers. Purposive sampling was used to select participants in the qualitative approach and simple random sampling was used to select the participants in the quantitative approach. The qualitative sample comprised forty Agricultural Sciences teachers and quantitative sample comprised ten principals. The qualitative data collected was analyzed thematically and the quantitative data was analyzed through the Statistical Package of Social Sciences (SPSS) Version 24. Full details regarding the research design and methodology are presented in Chapter 3.

1.8 CHAPTER DIVISION

Breakdown of this study's chapters is drawn as follows:

Chapter 1 provides an overview of the planned study, comprising a background perspective on the challenges that principals are facing in managing the teaching and

learning of Agricultural Science. The problem statement research questions and the aim and objectives of the research are provided. Definition of major concepts, research design and methodology, delimitations and significance of the study are clearly outlined.

Chapter 2 presents the literature reviewed which focuses on the factors that affect principals in managing the teaching of Agricultural Sciences in the FET band.

Chapter 3 presents the research design and methodology, indicating how the sample was selected, the steps followed to collect the data, the reasons for using a particular method of analysis, and how the data was analysed as well as ethical considerations in this study.

Chapter 4 presents the results and analysis of findings.

Chapter 5 gives a summary of conclusion and recommendations to future researchers and also remarks based on what has been achieved by conducting the research.

1.1.9 CONCLUSION

In this chapter, introduction and background of the study, problem statement, research questions, aim of the study, significance of the study, delimitations, definition of concepts and breakdown of chapters were discussed. In the next chapter, a review of selected literature is done on the challenges that emanate in managing the teaching of Agricultural Science by principals.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 1 presented the introduction to this study. The current chapter presents the literature reviewed which provides an overview of challenges facing principals in managing the teaching of Agricultural Sciences in the FET band. The review of literature includes the theoretical framework, literature basis of the study that assisted in the construction of the research instrument and strategies to improve challenges faced by principals in managing the teaching of Agricultural Sciences. Literature review was organized guided by the research aims and objectives of the study (Crane, 2016).

2.2 THEORETICAL FRAMEWORK

The study adopted the Social Constructivism theory:

Constructivism is based on the belief that learners should be guided when constructing knowledge that is meaningful and useful in their own lives (Jacobs et al., 2004). What is important is not what learners learn but how they learn. The skills they learn are more important than the content. Learners are encouraged to develop their own understanding of knowledge. Learners construct new understandings using their current knowledge. According to Amineh and AsL(2015). In constructivism, teachers and learners should talk with each other and interpret and construct the hidden knowledge. This means that the teachers must engage learners in developing knowledge structures. So this means that learner's prior knowledge influences their new knowledge. The use negotiation in the curriculum. When learners negotiate, ask questions, and try hard to find the answers themselves, what they learn will be more meaningful to them.

According to Gravette (2005), constructivism regards learning as an active process of constructing meaning; it is how people make sense of their experience. For this reason, constructivists explain learning as individualised, social and occurring within context, and knowledge is acquired through construction and reconstruction of learning. If what learners encounter is not consistent with their current understanding, their current knowledge can change in order to accommodate new experience, thus learners cannot be passive and they remain active throughout this process (Amineh & Asl, 2015). In this regard, the principals and teachers should structure situations to such an extent that learners become actively involved with content through manipulation and social interactions, thus social constructivism is a social process whereby learners acquire knowledge through interaction with their environment.

Constructivism is an educational theory in mind, teachers should consider what student know and allow their learners to put their knowledge into practice. We make sense of new information by associating it with what we already know by attempting to assimilate it into our existing knowledge. The field of education itself has undergone a significant shift in the nature of human learning and the conditions and that best promote the different conditions of learning. This means that learners should be given an opportunity of raising their views and knowledge because knowledge is accurate to the extent that it reflects that reality

According to Amineh & Asl (2015), constructivism involves dramatic change in the focus of teaching and puts the learner's own efforts to understand at the centre of the educational enterprise. Constructivist teaching just promotes learners' motivation and critical thinking and encourages them to learn independently. Constructivist teachers are not monologue teachers who just teach completely new lessons. They guide the learners and provide them with opportunities to test the adequacy of their current understanding. These types of teachers consider prior knowledge and provide leaning environment. The implication is that principals and teachers must engage learners in learning and bring their current understanding to the forefront.

Based on Vygotsky's co-construction theory, social constructivist perspective advocates that knowledge is not build by individual learners, but in a wider social context which is linked to learner's environment and cultural activities (Nyaumwe & Mtetwa, 2009). Effective teaching in the social constructivist perspective is based on creating opportunities for learners to experience, discuss, discover and socially construct knowledge using their context. Such teaching involves learner active engagement on physical and mental activities that involve interpreting, constructing and reflecting on their decisions in ways that enhance learners to create knowledge through personal experience. The content of Agricultural Sciences requires learners to be in contact with food security and such as socio-constructivism becomes relevant to this study. Thus, learner's contact with farmers for practical activities which then assist to gain insight in teaching and learning of Agricultural Sciences.

According to Schunk (2012) teachers should not teach in the tradition sense of delivering instruction to learners. Therefore, they should structure situations such that learners become actively involved with the content. Andrews (2012) asserts that socio-constructivist learning content will empower learners to become lifelong learners with the emphasis on learning to learn. In addition, learners construct information from the environment and combine it with their present knowledge. Learner's construction of knowledge is determined by instructional conditions that stress social interaction (Schunk, 2012). For teachers it is essential to use a range of processes to convince the learners of the validity of constructing knowledge about the matters related to Agricultural Sciences, and incorporate them into classroom knowledge.

In relation to social constructivism, understanding, significance and meaning are developed in coordination with other human beings. According to Kim (2001), social constructivism is based on specific assumption about reality, knowledge and learning. The most important elements in this theory are:

- the assumption that human beings rationalise their experience by creating a model of social world and the way that it functions.

- The belief in language as the most essential system through which humans construct reality,
- culture and context in understanding what occurs in society and knowledge construction base is based on this understanding emphasised in social constructivism.

From the above elements of social constructivism, the following assumptions are described (Kim, 2001):

- **Reality-** it does not exist in advance but it is constructed through human activity.
- **Knowledge-** this is regarded as a human product that is socially and culturally constructed. Individuals can create meaning when they interact with each other and with the environment they live in.
- **Learning-** is a social process and does not take place only within an individual. With regard to this theory meaningful learning occurs when individuals are engaged in social activities such as interactions and collaborations.

As learners continue to practice, they can do certain tasks independently in activities that were previously performed with assistance. The shifts learners gain in understanding the activities helps them to find ways of attempting the problem that they were unable to solve even with the assistance.

To facilitate learner's social interactions in classrooms, learning is to be made challenging through provisioning of authentic problem-solving tasks existing in the learners' environment (Nyaumwe & Mtetwa, 2009). Thus, social constructivist strategies in the classroom require authentic learning environment that facilitates the building of new knowledge from prior knowledge. Such learning facilitates learners' applications of concepts in a variety of context in the classroom and the environment.

2.3 FACTORS THAT AFFECT PRINCIPALS IN MANAGING THE TEACHING OF AGRICULTURAL SCIENCES

This section discusses the challenges that principals are currently facing in managing the teaching of Agricultural Sciences in developed and developing countries.

2.3.1 Teacher Qualifications

Developed countries like New Zealand encountered the problem of teacher qualifications as one of the challenges which principals are facing towards the management of Agricultural Science because the training system was split according to different categories of teachers and their related culture (Mulford, 2003). According to World Bank Organisation (2003), the major problem was on educational background of the teachers and their civil status. There was a weak interest on the training of Agricultural Sciences teachers, especially in the management of teaching and learning process of the subject.

Secondary education was dominated by mono-disciplinary education of future teachers, and the training of teachers in developed countries was insufficient and not related to the real teaching and learning conditions that exist in secondary schools. Teachers were not trained in designing the curriculum and assessment strategies. There was no professional development for Agricultural sciences teachers (UNESCO, 2006). According to Ayuk (2012), countries like Hungary also experienced a problem of the demand and supply of teachers. This suggests that they have a problem of a shortage of teachers in Agricultural Sciences.

Teacher Training colleges in Central and Eastern Europe have a lower status than universities. The World Bank Organisation (2003) shows that their institutions are often described as failing to keep up with developments, and are extensively criticised as failing to prepare students for appropriate modern teaching approaches. There would seem to be a strong case for reviewing roles and functions of the former colleges.

However, in most countries, there is an increasing unease about the link between initial training and the first few years of teaching.

According to Seng (2003), the need for support and additional training immediately after initial qualification is ignored, and some systems are considering making the initial qualification a provisional one, with the full award only available after further training during the first few years of practice.

There is some similarity between developed and developing countries; both have many unqualified teachers in the teaching field. In most developing countries, for example, Zimbabwe, Mozambique and Zambia, teachers do not have formal training (Bennell, 2004). Highly qualified and experienced teachers seek other professions because the career prospects and remuneration in other sectors are attractive. The private sector attracts Agricultural Sciences' teachers and this creates a shortage of qualified Agricultural Sciences teachers. The deterioration of teachers' working conditions has made it difficult to attract Agricultural Sciences teachers as per the Ministry of Education in Zambia (David, 2014).

In Zimbabwe, teachers do not have adequate training related to the implementation of the curriculum. The teachers are unable to create their own materials, space of instruction and allocation of time (Ministry of Education Zimbabwe, UNESCO, 2004). In Namibia, for example, qualified teachers are unevenly distributed. The Ministry of Education of Basic Education and Culture wrote a report about the equitable distribution of qualified teachers across the country. It is still a problem that cannot be solved, especially in rural areas where the services of teachers are needed the most.

The issue of the quality of training is also critical. Tshiovhe (2012) indicates that other problems facing many developing countries are related to lack of skilled and experienced teachers who can teach and develop a curriculum which stimulates and allow teachers to achieve good results. In terms of incentives to teachers, in some cases, the additional qualifications in themselves are sufficient reward especially when

they form part of an "accumulation" scheme which builds to nationally recognised certificates, diplomas and even postgraduate qualifications. DoE (2009) shows that in some countries, the reward of salary increases on the basis of their qualifications is implemented.

However, the salaries are attractive and the negative part of this approach of increasing the salaries of teachers is that Agricultural Sciences teachers are losing interest in the subject, so some schools are phasing out the teaching of the subject.

The highest qualification in South Africa gained from the defunct colleges is M+3. Some communities in South Africa are proud of their teachers (Ngidi, 2000). However, there are criticisms in relation to teachers' lack of qualifications, subject knowledge and even commitment. Most teachers are not well qualified and are a problem to the learners who are willing to learn. According the Nelson Mandela Foundation (2005), most of the teachers do not have a diploma, yet they are teaching learners who are in Grade 12.

Some are teaching with less than Matric qualifications in provinces such as Limpopo, KwaZulu Natal and Eastern Cape (Nelson Mandela Foundation, 2005). The fact that teachers' colleges are closed means that teachers who are not qualified contribute to this problem. Some Principals and Heads of Departments of Agricultural Sciences do not allocate duties to teachers according to their qualifications. In some schools, Agricultural Sciences is taught by teachers who are unqualified, and some of them did not specialize in Agricultural Sciences when they were trained at colleges and universities (Mavhungu, 2009).

2.3.2 Working Conditions

Atkins (2002) indicates that class size determines a teacher's workload in terms of responsibility and working hours since larger classes mean a greater amount of time required for preparation, counseling, evaluation and others. The number of learners also affects the level of intensity of classroom work since more learners often mean less intensity. Progression may be delayed, and teaching is more likely to be interrupted

because of the large class. It is, therefore, important to look at class size as a key component of a teacher's working conditions (UK, NARIC, 2007).

A well-known dilemma for the less developed countries of the world is whether or not they can afford to decrease the ratio of learners to teachers. From a global perspective, these ratios seem to correlate with the levels of Gross National Product (GNP) per capita. Rich countries typically have fewer learners per teacher than poorer countries. In both developed and developing countries, expensive private schools also adopt this approach (Nelson Mandela Foundation, 2003).

However, in South Africa, the situation seems to be different in that most schools are having few learners in the subject, and this demoralizes the teachers.

2.3.3 Attitudes of Teachers towards Agricultural Sciences

Peters (2011) states that *liking* is a frequent occasion for the development of personal relationship in that it predisposes people to enter into a positive learning environment. A good environment is not being created for learners to have an interest in the subject.

According to Boynton and Boynton (2005) learners express considerable liking of certain subjects more than others. According to Peters (2011), the most important conclusions from qualitative research on factors related to management of teaching and learning of Agricultural Sciences at the FET band are that (a) teachers are critical resources; (b) the composition of student body matters; (c) schools make a difference, and (d) physical facilities, class size, curriculum, instructional strategies and other resources influence learners' learning indirectly through their effect on their behaviour of teachers and students.

In an effort to identify challenges that principals are facing in the management of teaching and learning of Agricultural Sciences, some researchers such as Edward and Malcolm (2004) found that management of teaching and learning of Agricultural

Sciences schools is influenced by a number of variables. These variables include learners' abilities, attitude and perception, family and socio-economic status, parent and peer influence, school related variables such as poor learning environment, learning cultures, past racial discrimination and low expectations by principals and teachers.

According to Nokali (2010), many of these variables are home-related and family-related, and as such, are difficult to change and are beyond the control of teachers. Such factors alone cannot account for the management of teaching and learning of Agricultural Sciences. In particular, these explanations fail to account for intra-group performance differences and the success of South Africa secondary learners comes from the same communities and share similar socio-economic backgrounds, schools and classrooms (Tsanwani, 2009).

The subjects students liked most are those that are science-oriented. Mbajiorgu, Oguttu, Maake, Heeralal, Ngoepe, Masafu and Kaino (2014) found that teachers offering certain subjects appeared to occupy positions of declining significance in the lives of the learner's source. The picture that emerges is of the classroom becoming routinised with respect to instrumental practices. An intervention by principals is very important and can influence learners positively (OECD, 2008).

2.3.4 Learners' Attitudes towards Agricultural Sciences

The overall standard of learners' attitude towards Agricultural Sciences in some developed countries such as Scotland was judged to be good or very good in 62% of the departments. According to Donaldson (2002), the Chief Inspectors in Scotland made five judgments about the way learners behave towards Agricultural Sciences, namely:

- The quality of class work;
- Performance in relation to national examinations;
- The overall quality of attainment, taking into account class work, attainment in

relation to national targets and examinations and the quality of learners' learning and how well their needs were being met;

- Lessons not well planned by educators, and not giving them the opportunity to take responsibility for their own learning in Agricultural Sciences; and
- Teachers not using variety of teaching approaches such as (group and individual) in their teaching.

In developed countries, teachers are encouraged to like learners as it is the easiest way to create an environment for the learning and wellbeing of learners in Agricultural Sciences. They were also encouraged to enjoy their teaching as it stimulates learners' attitudes towards the subject. In countries like Sweden, the positive attitude of teachers is encouraged by creating a good relationship with other teachers (Niemi, 2000). The current curriculum does not cater for the teaching Agricultural Sciences in the GET Band. This resulted to learners losing interest in the subject at the FET band as they do not have the background, and it becomes a challenge to the principals who are managing the teaching and learning of the subject.

2.3.5 Inappropriate Management of Teaching and Learning and Problem-solving Skills

This is one of the major challenges that principals are facing at the teaching and learning of Agricultural Sciences at the FET band. Principals' management and problem-solving skills are very important in the teaching of Agricultural Sciences. True knowledge of management by principals and teaching by teachers is achieved by practice and experience in the classroom situation (Warnich, 2010). The implication is that the knowledge that principals have in the teaching of the subject is inadequate.

According to Northhouse (2010), problem solving skills is the ability to solve new unusual, ill-defined work problems. The skill includes being able to define significant problems, gather information problems, formulate new understanding about the problem and generates prototype plans for problem solutions. Problem solving skills demand

principals to understand teachers' capacity as managers and facilitators of their subjects and, therefore, apply possible solutions specifically for their subjects (Sebate, 2012). Principals cannot generate prototype plans for problem solving as managers in solving Agricultural Sciences problems as a subject. Teachers who are unable to overcome challenges in their subjects do not co-operate. Therefore, a principal who lacks problem solving skills will not be able to assist teachers with challenges on the subject.

2.3 6 Lack of Support from the Subject Advisors

Subject advisors in developed countries such as New Zealand are known as mentors. The mentors receive inadequate training and training through an internship for a year. They are not given a chance to co-teach in schools and as a result, they lack the necessary skills of teaching (Gallacher, 2008). In developing countries, every effort is made to choose high quality mentors who are professionally and personally committed to mentoring. UNECSO (2006) indicates that developed countries do not have site coordinators to look for mentors who are highly effective teachers and who could commit time to support a new teacher and are willing to share their classrooms. In this instance, principals must be able to assist and manage the effective teaching of Agricultural Sciences in their schools.

In developed countries, the mentor teachers provide support in many direct and indirect ways. According to Kessels (2010), to prepare for the support, the site co-ordinators provide orientation and professional development sessions for mentors. Many site co-ordinators meet monthly with mentor teachers to share experiences and refine their mentoring skills while interns teach their classes. Mentor teachers also play an active role in evaluating interns' progress throughout the year.

Many professional in site schools, including administrators, counsellors, special teachers, technology specialists and other teachers, welcome interns into their classrooms and schools (Gallacher, 2008). In some African countries like Ghana, teachers are encouraged and supported by the General Teaching Council of England

(GTCE), which is established to encourage good practice teamwork among teachers so that they could support one another. Ghana also introduced a project known as The Teacher Supervisor, which is responsible for encouraging teachers who are older and more experienced to supervise the new and less experienced colleagues. They do this with the aim of passing their expertise to the next generation as this encourages sharing of knowledge, which improves the quality of the service delivery to learners (UNESCO, 2006).

Subject advisors do not provide support in many direct and indirect ways to principals as managers of the subject. Many curriculum co-ordinators do not meet with subject advisors to share experiences in the implementation of the curriculum. The DoE (2000) indicates that subject advisors also do not play an active role in evaluating and supporting the principals in managing teaching and learning of Agricultural Sciences. Other curriculum co-ordinators in developed countries also contribute significantly to the mentoring of teachers (DoE, 2009).

Before 1994, South Africa did not have subject advisors; it was the role of the Circuit inspectors to check if the teachers were doing their work correctly. After the changes in the South African Curriculum in 1998, the subject advisors or mentors were introduced and employed to assist teachers on how they can implement the curriculum, teaching methodology and assessment of learners. Subject advisors encountered the following problems after the implementation of OBE and the National Curriculum Statement:

- Subject advisors did not focus their work on the delivery, implementation and moderation of the curriculum; and
- They could not offer learning area/subject specific support to teachers as they received inadequate training (DoE, 2009).

The inability of subject advisors to effectively monitor teachers may be contributing to the high failure rate in Agricultural Sciences in the FET band in South Africa. Principals should be seen as main role players in influencing the teaching of Agricultural Sciences effectively. According to DoE (2009), subject advisors in South Africa are regarded as

school based subject experts. The job description and performance plan that focuses on their work such as delivery, implementation and offering subject support to teachers was tabled by the end of 2009. Subject advisors are also encouraged to conduct cluster meetings with school based teachers and also focus on sharing information with other schools in relation to a specific subject (DoE, 2009).

In spite of their existence, Curriculum/Subject advisors' support to teachers is ineffective as they do not offer subject specific support to teachers; the latter received inadequate training whereby few workshops are conducted (DoE, 2009).

Therefore, principals need to provide additional support to their teachers regarding the teaching of Agricultural Sciences in the FET band.

2.3.7 Insufficient Learning and Teaching Support Materials in Agricultural Sciences

Lack of teaching media and subject apparatus seems to be another contributing factor towards poor performance in Agricultural Sciences. This means that most of the teaching is theoretical (Mavhungu, 2005). Since Agricultural Sciences is a practical subject whereby some concepts and activities need to be done practically, this is difficult. Theory and Practice must complement each other for the better understanding of the subject (DoE, 2009). In doing so, we will be bridging the gap between theoretical and practical knowledge. Mbajorgu et al. (2014) indicate that lack of practicals in the teaching and learning situation gives rise to a limited scientific basis of teaching. This could be the case with Agricultural Sciences as a subject in the FET band. True knowledge of teaching is achieved by practice and experience in the classroom.

There is a shortage of practical teaching resources such thermometers, pH scales and demonstration farms. Most teaching is done theoretically, which leaves much to be desired and may have a negative impact on the teaching and learning. According to Mbajorgu et al. (2014), lack of resources for practical work of Agricultural Sciences has

been highlighted by Makgato (2007) as being an endemic problem in most South African public schools. Therefore, it is the responsibility of the school principals as managers and School Governing Board (SGB) to ensure that the Department of Education provides the school with all the resources required for practical work in Agricultural Sciences (Bush & Heystek, 2003).

Educational reform in developed countries was not considered necessary to provide teaching resources as the resources could not provide better information that could assist teachers and learners in their teaching and learning of Agricultural Sciences (Leibowitz, 2000). In a country such as Sweden, the government is concerned with the way resources for schools and learners are distributed. The allocation of resources in the teaching and learning of Agricultural Sciences was not done in relation to the needs.

Lyons (2001) indicates that most of the resources do not provide better opportunities for teachers. Local authorities are unable to allocate resources and make curriculum decisions that respect the variety of learners in different schools. Eseza (2010) shows that the absence of adequate and appropriate learning materials such as video tapes, television and films that help to enhance and concretize learning by providing an effective context are barriers to the teaching and learning of Agricultural Sciences.

In Zimbabwe, resources in terms of time, manpower and finance are insufficient. From the report carried out in research in some parts of Zimbabwe, Dube (2003) found that teaching and learning in that country is effective although there is lack of electricity, syllabi and policy documents. In Zimbabwe, there is also a problem of teaching resources, especially in rural areas. Most resources cannot cope with the new curriculum even though the teacher may be competent in the use of teaching and learning materials.

According to DoE (2009), learning materials and teaching resources enable the teacher to use participatory methodology to provoke learners to solve problems in their learning of Agricultural Sciences. There is lack of new textbooks to teach the new syllabus,

CAPS, which was introduced in 2013 (DoE, 2013). This is caused by the tendering system since companies are getting tenders in which textbooks are not in line with the learning outcomes and assessment standards (Chisholm, 2013). The result of this is that they end up not relevant and unused.

The DoE (2009) in South Africa found out that there are problems in relation to the availability and use of resources in the teaching and learning of Agricultural Sciences. These are:

- The National Learner Teacher Support Material (LTSM) catalogue was not developed, and textbooks on the National catalogue were not of best quality to the extent that they did not have appropriate content and methodology as well as assessment support;
- Development of mechanisms and guidelines for the Department of Education (DoE) are unable to manage the prices of textbooks that suit the teachers' context and needs;
- Communication to teachers about the useful role of textbooks and other learning support materials was done. Teachers were not encouraged to use nationally approved textbooks and teachers' guides for both planning and classroom teaching and learning of Agricultural Sciences; and
- The lesson plan was not developed at the educator's discretion, and he/she was not encouraged to use good textbooks for planning.

2.3.8 The use of Teaching Strategies and Skills

According Daluba (2013), teaching strategies refer to different methods and techniques which teachers use to teach content, for example, teacher and learner-centred approaches. These methods in the teaching of Agricultural Sciences help teachers, because:

- Learner's interest towards the subject can be stimulated;
- Different teaching methods can be applied to the nature of learning materials

- They guide learners to self-activity;
- They help in obtaining insight and their inculcation; and
- Learners can learn by discussing, listening, reading and writing.

According to Killen (2007), teaching strategies and skills differ but they cannot be used independently depending on the subject content where more lecturing and explaining is needed. Some lesson will, on 5% of the time, be devoted to the teachers and the rest to the learners. The implication is that teachers who are not professionally qualified cannot be expected to produce good results. Therefore, the influence of principals as managers remains relevant in order to enhance the effective teaching of Agricultural Sciences in the FET band.

A study by Mbajiorgu (2014) showed that lack of understanding of teaching methodologies among teachers was a setback to social interaction in learning and instruction. According to Hart (2013), educational planning must move increasingly into creation and testing out of new educational designs, involving fundamentally new system of teaching and learning designed to achieve well defined performance.

Consequently, if these teaching strategies are applied consistently, they might improve the academic performance of learners in Agricultural Sciences. This is in line with what Khumalo (2012) indicated that learners must be fully involved in their learning.

2.3.9 Lack of Practical Work in Agricultural Sciences

According to Khumalo (2012), Agricultural Sciences cannot be taught successfully if theory is not linked to practice. South Africa is moving away from the academically orientated education to career-orientated education. The aim is to help them have better retention and understanding of what happens in the business if they are given opportunities to practice by using a variety of resources in the teaching and learning of Agricultural Sciences. These resources include the physical structure, chalkboard,

computer/internet, textbooks laboratories, Agricultural Sciences documents and the overhead projector.

This is affirmed by Agricultural Sciences learners in Soshanguve secondary school who, in one study, indicated that the teaching of Agricultural Sciences could be improved by showing learners what is taught practically (Noordin, 2010). It is, therefore, important that resources to conduct all the practical classes as required by the curricula for science subjects be availed to enhance the understanding and application of scientific knowledge (DoE, 2001).

2.3.10 Constant Changes in Curriculum and Continuous Assessment

In 2003, the government of South Africa introduced a new curriculum for Agricultural Sciences. This has severely hampered the ability to deliver quality tuition to learners and resulted into changes in terminology. One other challenge principals are facing is with regard to continuous assessment (CASS) of Agricultural Sciences tasks. Continuous Assessment is an assessment (CASS) which comprises both informal and formal assessment (DoE, 2011). Only formal, planned assessment tasks are recorded. In terms of continuous assessment, the teachers, given support by the principals, are able to pick up problem areas before they become chronic problems.

However, the percentage allocated to continuous assessment is very low (25%) and, therefore, a learner can easily perform poorly because he/she did not perform well in the examination, which is one examination of one sitting of 2h30 minutes. This allocation of 75% to the final examination could affect the academic performance of learners in Agricultural Sciences.

According to Donaldson (2002), developed countries such as UK, Scotland and Britain are emphasizing the fact that learners' prior knowledge, pace of work, challenging tasks, approaches, and recording of learners' achievements, quality class activities, quality class activities, national examination, and increase in direct teaching should be

done continuously. The quality of assessing learners is very good in countries in the UK such as Scotland and Britain because teachers challenge learners with well organized activities that develop knowledge, understanding and performance skills (Fiske & Ladd, 2002). These include proper management of a variety of activities, instructions and interacting with Agricultural Sciences class.

In South Africa, the problem faced in the implementation of the National Curriculum Statement (NCS) with assessment is that there are a lot of administrative duties in relation to assessment and as a result, the administrative duties have been reduced in the teaching and learning of Agricultural Sciences (DoE, 2009). The levels of planning are rationalized. The agreement is that principals should manage Agricultural Sciences assessment by teachers as outlined in the procedure manual as from January 2010 thus:

- Management of teacher's file which should consists of the annual work schedule, assessment plan, formal assessment tasks and memoranda, and a record of each learner's mark per formal assessment task;
- Have knowledge on the number of projects as assessment requirements is reduced to one project per year. The projects are issued by the DoE; and
- Principals should know that learners' portfolios which cover the formal compilation of learner's tasks are discontinued; and
- Principals should monitor learners' assessment tasks for moderation purpose. Clear, simple and subject-specific assessment guidelines will be included in the Curriculum and assessment policy to replace complex and generic assessment (Motshekga, 2009).

The other problem in assessment is terminology. Assessment of the current curriculum has changed, and this has resulted in learners acquiring unnecessary skills (Fikse & Ladd, 2002). The educator's workload and administrative burden was not taken into account and levels of planning were not rationalized. Some of the problems with regard to teaching strategies are:

- The educator experiencing a problem with the filling of the annual work schedule, assessment plan, formal assessment tasks and memoranda, textbooks to be used, and a record of each learner's mark per formal assessment task;
- Planning does not indicate sequence, pace and coverage; and
- Learners' marks are not compiled at the school level.

Moderation in Australia is viewed as a process of ensuring that the same assessment standards are applied from every school doing a particular study. In the state of Victoria, in Australia, consensus was used to moderate learners' course work.

The main function of moderation in Australia is to ensure that different applications of standards remain within acceptable limits (Bloxham, 2009). Moderation is the lynchpin of the school-based assessment system for senior secondary school certification in Queensland. It is the main means of quality assuring the achievement results reported on the Senior Certificate (SC), in future to be reported on the student's Record of Achievement and to contribute to award of the Queensland Certificate of Education (QCE). In Hong Kong (China), the Victorian certificate of education includes statistical moderation in the moderation process. Statistical moderation is a fair and impartial way of ensuring consistency of standards across schools while maintaining the learners' rank order given by the school (Zhou, 2015).

The main reason for having moderation is to ensure that SBA results are comparable and fair for all learners from different schools (Bloxham, 2009). The commonly used moderation includes statistical moderation, consensus moderation and expert moderation. In consensus moderation, groups of teachers conduct moderation meetings occasionally. The teachers select samples of learners' work and bring them to the meeting.

The moderation participants then score all the samples of learners' work, share their scores with the group, and then discuss variation in scoring to reach a consensus.

In Queensland (Australia), moderation is best considered as one component of an overall process of quality assurance. In a school-based assessment system such as Queensland's, moderation, similarly to South Africa, is essential for delivering comparability of results in high stake assessment. Some of the challenges faced by principals for quality assurance, and particularly for moderation, posed by changes in the FET Band to the curriculum are considered regarding some ways in which they might be addressed (Queensland Government, 2010).

Nemadzivhanani (2007) views moderation as a process of ensuring that teachers are assessing work according to agreed standards, and that there is consistency from year to year and within districts, provinces and nationally.

According to the Department of Education (2010), school-based moderation refers to the process which ensures that assessment of the described objectives and aims of the curriculum and assessment policy statement are fair, valid and reliable. This is done by monitoring and evaluating all the work done by learners and teachers throughout the year.

School-based moderation involves assessment, evaluation, monitoring, analyzing and controlling learners and teachers' work (Hoover, 2002). It also refers to monitoring and evaluating student progress and is the duty of School Management Teams (SMT) (Storehill, 2009). It is the process of making sure that in a school, the learners' work is controlled checked assessed and monitored through their teachers. Moderation also includes monitoring test, exams, marks and all the tasks given to learners before and after it is done by learners.

School-based moderation can also be defined as a process undertaken by a providing organization in which assessment practices and decisions are regularly sampled and evaluated and findings are acted upon to ensure consistency and fairness. Hoover (2002) describes things that SMT members can do to raise student performance.

Some of the ways to raise performance are regular moderation and monitoring teachers and learners work.

SMT members are the key participants of ensuring quality of Agricultural Sciences assessment tasks (Houlinhan, 2012) in terms of the school's effectiveness and efficiency. While there are numerous arguments to support the notion that teachers and SMT members can harmoniously work together, it is difficult to argue that without the team work, effectiveness and good work are unlikely to be achieved. In terms of school effectiveness and good results in a school, the implementation of moderation and monitoring by SMT's must be taken into consideration. School-based moderation is one of the tools for effective teaching and learning. According to DoE (2005), moderation refers to "a process in which someone reviews instruments, processes and results against specified criteria". Moderation is aimed at ensuring that no learner is disadvantaged. In assessment, principals are also facing the challenges of the following in terms of moderation:

2.3.11 Teacher Determination

Northhouse (2010) indicates that determination is a desire to get a job done, and this includes characteristics such as initiative, persistence, dominance and drive. Principals who are determined can assist teachers to be proactive and have the capacity to persevere in the face of obstacles. However, principals who lack determinations are not proactive are not initiative and have no capacity to persevere in the face of obstacles. This implies that those principals must be able to get the job done and be positive in the process of moderation.

2.3.12 Lack of Integrity

According to Northhouse (2010), integrity can be described as the quality of honesty and trustworthiness. These are the kinds of principals who adhere to a strong set of principles and take responsibilities for their actions. Principals who lack integrity do not

have the quality of honesty and trustworthiness and do not adhere to a strong set of principles.

Lacking integrity could lead to lack of inspiring confidence in others because they cannot be trusted to do what they said they are going to do. Principals like these are not loyal, not dependable and are deceptive. Therefore, lack of integrity may lead not to adhere to policies and implementation of school-based moderation.

Nemadzivhanani (2007) indicates that principals sometimes fail to satisfy the requirements of the process of moderation not because they do not understand the process but just because they do not want to comply with the procedures and policies regarding moderation.

2.3.13 Misconception of Moderation

Teachers have incorrect conceptions about moderation. They view it as punishment. They think school-based moderation is just a tool used by the Department of Education, through SMT members to punish them. Consequently, they develop a negative attitude towards it. This is one of the factors that affect, negatively, the smooth running of learning and teaching in the school (Makhaga, 2009).

Most of the teachers seem not to understand the meaning and importance of school-based moderation. They do not see the role of moderation and do not understand who should perform it in a school situation. Some teachers do not understand why their seniors have to monitor their work since they consider themselves qualified and well experienced teachers (Knight & Downton, 2006). They seem not to understand that one of the duties of a senior teacher, for an example, SMT members in a school, is to supervise and monitor learners' and teachers' work (DoE, 2010).

Before tests, examinations, assignments, practical, researches, projects, investigations and many more formal tasks are given to learners, they should be moderated by the

SMT to check if they are up to standard (Nemadzivhanani, 2007). A teacher therefore has to work hard to achieve that and if the teacher is not committed enough; he/she should find the task stressful. Another factor that causes teachers to reject moderation is that they are neither fully committed to their work nor dedicated.

They know that they must work hard to prepare their portfolios and that of their learners before they submit them for moderation, but they do not put an effort into the exercise and, as a result, they end up not doing the work effectively (Jeffares, 2015).

2.3.14 Self- confidence

Self–confidence implies the ability to be certain about one’s competences and skills. It includes self-esteem, self-assurance and the belief that one can make a difference, Northhouse (2010) indicates that a teacher who lacks self-confidence does not have the ability to be certain about his/her competences and skills and lacks self-esteem and self-assurance. In this regard, when a teacher lacks self-esteem, she/he regards moderation as a tool of punishment and finds it very stressing (Putter, 2003).

2.3.15 Time Management

Time management is very important for one to succeed in life or in any situation. For teachers to cover all the themes and topics stated in a work program and work schedule, good management of time is needed. Therefore, if the teacher fails to cover all the topics in time, she/he would not want to be moderated, either in a school level or externally. However, this is something one cannot avoid because it is the policy of the Department of Education (DoE, 2010).

The systematic monitoring of teachers’ progress towards desired academic and behavioral goals likely had its origin in the precision teaching of work (DoE, 2010). Progress monitoring becomes a critical component of precision teaching, data based program, modification, curriculum based assessment, instructional consultation and a

variety of collaborative problem-solving team models referred to as teacher assistance teams.

According DoE (2009), there is not enough time for managing the teaching and learning of Agricultural Sciences by principals. The Outcomes-Based Education system could not provide systematic support to both principals and teachers to strengthen their management and teaching skills.

There are a lot of administrative burdens for principals and teachers such as: the number of projects required as formal assessment tasks in Agricultural Sciences and planning required from teachers was not rationalised. Each teacher has to develop more than one file, "*Teacher file*", which does not allow more time for teaching which principals could not manage.

Principals and teachers in South Africa have a problem in practicing the new way in which assessment should be done. They do not know what is to be assessed and how it should be done. At the same time, principals find it difficult to manage assessment standards because they are too generic and unclear (DoE, 2009).

Some of the problems that principals encounter are:

- Lack of understanding and clarity around assessment; and
- The absence of a clear assessment policy.

2.3.16 Lack of Parental Influence

Harrison (1998) points out that it is not only students' own perceptions that affect their career decisions, but also the perceptions of those around them. Therefore, learners in developing countries are influenced by their Agricultural Sciences teacher from high school or university, parents, relatives or friends. Some studies show that teachers do not play a significant role in learners' choice of majors. In contrast, authors such as Shafika (2007) and Pimpim, Boodofn, Milonzo and Adjiel (2008) show referents to have an influence on students' decisions to choose a major. Evidence regarding the

influence of others, for example, parents and friends, is also inconclusive. Studies such as Tan and Laswad's (2006) indicate that parents, followed by instructors, had a strong influence on students' choice of majors.

In Botswana, parents and communities are actively involved in the teaching and learning of their children, to an extent that teachers are highly effective (Mutodi, 2014).

This contributes significantly to positive behaviour from learners and improvement in their performance. According to Fullan (2001), without parental support, it becomes difficult for teachers to be effective. In many instances, it was noted that learners whose parents never attend meetings fail examinations.

In the case of South Africa, the parental role is also encouraged. In rural areas, teachers seek greater parental participation in the education of their children. Most of the learners in rural areas are not assisted and influenced to study Agricultural Sciences and with homework by their parents (Kimu, 2012). It was also noted that there was a notable improvement amongst learners who are assisted by parents. The DoE (2005) introduced school Governing bodies (SGBs) in order to involve the parents in the education of their children.

The schools that offered a variety of ways for parents to get involved had an increased effect on student achievement. Giving parents various methods or activities to involve them in their children's lives increased the willingness and ability of parents to become involved. This increase in parental involvement has been shown to have a consistent, positive relationship with students' achievement and development at school (Maluleke, 2014).

The school governing body, as parents' representative, should make an effort to act as mediator between the schools and the parents in order to enhance parental involvement in schools. It should update parents with regard to school policies so that parents know what is expected of them (Wanke, 2008).

2.3.17 The Implementation of Redeployment

Redeployment of teachers is one of the major challenges that principals are facing in managing the teaching and learning of Agricultural Sciences. According to Zengele (2013), redeployment is the transfer of permanently-employed full-time teaching staff from one educational institution to another.

Redeployment means that teachers are moved to achieve fairness in order to make schools function effectively and successfully. The process of educator redeployment is an ongoing issue that still affects schools and teachers.

In view of the shortages of Agricultural Sciences teachers in certain schools, the Republic of South Africa had to institute changes within its education system (Crouch & Perry, 2003). Chisholm (2004) indicates that prior to 1994 the education system in South Africa promoted separateness rather than common citizenship. This separateness promoted wide disparities in the education. This means that the quality of teachers and distribution of resources in schools varied. In order to solve this, the government embarked on a system of rationalization and redeployment. This involved moving of teachers to schools where there was a greater need.

Redeployment means you stop the hiring of teachers and transfer teachers who are in excess to other areas. In 1997, the Education Labour Relation Council adopted the policy on redeployment, and this resulted in some provinces losing teachers while others gained (Douglas, 2005).

A number of motivational theories can be used to describe why teachers who experienced redeployment may have emotional distress. Teachers who face redeployment ultimately feel that their sense of security is being affected. If an educator's livelihood is affected, s/he might become aloof from the rest of the staff members (Maile, 2005).

Mosoge and Taunyane (2012) indicate the following as some of the resistance that individuals may display: antipathy, loss of morale, resistance, uneasiness, uncertainty and loss of confidence. As a result, they misuse time and resources, information and as a result, produce poor quality learners. In some cases, they get involved in theft and destruction of property and display unsafe behaviour in the work situation.

Redeployment also affects individual teachers in different ways because it causes families to relocate from one place to another and this results in financial problems.

Redeployed teachers become discouraged and lose interest in their work, and their relationship within the school may become tense.

The role of school managers in schools is badly affected by the redeployment process due to the implementation of the policy (Mulford, 2003). This results in sour relationships between teachers who are in excess and the school managers. As a result, these teachers become depressed and even refuse to teach learners.

Teachers lose interest in their work, and this causes tension within the school. Redeployment has negatively affected the role of school managers in schools and has led to suspicion as some teachers who are affected refuse to teach. This means that redeployment needs to be handled with care. The following are some of the challenges of redeployment of teachers which principals are failing to manage: lack of administration capacity, resistance to relocate and lack of mutual trust.

2.3.18 Lack of Administration Capacity of the Principals

Lack of administration capacity of the principals in teaching of Agricultural Sciences may result in inaccuracies, and this might cause stakeholders such as unions and political parties to get involved and staff members become overloaded. Lack of correct statistics and overloaded classrooms result in black schools lacking in administration capacity. Lack of administrative support is seen when the school manager may have competing

issues and being unavailable for teachers' problems (Bays & Crockett, 2007). When issues of redeployment come to the fore, school managers need to prioritize this issue as it might affect the whole school.

2.3.19 Resistance to Relocate

Many teachers prefer areas where facilities such water, electricity and schools are available for their family members. According to Mthombeni (2002) and Lumadi (2014), schools in rural areas suffer because teachers do not want to be redeployed to such areas because there are no facilities such as adequate accommodation, water and electricity.

The implication is that such a situation discourages teachers from teaching in those areas, and it becomes a challenge to principals to manage teaching and learning of Agricultural Sciences.

2.3.20 Lack of Mutual Trust

Most redeployed teachers do not trust their school managers due to inaccurate information that they get from their principals regarding the redeployment process. Mutual trust between the education officials and teacher unions deteriorates quickly and becomes eroded. According to Xaba (2011), the manner in which school managers and school governing bodies run school affairs leaves teachers with no trust that their redeployment process will be run properly.

Problems created by redeployment affect all schools as the level of productivity goes down. This results in high failure rate and contributes to high failure rates. Redeployment does not only disrupt the smooth running of the school but also affects experienced teachers because they contribute to low quality education (SADTU Limpopo Province Secretariat, 2016).

Many countries have a challenge of under-qualified teachers who are based in rural areas (UNESCO IBE, 2006). Many qualified teachers do not want to work in the rural areas due to social and cultural situations. When redeployment comes, some of these teachers choose to go on early retirement or move to other professions (Adedeji & Olaniyan, 2011). Some of the schools end up under-staffed and learners being taught by inexperienced teachers. The implication is that principals, as managers, will have problems in the management of both teachers and curriculum.

2.4 STRATEGIES TO IMPROVE CHALLENGES FACING PINCIPALS IN MANAGING THE TEACHING OF AGRICULTURAL SCIENCES AT THE FET BAND

Intervention strategies implemented by developed countries, taking into account examples of countries such as New Zealand, Sweden, the US (Britain and Scotland) and South Africa are discussed hereunder.

2.4.1 Professional Development of Teachers

Schools in developed countries recruit teachers based strictly on the qualifications alone (World Bank Organisation, 2003). Many developed countries require teachers to pass standardized exams at the national and/or state levels in the subjects they teach and/or the methods of teaching subjects such as Agricultural Sciences. According to UNESCO (2006), many developing countries now determine training needs through an attempt to address needs required by industry and business, in order to generate and sustain a good quality in the training of new teachers. Practice varies from country to country (Evans, 2014).

South Africa offers several routes to the teaching qualification. For example, one route might be a full-time 3 or 4-year degree course, having education as the main focus and with teacher training included (SAQA, 2014). A second option might be a subject specific degree with teacher training added during a further year's study and practice.

South Africa is placing learners with a subject specific degree into a school for their training year (Ngidi, 2005). According to Seng (2003), some developed countries introduced a programme in which teachers without Agricultural Sciences qualifications are encouraged to further their studies in Agricultural Sciences. The universities introduced distance learning programmes for those who are interested in teaching Agricultural Sciences.

In developed countries, the mentor teachers provide support in many direct and indirect ways. To prepare for the support, the site co-ordinators provide orientation and professional development sessions for mentors. Many site co-ordinators meet monthly with mentor teachers to share experiences and refine their mentoring skills while interns teach their classes. Mentor teachers also play an active role in evaluating the interns' progress throughout the year (CHE, 2011). Many professionals in site schools, including administrators, counsellors, special teachers, technology specialists and other teachers, welcome interns into their classrooms and schools (Gallacher, 2010).

According to Noe (2002), developed countries have introduced a curriculum that reflects the demands not only of the fields of knowledge, but also the field of skills and capabilities, the field of human qualities and dispositions.

This emphasises the importance of teachers understanding the complexity of the task of teaching and the relationship between how they act in the classroom and the lessons the young people learn. It is no longer sufficient, if it ever was, for teachers simply to be masters of their subjects and to be the sources of insight and truth.

In developing countries like Botswana, Agricultural Sciences syllabus is built on the foundations laid down in the Junior Secondary schools. It also caters for learners who are very motivated but have no previous encounter with Agricultural Sciences. According to the Botswana Ministry of Education, learners in Agricultural Sciences are provided with education that promotes life-long learning and a link with the world of

work, use of technology to promote the development of moral, social values, cultural identity and citizens and desirable work ethics (DoE Botswana, 2007).

In some African countries like Ghana, teachers are encouraged and supported by the General Teaching Council of England (GTCE), which is established to encourage good practice teamwork among teachers so that they could support one another. Ghana also introduced a project known as The Teacher Supervisor, which is responsible for encouraging teachers who are older and more experienced to supervise the new and less experienced colleagues. They do this with the aim of passing their expertise to the next generation as this encourages sharing of knowledge, which improves the quality of the service delivery to learners (UNESCO IBE, 2006).

The evaluation of Agricultural Sciences education in developed countries is addressed by looking at the curriculum for Agricultural Sciences and the teaching methods used in Agricultural Sciences lessons. According to Donaldson (2000), the major problems confronting Agricultural Sciences education in developed countries are staffing and teaching materials. These problems are also encountered by developing countries such as South Africa. The Minister of Basic Education also noted with concern the inadequacy of staffing and teaching materials problems similar to those of developed countries (Motshekga, 2010).

According to Press Release (2009), subject advisors in South Africa are regarded as school based subject experts. The job description and performance plan that focuses on their work such as delivery, implementation and offering subject support to teachers was tabled by the end of 2009. Subject advisors are also encouraged to conduct cluster meetings with school based teachers and also focus on sharing information with other schools in relation to a specific subject (DoE Task Team Report, 2009).

Principals together with members of SMT are required to develop staff training programs both school-based and school focused so as to develop and achieve educational objectives, in accordance with the needs of the school. While post-

moderation meetings are essential and valuable, real changes can only occur if education managers create opportunities for their staff to be trained as moderators at schools. Training workshops should be run by qualified and/or registered moderators and should focus on practical issues. This implies that moderators should look for when checking assessment instruments and procedures, how they should record and report their observations and what they could do to ensure that moderation contributes not only to better assessment but also to the empowerment of all those involved in moderation processes (DoE, 2008).

Professional development programmes offered to teachers assist in the selection and used of a variety of teaching strategies and skills. Robert, Aloisi, Higgins and Major (2014) point out some factors that influence effectiveness of teachers, namely: their teaching strategies, beliefs about teaching, and the general classroom process that provide an immediate learning environment of Agricultural Sciences. Teaching strategies can be classified in several ways, for example, teacher-centred or learner-centred. Teacher-centred strategies are those in which the teacher has direct control. Learner-centred strategies are those strategies that allow learners to play a more active role in their learning.

According to Burden and Byrd (2010), a teaching strategy is a combination of teaching methods and techniques the teacher prefers in his/her teachings. Teaching and learning improve with sound instructional practices.

The section, "Effective Instructional Practices," contains evidence-based strategies essential to any classroom environment that places Agricultural Sciences learners' success as the driving force for teaching and learning. These practices are identified as: feedback, cooperative grouping, games/simulations, homework and practice, questions, and organizers. Strategies for each of the areas are described (Johnson, 2011). This means that when teachers incorporate these strategies into instruction, teaching and learning improve.

In this regard, Weimer (2009) suggest some factors in providing effective instruction for secondary learners, namely:

- They argue that the most important factor is the teacher;
- Time on task: learners must be engaged in appropriate instruction for sufficient time to master the academic skills; and
- The presentation of a lesson: Successful lessons include appropriate expectations, frequent monitoring and helpful feedback.

Furthermore, they argue that the entire school experience of the learner should be designed to produce the maximum learning success for each individual. The negative effects of disorganized home environment can be overcome by providing a safe and consistent school environment. The learners' feelings of alienation can be overcome by showing genuine care for them and by involving them and making the school their own.

Olatoye and Adekoya (2010), identify some of the instructional features that related to improved learners' achievement in Agricultural Sciences.

Some of these features include:

- Direct and frequent monitoring of progress;
- Corrective and motivational feedback;
- Learner academic involvement; and
- Total length of time allocated for instruction

The reform movement in Agricultural Sciences education can be traced to the mid-1980 and was a response to the failure of traditional teaching methods, the impact of technology on curriculum and the emergence of new approaches to the scientific study of soil conservation and management as a branch Agricultural Sciences. Basic to the reform movement was a standards-based approach to the "what and how" of Agricultural Sciences teaching (Wheelus, 2009).

The driving force behind the standards-based approach to the instruction has been the standards developed by the National FFA Organization, 2014. The Principles and

Standards for School Agricultural Sciences, published by National FFA Organization, 2014, outline the principles and standards for developing a comprehensive school Agricultural Sciences program. The document delineates six guiding principles related to equity, curriculum, teaching, learning, assessment and technology, and identifies five content and process standards outlining what content and processes learners should know and be able to use. The process standards are organized around the areas of problem solving, reasoning and proof, communication, connections and representations (National FFA Organization, 2014).

A set of basic assumptions about teaching and schooling practices is implicit in this reform movement. First, all learners must have an opportunity to learn a new unit title. Secondly, all learners have the capacity to learn more units than we have traditionally assumed. Third, new applications and changes in technology have changed the instructional importance of some Agricultural concepts. Fourth, new instructional environments can be created using technological tools. Fifth, meaningful geometrical Agricultural Sciences learning is a product of purposeful engagement and interaction which builds on prior experience (Romberg, 2000).

The Minister of Education appointed a panel of experts in July 2009 to investigate the nature of the challenges and problems experienced in the implementation of the National Curriculum Statement. This decision to review the curriculum is based on commitment to improving the quality of teaching and learning in South African schools in both the short and long-term period (DoE, 2009).

The Task Team committee on NCS (2009) recommended that the changes should occur within the framework of a Five-Year Plan from 2010 to 2014. The National Curriculum Statement documents such as learning guidelines and Subject Assessment guidelines are to be resolved and made available to schools, district offices and to parents via the media. Subject advisors in Agricultural Sciences are given the task to moderate the curriculum.

2.4.2 DoE Recruitment-based Sessions

African countries like Afghanistan recommend recruiting short term teachers who have less than usual Agricultural qualification. In order to avoid the shortage of Agricultural Sciences teachers in these countries, they practice a system of special allowances that are posted to remote area. These allowances provide a possibility to reward teachers according to their actual situation (Kubberud, Helland & Smith, 2005).

The Minister of Basic Education, Motshekga, in 2009 encouraged learners entering the universities to study the teaching profession and major in subjects like Agricultural Sciences and were given bursaries for study purposes. South Africa is also doing what other African countries are practicing in order to solve the problem of shortage of Agricultural Sciences teachers.

2.4.3 Moderation of Assessment Tasks

Moderation is a set of processes designed to ensure that results recorded match the requirement of the curriculum. The aim of moderation is to ensure comparability in Agricultural Sciences. This implies that learners in schools who attain the same standard through assessment programme on common syllabuses were awarded the same level of achievement (Queensland Government, 2010).

Developed countries, like South Africa, have an education committee, such as Umalusi and SACE, whose task is to develop standards, guidelines, discussion papers and other materials on the education, training, and the continuing professional education of farmers. This committee is expected to act as a catalyst in bringing together developed and developing countries and to assist in the advancement of Agricultural Sciences programmes worldwide (Albrecht, Cecil, Clark, Jay & Stocks, 2010).

Homework should match the appropriate instructional level of the student and provide practice on previously introduced skills (Marzano & Pickering, 2007). Homework and

learners' practice of skills are important in Agricultural Sciences, and learners must receive focused practice to achieve mastery of skills as it is recommended that learners should practice only a few skills at a time at a deeper level. Complicated tasks should be broken into smaller segments with built-in practice time (Marzano, Pickering, & Pollock, 2001).

According to DoE (2010), one of the strategies to be used in school-based moderation can be through teachers' progress monitoring. Like the progress of a learner needs to be monitored now and then, so is that of teachers. The school moderator is responsible for the total assessment programme and moderation processes within the school. There are also subject moderators or SMTs that are directly responsible for preparing and implementing work programs. These moderators use assessment criteria consistent with curriculum standard descriptors, organizing school-based moderation of Agricultural Sciences in the FET band. These are required for preparing external moderation submissions (Queensland Government, 2010).

The need for higher-quality assessments is another intervention strategy that can be used to improve the performance of Agricultural Sciences in FET band. For instruction to be effective, classroom assessments must reflect quality. Assessment strategies provide measures to make an evaluative judgment of learners' levels of competencies in given areas. This judgment determines the educational needs of learners and offers direction to the teacher in planning effective instruction. Assessments should be both informal and formal. These varied assessments should be utilized before, during, and after instruction (Hollenweger, 2011).

Heath and Glen (2005) indicate that assessment is a powerful tool to monitor the development of student's understanding to revise instruction and to provide reflection. It is noted that effective teachers utilize assessment tasks as quality learning experiences. Assessment feedback supplies the learner with self-assessment information, but it also enhances motivation, which is crucial to achievement (Linnenbrink & Pintrich, 2002).

Effective feedback should be immediate and follow the use of a routine or the successful completion of teacher instructions. This means that academic performance in Agricultural Sciences improves with consistent feedback (Pintrich & Schunk, 2002).

Monitoring progress helps learners engage internally and identify learning successes and areas for additional attention. Agricultural Sciences learners need frequent feedback along the way to make sure that they are on track. This means that learners studying Agricultural Sciences need learning processes modelled for them.

Rubrics provide teachers with established informative criteria for success by clarifying desired learning outcomes for learners. Self-assessment and reflection are important, and due to the feedback, learners can ascertain for themselves. Effective learning appears to result from learners who provide their own feedback by monitoring their work against preset criteria presented to them in advance of the work task or assignment (Axelrod, Zhe, Haugen & Klein, 2009).

Recording is the process by which the teacher is able to document the level of a learner's performance in a specific assessment task. It indicates a learner's progress towards the achievement of knowledge as prescribed (DoE, 2011). Records of learner performance should provide evidence of the learner's conceptual progression with a great percentage of his or her readiness to progress or to be promoted to the next grade. These records should also be used to monitor the progress made by teachers and learners in the teaching and learning progress. Recording is also a process of communicating learner's performance to learners, parents, school and other stakeholders (DoE, 2011). In Agricultural Sciences, learner performance can be reported in many ways. It is through recording and reporting wherein a teacher, being helped by his / her SMT, can use this as a strategy for school-based moderation to serve its purpose.

According to Hattie (2009), one of the strategies that can help in school-based moderation is through self-monitoring. When teachers monitor their activities in school before their activities are monitored by their seniors, it helps the teacher to find out

his/her mistakes and improve on them or correct them before someone who is moderating sees them.

Bloxham (2009) indicates that one of the strategies for school-based moderation to be effective is through involvement of learners as partners in assessment process. Recent theoretical development in the field of moderation is focusing on the importance of learners as self-assessors, who in addition to the teacher's feedback and recommendations, are able to provide their own feedback because they understand the standard they are aiming for and can judge and change their own performance in relation to that standard.

Support refers to the efforts of the Department of Basic Education to assist institutions that aim to improve the quality of teaching and learning of Agricultural Sciences in schools (DoE, 2006). Monitoring and evaluation refers to the responsibility of both institution and the wider education system to monitor the extent to which efforts to transform our institutions have succeeded and constantly evaluate and review the efficiency of our policies and practices. When the department provides for these to schools, quality of teaching and learning improves for better. Principals should be responsible for ensuring that Agricultural Science assessment task are of good quality.

According to Donaldson (2002), the developed countries are emphasizing the fact that learners' prior knowledge, pace of work, challenging tasks, approaches, and recording of learners' achievements, quality class activities, quality class activities, national examination, and increase in direct teaching should be done continuously. The quality of assessing learners is very good in countries in the UK such as Scotland and Britain because teachers challenge learners with well organized activities that develop knowledge, understanding and performance skills (Foster & Bolt-Lee, 2002). These include a variety of activities, instructions and interacting with class.

2.4.4 Motivation of Teachers and Learners

Motivation is a drive that encourages an individual to act in a certain way. For these reasons, principals should be encouraged to motivate teachers. This should be done when teachers are demotivated. According to Mwamwenda (2010), motivation is a way of encouraging an individual to act in a certain way.

Mwamwenda talks about intrinsic motivation as inner motivation that stems from the individual whereas extrinsic motivation is caused by external factors such as rewards and punishment.

It is, therefore, necessary to consider external factors such incentives as indicated under the heading Incentives in this paper.

It can be assumed that it is necessary for school managers to negotiate the effects of change and find solutions to manage this change by using extrinsic motivation. According to Mwamwenda (2010), school managers should be responsible for motivating teachers intrinsically and extrinsically, especially where there is lack of drive and enthusiasm to perform their day-to-day activities, after the introduction of the redeployment process.

Donaldson (2008) shares the same sentiment when indicating that teachers should be committed and dedicated enough to their school work so as to maintain the standard and to achieve quality teaching and learning. He further states that this can be achieved by sharing ideas with other teachers, and this motivates them. Many teachers work with each other in classrooms looking at ways to overcome challenges they experience and strategies they can apply for better teaching and learning.

In developed countries, the attitude of teachers towards teaching Agricultural Sciences is encouraged as teachers receive support from their subject advisors. Team teaching is emphasized as an important tool for learning and developing themselves. According

to Miller (2001), teachers in South Africa are encouraged to create good relationship with their learners so that they can enjoy teaching a particular subject. They have to treat learners in a respectful way in order to create the prerequisites for development and learning Agricultural Sciences (Niemi, 2012).

Agricultural Science teachers feel stressed when there is a threat of redeployment in schools. School managers need to be aware of signs of severe stress in their staff. This means that school managers should give educational as well as psychological support to their staff. Woolfolk (2010) indicates that staff members affected should be encouraged to acquire new skills in their profession. Blackmore (2010) indicates that Agricultural Sciences teachers must recognize that there are different ways to learn, they must know their learners, and they must capitalize on the diversity of learners to promote high standards in classroom performance.

Teachers have recognized for a long time that some learners prefer a particular way to learn. Knowing this information helps teachers plan for small group and individualized instruction. Learners who have knowledge of their own learning styles can better understand themselves with regards to strengths and weaknesses. Heffler (2001) reported that this understanding helps learners to monitor and choose strategies that support their learning. This knowledge might improve self-confidence when learners acknowledge that their lack of learning might not be due to an inadequacy. Kwak (2008) indicates that self-knowledge of how one learns is an advantage.

2.4.5 Excellence Awards

Teachers are awarded for producing best results in Agricultural Sciences (DoE, 2009). This strategy is also used by the district at both cluster level and circuit level. Teachers who produce learners with distinction in Agricultural Sciences are also awarded certificates and money from different sponsors as a donation to the DoE. All this is done to improve the effectiveness of a teacher and creation of positive attitude towards

teaching Agricultural Sciences. It is possible that a learner may receive an award at district, cluster and at circuit level (Press Release, Mirror, March, 2010).

2.4.6 Incentives

Some countries endeavored to make redeployment in rural areas attractive by offering hardship allowances, which may be special study leave or better training opportunities (DoE, 2011). The Department of Education (2011) indicated that these were some of the incentives to be given to staff members redeployed.

In developed countries, teachers are encouraged to like learners as it is the easiest way to create an environment for the learning and well-being of learners in Agricultural Sciences. They are also encouraged to enjoy their teaching as it stimulates learners' attitudes towards the subject.

In countries like Sweden, the positive attitude of teachers is encouraged by creating a good relationship with other teachers (Niemi, 2012). In Sweden, working in teams is highly emphasized between teachers.

Participation in group activities, working in pairs, working as a team, assisting a peer and providing leadership are encouraged as they are an indication of positive attitudes towards work in the learning of Agricultural Sciences (Aronson, 2010).

The Department of Education in South Africa has sponsored some of the schools with laptops that can be used during the teaching process, and those computers can also be useful to learners while learning. The laptops are given to dysfunctional schools in the Vhembe District with programmes that can be used while teaching Agricultural Sciences (DoE, 2012). This means that the academic performance of learners in Agricultural Sciences can improve through the use of computers as it saves time, but principals should ensure that those resources are well managed.

Every year, at provincial level, South Africa rewards learners who obtain the highest percentage in Agricultural Sciences in Grade 12. They are awarded with items like laptops, bursaries and many others (DoE, 2009). This strategy is also used by the district at both cluster and circuit levels. Learners who obtain higher marks in Agricultural Sciences are also awarded certificates and financial assistance to further their studies. It is possible that a learner may receive an award at national, provincial, cluster and at circuit level. This results in positive attitudes towards the subject (Press Release, Mirror, March, 2010).

2.4.7 Good Communication

Good communication is very important in school management. Principals need to ensure that channels of communication are open and that staff members are encouraged to use them. Hellriegel et al. (2001) state that the principal of the school has to ensure that channels of communication throughout the management structure of the school are explicitly formulated to lower the stress level of teachers and address unresolved issues, thus permitting a two-way communication.

School managers spend most of their time communicating and thus should be able to communicate effectively. This could involve giving instructions and also listening to grievances of his/her subordinates, especially during the period of redeployment (Hellriegel et al., 2001). This could only happen if a school manager affords the opportunity to his /her subordinates to communicate freely.

2.4.8 Culture

Sanchez (2004) sees culture as a way in which a group of people come to terms with their problems and how they solve them. In schools, this determines how school managers run activities within the school. This means that schools that are properly run will not experience problems when redeployment takes place. Schools have transparent ways of dealing with issues that affect staff.

2.4.9 Climate

Climate refers to the atmosphere in which people work and also includes their interpersonal relationships in which principals should be able to manage the teaching of the subject efficiently. School climate is a mutual interpersonal organization that shows sincere warmth and a friendly atmosphere which helps in the lowering of stress atmosphere, thereby bringing about the lowering of stress levels of workers. Principals should ensure that they create an atmosphere in which they can be able to manage teachers who teach the subject (Holloway, 2012). In this regard, it can be deduced that climate refers to the way in which redeployment is done. A sincere and friendly atmosphere always promotes peaceful redeployment of staff members.

2.5 CONCLUSION

This chapter reflected that social constructivism extends the meaning of social to include the cultural and historical aspects of the social context. Most teachers are not well qualified and are a problem to learners, who are willing to learn and principals being unable to manage the teaching of a subject. Support from the subject advisors leaves much to be desired and changes in curriculum are also a challenge, which result in principals being unable to manage assessment tasks of Agricultural Sciences. Interest in Agricultural Sciences can improve if principals develop plans of managing and working together with the subject advisors and teachers. Chapter 3 discusses research design and methodology.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

Chapter 2 presented the literature reviewed on the challenges that principals face in managing the teaching and learning of Agricultural Science. This chapter presents the research design and methodology followed in undertaking this study which includes: the population and sample, research methods, data collection procedures, research instruments, data analysis, ethical considerations and summary. The study was guided by the following research objectives:

- To investigate the factors that affect principals in managing the teaching of Agricultural Sciences in the FET band.
- To develop strategies that can be employed to address the challenges facing principals in managing the teaching of Agricultural Sciences in the FET band.

3.2 RESEARCH DESIGN

Research design ensures that the evidence obtained address the research problem logically and as unambiguously as possible (De Vaus, 2001). According to Creswell (2009), research design is a set of guidelines and instruments to be followed in addressing the research problem in order to obtain evidence to answer research questions. The study adopted the mixed methods approach which combines qualitative and quantitative methods. These are discussed in the section that follows.

3.3 RESEARCH METHODOLOGY

Methodology comes from the word 'method', which refers to a procedure or way of doing things in an orderly manner. Makhubele (2005) shows that a method is a way that is followed by scientific inquiry in order to reach a valid and reliable conclusion. The study adopted the pragmatic paradigm following mixed methods approach which

combines qualitative and quantitative methods. These are discussed in the section that follows.

Research methodology refers to a process whereby the researcher collects and analyses data (Henning, Van Rensburg & Smith, 2004). According to Creswell et al. (2016). Research methods are tools that researchers use to collect data; these tools enable the researcher to gather data on social reality from the participants and depend on the nature of data to be collected. For this investigation, the researcher used literature and a combination of quantitative and qualitative research methods. The mixed method approach involves the use of both approaches, in tandem, so that the overall strength of the study is greater than either quantitative or qualitative.

3.3.1 Quantitative Research Methodology

The researcher used the questionnaire to collect quantitative data from the principals. The questionnaire is an instrument that is used to obtain responses quickly and providing quantitative data (Cano, 2010). The questionnaire was used because it is easy and quick to administer. A questionnaire can be structured or unstructured. The researcher used a structured questionnaire with closed-ended questions.

3.3.1.1 Population

The population of the study, in the quantitative, was comprised of all teachers of the schools in the Vhembe District. According to Neuman (2006), population is the abstract idea of a large group of many cases from which the researcher draws a sample and to which results from a sample are generalized.

3.3.1.2 Sampling procedure

Simple random sampling is a method of selecting a sample from a statistical population in such a way that every possible sample that could be selected has a predetermined probability of being selected by the researcher (Leedy & Ormrod, 2005). The researcher

used simple random sampling because its sample represent the target population and eliminate sample bias.

3.3.1.3 Sample size

The sample comprised forty teachers who teach Agricultural Sciences. Teachers were sampled because they are the ones who teach the subject in the identified school.

3.3.2 Research Instrument

The researcher used a questionnaire to collect data and it is discussed in detail hereunder:

3.3.2.1 Questionnaires

According to Bartlett and Burton (2007), a questionnaire is a very useful method for obtaining responses quickly and providing quantitative data. The questionnaire focused on drawing out the challenges encountered all stakeholders, namely, teachers, learners, curriculum advisors, circuit managers, farmers.

3.3.2.2 Questionnaire construction

The design of the questionnaire was aided by the pilot study and went through several changes before administered in its final form. Suggestions as to questions and format were also taken from peers who understand the issues on the management of the teaching learning of the subject.

Data was collected from teachers through questionnaires which comprised two sections, namely, Section A, biographical information and Section B, with 30 close ended questions. The questionnaire was administered first to the teachers in the sample. In all there were 30 questions and each was formulated against a background of knowledge acquired. Thus, the researcher gives evidence of his familiarity with

previous literature and research in the field. Once the questionnaire was designed, a pilot study was conducted.

The questionnaires comprised of closed-ended. The questionnaire comprised of two sections, namely, biographical information, 30 questions for section B which emerged from the objectives of the study and the researcher administered the questionnaires personally to the participants.

3.3.3 Data collection procedure

The researcher distributed the questionnaires to the participants after the permission to collect data was sought from the Department of Basic Education, Vhembe District, circuit managers and principals of the schools sampled. The researcher used the questionnaire to collect quantitative data from the teachers. A questionnaire is an instrument that is used to obtain responses quickly and provides quantitative data (Cano, 2010). The researcher used a structured questionnaire with closed-ended questions.

3.3.4 Data Analysis Procedure

In quantitative data, analysis Statistical Package for Social Sciences (SPSS) was used by the researcher.

3.3.5 Qualitative Research Methodology

In this study, the researcher interviewed the participants. According to Creswell, et al., (2016), an interview is a two-way conversation in which the interviewer asks the participants questions to collect data and learn about the ideas, beliefs, views, opinion and behaviours of the participants. An interview is a conversation with a goal and it is particularly useful for getting the story behind a participant's experiences. An interview was used because it gives the researcher and participants a chance to know each other

and that the participants can clarify the misunderstanding on what the problem might get more facts and information.

3.3.5.1 Population

According to Neuman (2006), population is the abstract idea of a large group of many cases from which the researcher draws a sample and to which results from a sample are generalised. Mogorosi (2009) defines population as all possible cases, subjects or objects of what a researcher is interested in studying, not necessarily people. It could be records, cases, programmes or activities. The population of the study comprised of all principals and teachers of schools in the Vhembe District.

3.3.5.2 Sampling Procedures

According to Leedy and Ormrod (2010), sampling strategy is a process of selecting people that participated in the study. This study employed simple random sampling in the quantitative data and purposive sampling. (Dattalo, 2008) indicates that purposive sampling enabled the researchers to select a sample based on the purpose of the study and knowledge of a population. Participants were chosen due to the relevant knowledge they have in managing the teaching and learning of Agricultural Sciences.

Harsh Suri (2011) view purposive sampling as a sampling procedure that facilitates selection of information-rich cases for the study in-depth. Purposive sampling procedure was used to select participants in qualitative and quantitative research. The Soutpansberg cluster has 40 principals of which 10 principals will be interviewed by the researcher

3.3.5.3 Sample

A Sample is a process used in statistical analysis in which a predetermined number of observations will be taken from a large population or may be defined as a portion or piece or segment that is representative of the whole. Qualitative sample comprised of

10 principals taking into consideration, 3 poor performing schools, 4 best performing schools, 3 schools that have phased out. Agricultural Sciences Principals were sampled because they manage the teaching and learning of Agricultural Sciences in schools.

3.3.6 Data Collection Procedures

In order to access the participants, the researcher applied for permission from the Department of Education Vhembe District, the circuit managers and principals. The researcher delivered the consent forms to targeted schools, after obtaining permission from the principals.

3.3.7 Data analysis procedure

For the purpose of the study, the researcher used thematic analysis, for qualitative data. Data analysis was carried out simultaneously with the data collection process, and each interview was transcribed and labelled as soon as it was done. Each collected data was compiled, edited, and coded according to themes and sub-themes, separates and organizes this in different categories as well as sub-categories.

3.6 VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENTS

3.6.1 Validity

The present researcher believes validity means the study's conclusions are real and precise when instrument measures what it is intended to measure. Leedy and Ormrod (2010) pronounce that if results are to be considered accurate, the research instrument must measure what it is supposed to measure. As a process, validation involves collecting and analysing data to assess the accuracy of an instrument. To ensure validity, the questionnaire was pilot-tested on the participating members of the same population with the aim of reducing the degree of limitations of certain measures since

this study relied on valid, authentic, methods of collecting, presenting information and interpretations.

3.6.2 Reliability

Reliability is the accuracy or precision of an instrument, the extent to which independent administration of the same instrument produces the same results under similar conditions. Bartlett and Burton (2007) declare that reliability marks the degree to which a given procedure for transforming a concept into a variable produces the same results in tests repeated with the same empirical tools (stability) or equivalent one (equivalence). Issues discussed in 3.7 address this aspect of reliability.

3.7 TRUSTWORTHINESS OF THE QUALITATIVE STUDY

Thomas (2010) defines trustworthiness as a term used in qualitative research as a measure of the quality of research. This encompasses measuring the accuracy of the qualitative findings. In the study, the data produced from analysis underwent member checking to increase trustworthiness.

Lincoln and Guba (1990) observe that all research must respond to canons that stand as criteria against which trustworthiness of the project can be evaluated. These canons can be phrased as questions to which all must respond. Anney (2014) suggests that trustworthiness of qualitative research can be established by using four strategies, namely, credibility, dependability, conformability and transferability. This study cross validated data sources to ensure trustworthiness which are discussed hereunder.

3.7.1 Credibility

Credibility is the extent to which the collected data can be controlled in an objective and reliable manner (Creswell, 2009). The present researcher conducted face-to-face interviews after familiarisation with the organisations under the study. In the present

study, the researcher used the quantitative and qualitative triangulation methods of data collection and the interviews were conducted in order to establish a relationship of trust with the respondents. Respondents were requested to complete consent forms to ensure that data collection involved only those willing to take part in the study.

3.7.2 Transferability

According to Shenton (2004), transferability refers to the extent to which the findings of one study can be applied to other situations.

In this study, the researcher gave a detailed description of the methodology, including the nature of organisation and their locations, selection of the respondents and the process of data collection. This was done in order to assess the extent to which findings may be true when similar methods are used in similar environments. The way in which the interview schedule was structured is such that it can also be used in another similar area.

3.7.3 Dependability

Dependability refers to extent to which the study can be repeated in the same context, using the same methods and respondents in order to gain similar results (Shenton, 2004). The researcher used individual interviews, and the respondents were given enough time to answer questions based on the research objectives. The researcher also used the purposive sampling and established the tested method of data collection.

3.7.4 Conformability

Conformability means achieving the same results even when a different researcher conducts the research (Creswell, 2009). In this study, the researcher avoided being biased by encouraging the participants to be free when providing information and also explaining the purpose of the study. The researcher properly selected the respondents

that could provide rich information for the study from the principals. This means that the research results would be similar as well.

3.8 DATA ANALYSIS

According to Holloway (1997) and De Vos, Strydom and Fouche (2001), data analysis is the process of bringing order, structure and meaning to the mass of collected data. It is a messy, ambiguous, time-consuming but fascinating process.

The collected information was analyzed after being consolidated and collected by means of questionnaires, interviews through qualitative and quantitative methods.

Data from different instruments was analyzed and presented separately so that data are not mixed up, which may result in a mix-up conclusions and inferences. The final processes involve data integration in which quantitative and qualitative data is integrated into one coherent whole analyzed and interpreted set.

3.7.1 Quantitative Data Analysis

In quantitative data, analysis Statistical Package for Social Sciences (SPSS) was used by the researcher.

3.8 ETHICAL AND SAFETY ISSUES

The aim of ethical consideration is to protect all persons involved in a research. Black (2002). On the other hand, Schwandt (1997) contends that ethical considerations are concerned with the ethical principles and obligations, including the articulation of professional codes, governing conduct in the field and writing up accounts of fieldwork.

The research was also conducted according to the University Higher Degree Committee (UDHC) member's requirements. Since this study is highly sensitive, the following important ethical considerations were noted in the study:

- Ethical considerations stipulate that social science researchers are required to do their best in order to avoid situations where their research practices violate fundamental human basic rights of their subjects, namely, the participants who take part in their research projects.

3.8.1 No Harm to Subjects

In order to prevent any harm on the side of the participants or interviewees, they were not potentially exposed to harm, for example, interviewing them under harsh weather which can expose them to illness. This should be avoided at all costs, especially where subjects are children and cannot demand protection of the human rights (De Vaus, 2001).

3.8.2 Informed Consent

The participants were given informed consent forms before they participated. Their consent was also sought before their participation. This element of ethical consideration requires that participants first provide the researchers with permission to participate in study before they actually take part. Informed consent is therefore a process that precedes fieldwork in which the people to be studied are informed of the goals and methods of the research and then asked for their consent to participate in the project (Liamputtong & Ezzy, 2005).

3.8.3 Anonymity

All participants in the study remained anonymous and were treated respectfully where the researcher hid their names and biographical characteristics. The researcher used codes only known to him in order to identify participants. Black (2002) contends that one way of achieving anonymity is through allowing responses to be submitted anonymously.

3.8.4 Confidentiality

Confidentiality means that no one or no institution should be identifiable from research reports unless there is good reason to reveal institutional origins and permission secured (Black,2002).

The information obtained by the researcher from the participants was treated with confidence, meaning that it was not revealed to other unauthorized persons.

3.9 CONCLUSION

The purpose of this chapter was to describe how data was collected and analysed. The research design and the research methodology were also discussed. A schematic representation of the research design was also presented and qualitative and quantitative research approaches were discussed. Research aspects such as the population, sample, sampling procedures, literature review, and phenomenological method were also highlighted. In addition, research instruments such as the interview and questionnaire schedule and the way they were compiled were highlighted. A pilot study was conducted to test the instruments and to check if they were appropriate. Chapter Four presents data findings and analysis.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATIONS

4.1 INTRODUCTION

Chapter 3 presented the research design and methodology. This chapter presents results and discussion on the challenges that principals are facing in managing the teaching of Agricultural Sciences in Vhembe District. The quantitative data were gathered from Agricultural Sciences teachers whilst qualitative data were gathered from the principals. Quantitative data was analyzed through the SPSS version 24 and qualitative data was analyzed thematically. The objectives of the study were:

- To investigate the factors affecting principals in managing the teaching of Agricultural Sciences in the FET band.
- To explore the strategies that can be employed to develop and address challenges facing principals in managing the teaching of Agricultural Sciences in the FET band.

4.2 QUANTITATIVE DATA ANALYSIS

This section discusses biographical information of Agricultural Sciences teachers. The information is necessary to understand the type of participants who participated in the study.

4.2.1 Section A: Biographical Information

4.2.1.1 Gender

Table 4.1 shows that 42.5% (17) were males whereas 57.5% (23) were females. This implies that female teachers who took part in this study were more than males.

Table 4.1: Gender

	Frequency	Percent
Male	17	42.5
Female	23	57.5
Total	40	100.0

4.2.1.2 Age

Table 4.2, 20% (8) of Agricultural Science teachers indicated that they were between 20-29, whereas 15% (6) were between 30-39. To add, 22.5% (9) were between 40-49 and 47.5 % (19) were 50 years and more. The implication is that a majority of Agricultural Sciences teachers are in the age of 50 years and above. This, therefore, suggests that Agricultural Sciences teachers are well experienced in the teaching of the subject.

Table 4.2: Age

	Frequency	Percent
20-29 years	8	20.0
30-39 years	6	15.0
40-49 years	9	22.5
50 years and more	19	47.5
Total	40	100.0

4.2.1.3 Employment status

Table 4.3 shows that 5% (2) of the participants were principals, whereas 20% (8) were Heads of Departments. To add, 17,5% (7) of the teachers indicated that they were senior teachers, followed by 75,5% (21) who indicated that they were teachers and 5% (2) indicated that they are holding other positions within their schools. This shows that a large number of Agricultural Sciences teachers do not hold promotional positions.

Table 4.3: Employment Status

	Frequency	Percent
Principal	2	5.0
Head of department	8	20.0
Senior teacher	7	17.5
Teacher	21	75.5
Other(specify)	2	5.0
Total	40	100.0

4.2.1.4 Qualifications

About fifty percent (20) of the participants had 3year (STD + Degree) teacher's qualifications and degree, whereas 15% (15) had Degree plus University Education Diploma/Post Graduate Certificate in Education (UED/PGCE). In addition, 22,5% (9) had Bachelor of Arts in Education/Bachelor of Education (BA.Ed/B.Ed.) while 12,5% (5) indicated that they had an Honour's Degree and Teachers qualification. This means that most teachers are qualified in a Secondary Teachers Diploma (STD) and a degree which then enables them to teach the subject at the FET band. Therefore, Agricultural Sciences teachers who participated, in the study, have the relevant qualifications to teach the subject.

Table 4.4: Qualifications

	Frequency	Percent
STD + Degree	20	50.0
Degree + UED/	6	15.0
BA.Ed/B.Ed.	9	22.5
Hons + Teachers qualification	5	12.5
Total	40	100.0

4.2.1.5 Working experience

Table 4.5 shows that 30% (12) of the participants had worked for a period between 0 – 5 years, whereas 5% (2) had worked for a period of between 6-10 years. Another 32,5% (13) indicated that they had a working experience of between 11 and 15 years while 12,5% (5) of the participants had worked for a period between 21-25 years. To add, 10% (4) indicated that they worked between 26 – 30 years while 10% (4) of the teachers indicated that they had worked for more than 31 years. The majority of Agricultural Sciences teachers had worked for a period between of 11 to15 years and therefore had considerable experience in the teaching of Agricultural Sciences.

Table 4.5: Work Experience

	Frequency	Percent
0 – 5 years	12	30.0
6– 10 years	2	5.0
11 – 15 years	13	32.5
21 – 25 years	5	12.5
26 – 30years	4	10,0
More than 31 years	4	10.0
Total	40	100.0

4.2.2 Section B: Challenges Faced by Principals in Managing the Teaching of Agricultural Sciences in the FET Band

This section discusses the results showing challenges that principals face in managing the teaching of Agricultural Sciences in the FET Band.

4.2.2.1 Professional qualification of Agricultural Sciences teachers

Table 4.6 shows that 12,5% (5) of teachers indicated that Agricultural Sciences teachers were professionally qualified to teach the subject in the FET band, whereas 37,5% (15) agreed with the statement. Additionally, 25.0% (10) of the participants disagreed with statement while 12,5% (5) strongly disagreed with the statement and 12,5% (5) of the participants were not certain. This implies that the majority of the participants, 50% (20) agreed that Agricultural Sciences teachers were professionally qualified. The literature indicates that there are teachers who teach Agricultural Sciences while still holding the lowest qualification of STD (Mavhungu, 2009). However, the situation could have drastically changed although a number of areas still lack Agricultural Sciences teachers.

Table 4.6: Professional Qualification of Agricultural Sciences Teachers

	Frequency	Percent
Strongly agree	5	12.5
Agree	15	37.5
Disagree	10	25.0
Strongly disagree	5	12.5
Not sure	5	12.5
Total	40	100.0

4.2.2.2 Contribution of working conditions to effective teaching of Agricultural Sciences

Table 4.7 show that 25% (10) respondents strongly agreed that working conditions contribute to effective teaching of Agricultural Sciences, whereas 42,5% (17) agreed with the statement and 27,5% (11) disagreed with the statement. Only 2,5% (1) strongly disagreed and 2,5% (1) were uncertain about the statement. This means that most, 67,5% (27) of the participants agreed that working conditions contribute to effective teaching of Agricultural Sciences.

Table 4.7: Working Conditions and Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	10	25.0
Agree	17	42.5
Disagree	11	27.5
Strongly disagree	1	2.5
Not sure	1	2.5
Total	40	100.0

4.2.2.3 Teacher Commitment in Teaching Agricultural Sciences

Table 4.8 shows that, 17,5% (7) of participants strongly agreed that teachers are committed in the teaching of Agricultural Sciences whereas 12,5% (5) agreed with the statement. The implication is that the majority (70%) of the participants disagreed that teachers are committed in teaching Agricultural Sciences. In this regard, principals encounter challenges in managing teachers who are not committed. Literature findings indicate that most teachers are not committed. Additionally, principals who are not proactive cannot manage the teachers teaching Agricultural Sciences (Northhouse, 2010).

Table 4.8: Teacher Commitment in Teaching Agricultural Sciences

	Frequency	Percent
Strongly agree	7	17.5
Agree	5	12.5
Disagree	7	17.5
Strongly disagree	21	52.5
Not sure	3	7.5
Total	40	100.0

4.2.2.4 The principal has management skills in the teaching of Agricultural Sciences

Table 4.9 shows that 15% (6) of the participants strongly agreed that principals had management skills in the teaching of Agricultural Sciences while 20% (8) agreed that they had the skills. 47,5% (19) disagreed with the statement and 7,5% (3) were not certain. The implication is that an overwhelming majority of 57,5% (23) of the participants disagreed with the statement. Literature concurred with the view that the knowledge that principals have in the teaching of Agricultural Sciences is inadequate (Warnich, 2010)

Table 4.9: The Principal has Management Skills in the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	6	15.0
Agree	8	20.0
Disagree	19	47.5
Strongly disagree	4	10.0
Not sure	3	7.5
Total	40	100.0

4.2.2.5 Principal understands teacher's capacity

Table 4.10, shows that 7,5% (3) strongly agreed that principals understand teachers' capacity while 52,5% (21) agreed with the statement. However, 12, 5% (5) disagreed with the statement while 7,5% strongly disagreed with the statement and 20,0% (8) were not certain. This then implies that 60% (24) agreed that principals understand the capacity of teachers in teaching Agricultural Sciences. There is a view that management and problem-solving skills are very much important in the teaching of Agricultural Sciences Problem-solving skills demand principals to understand the teacher's capacity, as managers and facilitators of their subject (Northhouse, 2010).

Table 4.10: Principals' Understanding of Teacher's Capacity

	Frequency	Percent
Strongly agree	3	7.5
Agree	21	52.5
Disagree	5	12.5
Strongly disagree	3	7.5
Not sure	8	20.0
Total	40	100.0

4.2.2.6 The principal's ability to solve problems on the teaching of Agricultural Sciences

Table 4.11, 10,0% (4) of the participants strongly agreed that principals are able to solve problems about the teaching of Agricultural Sciences while 25,0% (10) agreed with the statement. However, 32,5% (13) disagreed that principals do not have the ability to solve problems about the teaching of Agricultural Sciences while 27,0% (11) strongly disagreed and 5,0% (2) were not sure of the principal's ability to solve problems. This implies that 59,5% (21) of the participants disagreed that principals are able to solve problems on the teaching of Agricultural Sciences. Findings from literature also concur with the view that principals cannot generate plans for problem solving as managers. This is because problem solving skills demand principals to understand teachers' capacity to teach the subject (Northhouse, 2010).

Table 4.11: The Principal's Ability to Solve Problems about the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	4	10,0
Agree	10	25.0
Disagree	13	32.5
Strongly disagree	11	27,0
Not sure	2	5.0
Total	40	100.0

4.2.2.7 The principal assists support provided by subject advisors to Agricultural Sciences teachers

Table 4.12, 5% (2) strongly agreed that principals assisted support provided by the subject advisors to Agricultural Sciences while 22,5% (9) agreed with the statement. 22,5% (9) disagreed that principals assist support provided by subject advisors. However, 30% (12) strongly disagreed with that statement and 20% (8) were not sure

if principals assist support provided by the subject advisors to Agricultural Sciences teachers. This then implies that the majority of principals cannot assist through support provided by the subject advisors to Agricultural Sciences teachers. Principals do not provide support in many direct ways and could not offer subject area support as provided by the subject advisors. In fact, principals do not play their roles in influencing effective teaching of Agricultural Sciences. From this discussion, it is clear that principals cannot provide the necessary support to Agricultural Sciences teachers (DoE, 2009).

Table 4.12: The Principal Assists Support Provided by Subject Advisors to Agricultural Sciences Teachers

	Frequency	Percent
Strongly agree	2	5.0
Agree	9	22.5
Disagree	9	22.5
Strongly disagree	12	30.0
Not sure	8	20.0
Total	40	100.0

4.2.2.8 Subject advisors offer subject specific support to teachers and assist principals in managing the teaching of Agricultural Sciences

Table 4.13 indicates that 32,5% (13) strongly agreed with the statement while 27,5% (11) agreed with the statement. However, 22,5% (9) disagreed with the statement while 10,0% strongly disagreed that subject advisors do not offer subject support to the teachers and do not assist principals in managing the teaching of Agricultural Sciences; 20% (8) were uncertain. This then shows that an overwhelming majority, 52,5% (21) strongly disagreed with the statement. Subject advisors could not offer subject specific support to teachers. To this end, literature considers the inability of subject advisors to

effectively monitor teachers may be contributing to the high failure rate in Agricultural Sciences in the FET band in South Africa (DoE, 2009).

Table 4.13: Subject Advisors Offer Subject Specific Support to Teachers and Assist Principals in Managing the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	13	32.5
Agree	11	27.5
Disagree	9	22.5
Strongly disagree	4	10.0
Not sure	3	7.5
Total	40	100.0

4.2.2.9 The principal provides additional support to their teachers regarding the teaching of Agricultural Sciences

Table 4.14 shows that 5% (2) of participants strongly agreed that principals provide additional support for their teachers regarding the teaching of Agricultural Sciences while 22,5% (9) agreed. However, 22,5% (9) of participants disagreed while 30% (12) strongly disagreed and only 20, 0% (8) was uncertain. This shows that more than half of participants, 52,5% (21) disagreed with the statement that principals provide additional support to their teachers regarding the teaching of Agricultural Sciences. From the above discussion, it is clear that the provision of necessary support by principals to teachers is one of the contributing factors (DoE, 2009).

Table 4.14: Principals Provide Additional Support to their Teachers Regarding the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	2	5.0
Agree	9	22.5
Disagree	9	22.5
Strongly disagree	12	30.0
Not sure	8	20.0
Total	40	100.0

4.2.2.10 Teaching and learning materials are available at all Agricultural Science schools

Table 4.15 shows that 20% (8) strongly agreed that teaching and learning materials are available at all Agricultural Sciences schools while 12,5% (5) agreed with the statement. However, 55% disagreed that teaching and learning materials are available at all agricultural sciences schools while only 1 participant was not sure. The results suggest that the majority of participants (65%, (26) disagreed with the statement as most of the schools do not have the required teaching and learning materials. Participants think that lack of teaching media and subject apparatus contributes to poor performance in Agricultural Sciences. According to Mbajorgu et al. (2014), lack of resources for practical work of Agricultural Sciences has been highlighted by Makgato (2007) as being an endemic problem in most South African public schools.

Table 4.15: Teaching and Learning Materials are Available at all Agricultural Sciences Schools

	Frequency	Percent
Strongly agree	8	20.0
Agree	5	12,5
Disagree	22	55,0
Strongly disagree	4	10,0
Not sure	1	2.5
Total	40	100.0

4.2.2.11 Subject advisors visit schools for curriculum support

Table 4.16 shows that 25% (10) strongly agreed that subject advisors visit schools for curriculum support while 55% (22) agreed with the statement. However, 15% (6) disagreed that subject advisors visit schools for curriculum support while 5% (2) strongly disagreed. The majority of participants (80%) strongly agreed that subject advisors do visit schools for curriculum support although they are few. Subject advisors do not play an active role of visiting schools for curriculum support throughout the year (DoE,2000). Most principals concurred with the statement that there is lack of support from subject advisors as they are few within the Vhembe district, and this then remains a challenge to principals as they fail to implement this in their teachers. Following are remarks by some of the teachers interviewed:

P2: Principals are generally not adequately equipped with professional capacity to manage the teaching of Agricultural Sciences. Coupled with this challenge are factors such as the minimal support from subject advisors, parents and lack of resources (See Appendix C, line 3).

P8: Subject advisors should be invited to provide support with regard to assessment strategies to teachers (See Appendix C, line 80).

The above statements support the assertion that principals are not getting full support from subject advisors and this poses a challenge to principals as managers of the subject. Literature also confirms the above statement as stated by The DoE (2000) which indicates that subject advisors also do not play an active role in evaluating and supporting the principals in managing the teaching and learning of Agricultural Sciences.

Table 4.16: Subject Advisors Visit Schools for Curriculum Support

	Frequency	Percent
Strongly agree	10	25.0
Agree	22	55.0
Disagree	6	15.0
Strongly disagree	2	5.0
Not sure	0	0
Total	40	100.0

4.2.2.12 The principal encourages teachers to use a variety of teaching strategies

Table 4.17 shows that 7,5% (3) participants strongly agreed that principals encourage teachers to use a variety of teaching strategies while 20% (8) agree with the statement. 47,5% (19) participants disagreed that principals encouraged teachers to use a variety of teaching strategies while 10% (4) strongly disagree with the statement, and only 15% (6) were not sure whether principals do encourage teachers to use a variety of strategies. Therefore, the implication is that most teachers, 57,5% (23) disagree with the statement that principals encourage teachers to use a variety of teaching strategies. Literature findings indicate that the influence of principals as managers remains relevant in order to enhance the effective teaching of Agricultural Sciences in

the FET band by encouraging teachers to use a variety of teaching strategies (Killen, 2007).

Table 4.17: The Principal Encourages Teachers to use a Variety of Teaching Strategies

	Frequency	Percent
Strongly agree	3	7.5
Agree	8	20
Disagree	19	47,5
Strongly disagree	4	10.0
Not sure	6	15.0
Total	40	100.0

4.2.2.13 The principal has pedagogical knowledge of teaching strategies used in the teaching of Agricultural Sciences

Table 4.18 shows that 5% (2) participants strongly agreed that the principals has pedagogical knowledge of teaching strategies used in the teaching of Agricultural Sciences whereas 12,5% (5) agree with the statement. However, 77,5% (31) participants disagreed with the statement whereas 5% (2) participants strongly disagreed and 15%(6) were uncertain as to whether the principals had the pedagogical knowledge of teaching strategies used in the teaching of Agricultural Sciences. This then implies that an overwhelming majority of 82,5% (33) disagreed with the statement. Mbajjorgu1 (2014) concurs with the above discussion when indicating that lack of understanding of teaching methodologies among principals was a setback to social interaction in learning and instruction.

Table 4.18: The Principal has Pedagogical Knowledge of Teaching Strategies used in the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	2	5.0
Agree	31	77.5
Disagree	5	12.5
Strongly disagree	2	5.0
Not sure	0	0
Total	40	100.0

4.2.2.14 Principals encourage teachers to give quality assessment tasks in the teaching of Agricultural Sciences

Table 4.19 shows that 6% (6) participants strongly agreed that principals encourage teachers to give quality assessment tasks in the teaching of Agricultural Sciences while 12,5% (5) agreed with the statement. However, 67,5% (27) participants disagreed with the statement that principals encouraged teachers to give quality assessment tasks in the teaching of Agricultural Sciences. The implication is that most principals encouraged teachers to give quality assessment tasks in the teaching of Agricultural Sciences. It is clear from the above discussion that the principals are key participants of ensuring quality of Agricultural Sciences assessment tasks in terms of the school effectiveness and efficiency (Houlinhan, 2012).

Table 4.19: Principals Encourage Teachers to Give Quality Assessment Tasks in the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	6	6.0
Agree	27	67.5
Disagree	5	12.5
Strongly disagree	2	5.0
Not sure	0	0
Total	40	100.0

4.2.2.15 The principal engages the Department of Education in the managing of Agricultural Sciences in the FET band

Table 4.20 shows that 12,5% (5) participants strongly agreed that principals engaged Department of Education in the managing of Agricultural Sciences in the FET band while 5% (2) of participants agreed with the statement. However, 25% (10) of the participants disagreed that principals engaged department of education in the managing of Agricultural Sciences in the FET band and 35% (14) strongly disagree with the statement and 22,5% (9) were not sure of the statement. The implication is that 28% (24) participants strongly disagreed with the statement. Literature findings indicate that principals should manage Agricultural Sciences assessment by teachers as outlined in the procedure manual as from January 2010: management of teacher's file which should consists of the annual work schedule, assessment plan, formal assessment tasks and memoranda and a record of each learner's mark per formal assessment task; have knowledge on the number of projects as assessment requirements are reduced to one project per year (Motshekga, 2009).

Table 4.20: The Principal Engages Department of Education in the Managing of Agricultural Sciences in the FET Band

	Frequency	Percent
Strongly agree	5	12.5
Agree	14	35.0
Disagree	10	25.0
Strongly disagree	2	5.0
Not sure	9	22.5
Total	40	100.0

4.2.2.16 The principal encourages teachers to attend Agricultural Sciences workshops

Table 4.21 shows that 20% (8) participants strongly agreed that principals encourage teachers to attend Agricultural Sciences workshops whereas 5% (2) participants agreed with the statement. However, 72,5% (29) participants disagreed with statement that principals encourage teachers to attend to Agricultural Sciences workshop while 2,5% (1) participants strongly disagreed with the statement. The implication is that the majority of participants, 74,5% (30) did not agree with the statement. According to Mwamwenda (2010), it is the responsibility of the principals to motivate teachers to attend workshops and to perform their day to day activities.

Table 4.21: The Principal Encourages Teachers to attend Agricultural Sciences Workshops

	Frequency	Percent
Strongly agree	8	20.0
Agree	29	72.5
Disagree	2	5.0
Strongly disagree	1	2.5
Not sure	0	0
Total	40	100.0

4.2.2.17 Incentives are given to outstanding performances by learners and teachers

Table 4.22 shows that 10% of participants strongly agreed that Incentives are given to outstanding performances by learners and educators whereas 47,5% (19) agreed with the statement. However, 15% (6) of the participants disagreed with the statement that Incentives are given to outstanding performances by learners and educators and 10% (4) participants strongly disagree with the statement and 17,5% (7) were uncertain about the statement. Therefore, the implications are that 57,5% (23) agreed that incentives are given to outstanding performances by learners and educators when they excel and receive distinctions. Literature agrees that teachers are awarded for producing best results in Agricultural Sciences (DoE, 2009). This strategy is also used by the district at both cluster level and circuit level. Teachers who produce learners with a distinction in Agricultural Sciences are also awarded certificates and money from different sponsors as a donation to the DoE. All this is done to improve the effectiveness of a teacher and creation of a positive attitude towards teaching Agricultural Sciences (Press Release, Mirror, March, 2010).

Table 4.22: Incentives are Given to Outstanding Performances by Learners and Educators

	Frequency	Percent
Strongly agree	4	10.0
Agree	19	47.5
Disagree	6	15.0
Strongly disagree	4	10.0
Not sure	7	17.5
Total	40	100.0

4.2.2.18 Agricultural equipments are available in all schools offering Agricultural Sciences

Table 4.23 shows that 12,5% (5) strongly agreed that agricultural equipment are available in all schools offering agricultural sciences and 10% (4) participants agreed with the statement. However, 32,5% (13) participants disagreed that Agricultural equipment are available in all schools offering agricultural sciences whereas 25% (10) participants strongly disagreed with the statement and 20% (8) were not sure of the statement. Therefore, 57,5% (23) participants disagreed with the statement that Agricultural equipment are available in all schools offering agricultural sciences. There is a shortage of practical teaching resources such thermometers, pH scale and demonstration farms. Most of the teaching is done theoretically, which leaves much to be desired and may have a negative impact on the teaching and learning (Makgato, 2007).

Table 4.23: Agricultural Equipments Available in all Schools Offering Agricultural Sciences

	Frequency	Percent
Strongly agree	5	12.5
Agree	4	10.0
Disagree	13	32.5
Strongly disagree	10	25.0
Not sure	8	20.0
Total	40	100.0

4.2.2.19 Schools offering Agricultural Sciences are having gardens for practical activities

Table 4.24 shows that 2% (1) of the participants strongly agreed that schools that offer Agricultural Sciences had gardens for practical activities, whereas 17,5% (7) agreed with the statements. However, 47,5 % (19) disagreed with the statement, while 27,5% (11) strongly disagreed with the statement and 5% (2) of the participants were uncertain. The majority, 75% (30) of the participants disagreed that schools offering Agricultural Sciences had gardens for practical activities. Literature findings indicate that the teaching of Agricultural Sciences could be improved by showing learners what is taught practically. It is therefore important that resources to conduct all the practical classes, as required by the curricula for science subjects, be availed to enhance the understanding and application of scientific knowledge (Noordin, 2010).

Table 4.24: Schools offering Agricultural Sciences are having Gardens for Practical Activities

	Frequency	Percent
Strongly agree	1	2.5
Agree	7	17.5
Disagree	19	47.5
Strongly disagree	11	27.5
Not sure	2	5.0
Total	40	100.0

4.2.2.20 Agricultural Sciences teachers are coping with constant curriculum challenges

Table 2.25 shows that 2,5% (1) of the participants strongly agreed that Agricultural Science teachers were coping with constant curriculum changes, whereas 7,5% (3) agreed with the statement. However, 70% (28) disagreed with the statement, while 10% (4) strongly disagreed and 10% (4) of the participants were uncertain. An overwhelming of 80% (32) of the participants disagreed that Agricultural Science teachers were coping with constant changes challenges. It is clear from the above discussion that the introduction of the new curriculum was a challenge to Agricultural Sciences teachers. In addition, teachers were unable to deliver quality teaching due to changes in terminology (DoE, 2011).

Table 4.25: Agricultural Sciences Teachers are Coping with Constant Curriculum Challenges

	Frequency	Percent
Strongly agree	1	2.5
Agree	3	7.5
Disagree	28	70.0
Strongly disagree	4	10.0
Not sure	4	10.0
Total	40	100.0

4.2.2.21 Monitoring instruments are available to schools

Table 2.26 shows that 25% (10) participants indicated that monitoring instruments were available to schools, while 47,5% (10) strongly agreed with the statement. However, 7,5% (3) of the participants disagreed with the statement, whereas 5% (2) strongly disagreed with the statement and 15% (6) of the participants were uncertain. Most of the participants 72,5% (29) agreed that monitoring instruments were available to schools. Literature concurs with the above finding by indicating that formal planned assessment tasks are recorded, taking into consideration the number of assessment tasks (DoE, 2011). The majority of principals were not satisfied with moderation of their tasks, and this was confirmed by some remarks principals made during interview:

P1: By moderating and monitoring assessment tasks and visiting the class for curriculum support and management. Monitoring of curriculum content coverage and period attendance registers by both teachers and learners (See Appendix C, line 28)

P5: In this school, class visits are conducted by HoDs and some members of SMT coupled with task moderation as per pace setter (See Appendix C, line 32)

P10: *Sometimes I outsource expertise of colleagues from other schools as some teachers have a developed a negative attitude towards school based moderation as they view it as a way of punishing them (See Appendix C, line 37)*

The above responses suggest that most principals seem not to understand the meaning and importance of school-based moderation.

They do not see the role of moderation and also do not understand who should perform it in a school situation. Some teachers do not understand why their seniors have to monitor their work since they consider themselves qualified and well experienced teachers (Knight & Downton, 2006).

Table 4.26: Monitoring Instruments are Available to Schools

	Frequency	Percent
Strongly agree	10	25.0
Agree	19	47.5
Disagree	3	7.5
Strongly disagree	2	5.0
Not sure	6	15.0
Total	40	100.0

4.2.2.22 Principals receive support from Department of Education

Table 2.27 shows that 15% (6) of the participants strongly agreed that principals receive support from the Department of Education, while 47,5% (19) agreed with the statement. However, 20% (8) of the participants disagreed with the statement, whereas 5% (2) strongly disagreed with the statement and 12,5% (5) were uncertain. Most of the participants 62,5% (35) agreed that principals receive support from the Department of Education. The above discussion was supported by Robert et al. (2014) when they

indicate that the DoE offers professional development programmes to Agricultural Sciences teachers in curriculum implementation, selection and use of a variety of teaching strategies and skills. The DoE also assists by recruiting learners who can become Agricultural Sciences teachers and giving them bursaries.

Table 4.27: Principals Receive Support from Department of Education

	Frequency	Percent
Strongly agree	6	15.0
Agree	19	47.5
Disagree	8	20.0
Strongly disagree	2	5.0
Not sure	5	12.5
Total	40	100.0

4.2.2.23 Parents support Agricultural Sciences programmes at school

Table 4.28 shows that 15% (6) strongly agree that parents support Agricultural Sciences programmes at school, whereas 17,5% (14) of the participants agreed with the statement. However, 27,5% (11) of the participants disagreed with the statement, while 35% (14) strongly disagreed with the statement and 5% (2) of the participants were uncertain. This means that most, 62,5% (25) of the participants disagreed that parents support Agricultural Sciences programmes at schools.

Table 4.28: Parents Support Agricultural Sciences Programmes at School

	Frequency	Percent
Strongly agree	6	15.0
Agree	7	17.5
Disagree	11	27.5
Strongly disagree	14	35.0
Not sure	2	5.0
Total	40	100.0

4.2.2.24 Subject advisors offer subject specific support to teachers teaching Agricultural Sciences

Table 4.29 shows that 10% (4) strongly agreed that subject advisors offer subject specific support to teachers teaching Agricultural Sciences, whereas 62,5% (25) of the participants agreed with the statement. However, 12,5% (5) of the participants disagreed with the statement while 12,5% (5) strongly disagreed with the statement and 5% (2) were uncertain about the statement. This implies that the majority, 72,5% (29) of the participants agreed that subject advisors offer subject specific support to teachers teaching Agricultural Sciences. Literature findings indicate that Subject advisors exist but the support they are giving to teachers is ineffective as they could not offer subject specific support to teachers and inadequate training (DoE, 2009). This means that the literature does not support the findings.

Table 4.29: Subject Advisors Offer Subject Specific Support to Teachers Teaching Agricultural Sciences

	Frequency	Percent
Strongly agree	4	10.0
Agree	25	62.5
Disagree	5	12.5
Strongly disagree	2	5.0
Not sure	4	10.0
Total	40	100.0

4.2.2.25 Learners' interest in Agricultural activities

Table 4.30 shows that 20% (8) of the participants strongly agreed that learners had interest in Agricultural activities while 20% (8) agreed with the statement. However, 52,5% (21) disagreed with the statement whereas 7,5% (3) strongly disagreed. Therefore, an overwhelming of 59,5% (24) of the participants disagreed with the statement. A good environment is not being created for learners to have an interest in the subject. According to Boynton and Boynton's (2005) findings, learners expressed considerable liking of certain subjects more than others.

Table 4.30: Learners' interest in Agricultural activities

	Frequency	Percent
Strongly agree	8	20.0
Agree	8	20,0
Disagree	21	52,5
Strongly disagree	3	7.5
Not sure	0	0
Total	40	100.0

4.2.2.26 The influence of principals as managers remains relevant to enhance the effective teaching of Agricultural Sciences

Table 4.31 indicates that 10% (4) strongly agreed with the statement while, 5% (2) agreed with the statement. However, 27,5% (11) of the participants disagreed that the influence of principals as managers remains relevant to enhance the effective teaching of Agricultural Sciences whereas 47,5% (19) strongly disagreed with the statement and 10% (4) were uncertain. This is an indication that 75% (30) of the participants disagreed with the statement. Hellriegel et al. (2001) argue that the principal of the school has to ensure that the channels of communication throughout the management structure of the school are explicitly formulated to lower the stress level of teachers and address unresolved issues, permitting a two-way communication. Principals suggested that good communication skills through proper channels is vital and should be encouraged in order to ensure smooth running of teaching and learning.

The following comments were from some of the principals interviewed this:

P1: Good communication skills are vital so as to enhance motivation and commitment (See Appendix C, line 95).

P6: Positive communication may result in positive attitude towards the performance of both learners and teachers in the subject as they will be able to share information and trust each other (See Appendix C, line 100).

Few principals emphasized that good communication should be practiced in order to ensure a conducive environment for teaching and learning. The implication is that good communication creates a good environment for teaching and learning in schools.

Hellriegel et al. (2001) state that the principal of the school has to ensure that the channels of communication throughout the management structure of the school are explicitly formulated to lower the stress level of teachers and address unresolved issues, permitting a two-way communication.

Table 4.31: The Influence of Principals as Managers Remains Relevant to Enhance the Effective Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	4	10.0
Agree	2	5.0
Disagree	11	27.5
Strongly disagree	19	47,5
Not sure	4	10.0
Total	40	100.0

4.2.2.27 Principals monitor and evaluate all the work done by learners and teachers with the assistance of the HoDs

Table 4.32 shows that 7,5% (3) strongly agreed that Principals monitor and evaluate all the work done by learners and teachers with the assistance of the HoDs, whereas, 45% (18) agreed with the statement. However, 30% (12) of the participants disagreed with the statement, while 7,5% (3) strongly disagreed and 10% (4) were uncertain. The implication is that 52,5% (21) of the participants agreed with statement. Literature indicates that monitoring progress helps learners engage internally and identify learning successes and areas for additional attention (Pintrich & Schunk, 2002).

Table 4.32: Principal Monitors and Evaluates all the Work done by Learners and Teachers

	Frequency	Percent
Strongly agree	3	7.5
Agree	18	45.0
Disagree	12	30.0
Strongly disagree	3	7.5
Not sure	4	10.0
Total	40	100.0

4.2.2.28 Principal has an understanding of moderation of Agricultural Sciences assessment tasks

Table 4.33 shows that 12,5% (5) of the participants strongly agreed that principals had an understanding of moderation of Agricultural Sciences assessment tasks whereas 12,5% (5) agreed with the statement. 60% (24) of the participants disagreed with the statement while 7, 5% (3) strong disagreed. Finally, 7,5% (3) of the participants were uncertain. This, therefore, means that most of the participants 67,5% (27) disagreed with the statement. Literature indicates that the Department of Basic Education assists school in improving the quality of teaching and learning of Agricultural Sciences through School based moderation (Bloxham, 2009).

Table 4.33: Principal has an Understanding of Moderation of Agricultural Sciences Assessment Tasks

	Frequency	Percent
Strongly agree	5	12.5
Agree	5	12.5
Disagree	24	60.0
Strongly disagree	3	7.5
Not sure	3	7.5
Total	40	100.0

4.2.2.29 There is enough time for principals in managing Agricultural Sciences assessment tasks

Table 4.34, shows that 12,5% (5) of the participants strongly agreed that there is enough time for principals in managing Agricultural Sciences assessment tasks, whereas 17,5% (7) agreed with the statement. However, 27,5% (11) of the participants disagreed with the statement while 37,5% (15) strongly disagreed with the statement, and 5% (2) were uncertain. This implies that most, 65% (26), of the participants disagreed with the statement. The above discussion concurs with the statement that there is not enough time for managing the teaching and learning of Agricultural Sciences by principals (DoE (2009)).

Table 4.34: There is Enough Time for Principals in Managing Agricultural Sciences Assessment Tasks

	Frequency	Percent
Strongly agree	5	12.5
Agree	7	17.5
Disagree	11	27.5
Strongly disagree	15	37.5
Not sure	2	5.0
Total	40	100.0

4.2.2.30 The implementation of redeployment affected many Agricultural Sciences teachers

Table 4.35 shows that 15% (6) of the participants strongly agreed that the implementation of redeployment affected many Agricultural Sciences teachers, while 37,5% (15) agreed with the statement. However, 35% (14) of the participants disagreed with the statement whereas 5% (2) strongly disagreed and finally 7,5% (3) were not sure. This means that majority 52,5% (21) of the participants agreed with the statement. Zengele (2013) concurs with the above discussion by indicating that redeployment of teachers is one of the major challenges that principals are facing in managing the teaching and learning of Agricultural Sciences. The process of educator redeployment is an ongoing issue that still affects schools and teachers.

Table 4.35: The Implementation of Redeployment Affected many Agricultural Sciences Teachers

	Frequency	Percent
Strongly agree	6	15.0
Agree	15	37.5
Disagree	14	35.0
Strongly disagree	2	5.0
Not sure	3	7.5
Total	40	100.0

4.2.2.31 The role of principals in managing the teaching of Agricultural Sciences in schools is affected by the redeployment process.

Table 4.36, shows that 10% (4) of the participants strongly agreed that redeployment affected the role of principals in managing the teaching of Agricultural Sciences in schools, whereas 37,5% (15) agreed with the statement. However, 30% (12) of the participants disagreed with the statement, while 5% (2) strongly disagreed and 17,5% (7) where not sure. This then implies that most 47,5% (19) of the participants concurred with the statement. The above findings were supported by literature which indicates that the role of school managers in schools is badly affected by the redeployment process due to the implementation of the policy. This results in sour relationships between teachers who are in excess and the school managers. As a result, these teachers become depressed and they even refuse to teach learners (Mulford, 2003).

Table 4.36: The Role of Principals in Managing the Teaching of Agricultural Sciences in Schools is Affected by the Redeployment Process

	Frequency	Percent
Strongly agree	4	10.0
Agree	15	37.5
Disagree	12	30.0
Strongly disagree	2	5.0
Not sure	7	17.5
Total	40	100.0

4.2.2.32 Principals has administrative capacity in the teaching of Agricultural Sciences

Table 4.37 shows that 7,5% (3) of the participants strongly agreed that principals had administrative capacity in the teaching of Agricultural Sciences, while 15% (6) agreed with the statement. 37,5% (15) of the participants disagreed with the statement, whereas 30% (12) strongly disagreed with the statement and 10% (4) were uncertain. The implication is that the majority 67,5% (27) of the participants disagreed with the statement. Literature supports the above findings by indicating that lack of administration capacity of the principals in teaching of Agricultural Sciences may result in inaccuracies occurring in schools. Lack of administrative support is also seen as a challenge because the school manager may have competing issues and being unavailable for teachers' problems (Bays & Crockett, 2007).

Table 4.37: Principals have Administrative Capacity in the Teaching of Agricultural Sciences

	Frequency	Percent
Strongly agree	3	7.5
Agree	6	15.0
Disagree	15	37.5
Strongly disagree	12	30,0
Not sure	4	10.0
Total	40	100.0

4.3 QUALITATIVE DATA ANALYSIS

This section presents data collected from the principals on challenges that were faced in managing the teaching of Agricultural Sciences in the FET band.

4.3.1 Section A: Biographical Information

Interviews were conducted with 8 males (80%) and 2 females (20%). This means that the majority of the principals interviewed were males.

4.3.2 Section B: Factors that Affect Principals in Managing the Teaching of Agricultural Sciences in the FET Band

4.3.2.1 Teachers' qualifications

Principals indicated that most Agricultural Sciences teachers were unqualified to teach the subject whereas few of them have the relevant professional qualifications for teaching the subject. This was supported by some of the principals who said that:

P2: There are very few Agricultural Sciences teachers with relevant professional qualifications (See Appendix C, line 18).

P7: No, most of the teachers who teach this subject do not have the necessary qualifications (See Appendix C, line 23).

From the above responses, it is clear that teachers who teach Agricultural Sciences do not have the necessary professional qualification for the subject. Literature supports the above statement by indicating that there are teachers who teach Agricultural Sciences while still holding the lowest qualification of STD (Mavhungu, 2009).

4.3.2.2 Working conditions

The participants indicated that working condition of teachers is one of the challenges that principals were faced with in managing the teaching of Agricultural Sciences. This was confirmed by one of the interviewed principals who indicated that:

P5: The other thing is those hours and work load of teachers is inappropriate (See Appendix C, line 9).

Literature supports the above discussion by indicating that class size determines a teacher's workload in terms of responsibility and working hours since larger classes mean a greater amount of time required for preparation, counseling, evaluation and others (Atkins, 2002). The implication is that workload and working hours have a negative impact towards the teaching of the subject. Hence, it becomes a challenge to principals in managing the teaching of the subject.

4.3.2.3 Attitude of teachers towards Agricultural Sciences

The interviewed principal indicated that most teachers' attitude towards the teaching of Agricultural sciences were negative as a result of various factors. This was confirmed by interviewed principals who indicated that:

P4: Teachers are not determined and willing to teach the subject (See Appendix C, line 42).

P7: No, these teachers are demotivated as a result of the lack of support from the subject advisors (See Appendix C, line 450).

From the above statements, it is clear that Agricultural Sciences teachers were demotivated as some were not willing to teach the subject. Literature also reveals that teachers offering Agricultural Sciences appeared to occupy positions of declining significance in the lives of the learners. The picture that emerges is of the classroom becoming routinised with respect to instrumental practices (OECD, 2008).

4.3.2.4 Learners' attitude towards Agricultural Sciences

Some principals indicated that some of the learners were doing Agricultural Sciences because there was no other subject they could have chosen. The statement was confirmed by principals who said:

P6: Yes, teachers are determined, because they plan educational excursions for their learners although some learners do not have interest in the subject as they only choose it because of educational excursions. (See Appendix C, line 44).

P2: Learners are only able to access more advanced resources during excursions. (See Appendix C, line 51).

From the above findings it is clear that principals were unable to manage the teaching of Agricultural Sciences due to negative attitude of learners towards the subject.

4.3.2.5 Inappropriate management of teaching and learning and problem-solving skills

Indication by principals is that they are not adequately equipped in the management and problem-solving skills of the subject. This was confirmed by the remarks made by the principal interviewed:

P2: Principals are generally not adequately equipped with professional capacity to manage the teaching of Agricultural Sciences. Coupled with this challenge are factors such as the minimal support from subject advisors, parents and lack of resources (See Appendix C, line 3).

The above statement clearly indicates that principal cannot manage the teaching of the subject effectively. The implication is that the knowledge that principals have in the teaching of the subject is inadequate. Literature concurred with the statement, and according to Northhouse (2010), problem solving skills refers to the ability to solve new unusual, ill-defined work problems. Problem solving skills demand principals to understand teacher's capacity as managers and facilitators of their subjects and therefore apply possible solutions specifically for their subjects (Sebate, 2012).

4.3.2.6 Insufficiency of Learning and Teaching Support Materials (LTSM)

Principals agreed that there were insufficient and shortage of resources for both teachers and learners and this was a challenge that principals, as managers cannot address this easily and indicated that:

P3: Our schools do not have enough resources that can enhance the quality of teaching of Agricultural Sciences as both a theoretical and practical subject (See Appendix C, line 52).

P6: I think the Department of Basic Education is failing to provide practical materials in support of the teaching of the subject (See Appendix C, line 55).

P10: We don't have enough Learning and Teaching Support Materials (LTSM) to support the subject (See Appendix C, line 59).

From the above statement, it is clear that there were challenges faced by the principals regarding the learning and teaching support materials (LTSM). According to Mavhungu

(2005), lack of teaching media and subject apparatus seems to be another contributing factor towards poor performance in Agricultural Sciences. This means that most of the teaching is theoretical. However, theory and practice must complement each other for the better understanding of the subject (DoE, 2009).

4.3.2.7 The use of teaching strategies and skills

Most principals indicated that the use of the teaching strategies and skills by the teachers teaching Agricultural Sciences was a challenge. This was supported by some principals who said that:

P9: Teachers should be encouraged to give learners activities from the previous question papers and to use different teaching strategies and skills as this may improve academic performance of learners in Agricultural Sciences. (See Appendix C, line 81).

P8: Subject advisors should be invited to provide support with regard to assessment and teaching strategies to teachers. (See Appendix C, line 80).

From the above responses, it is clear that principals and teachers were experiencing challenges with regard to the use of teaching strategies and skills. According Daluba (2013), teaching strategies refer to different methods and techniques which teachers use to teach content, for example, teacher and learner-centred approaches. Teaching strategies and skills differ, but they cannot be used independently depending on the subject content where more of lecturing and explaining is needed (Killen, 2007).

4.3.2.8 Lack of practical work in Agricultural Sciences

Principals indicated that in most schools, there were not practicals and teachers only concentrate on theoretical work due a shortage of resources to do practical work. This was supported by some of the principals who were interviewed:

P3: There is no suitable space or land for learners to do practical activities. The other thing is that hours and work load of teachers is inappropriate. (See Appendix C, line 9).

P3: Most teachers are not determined to teach Agricultural Sciences to the best of their abilities because they neglect practical work and project as they focus their attention on theories relating to the examinations. (See Appendix C, line 41).

P5: What I have realized is that there is inadequate equipment for doing Agricultural Sciences practically in most of the schools. (See Appendix C, line 54)

These results suggest that practical work was not done in most schools due to a lack of resources. This was a challenge to most principals with Agricultural Sciences in their school. According to Khumalo (2012), Agricultural Sciences cannot be taught successfully if theory is not linked to practice. South Africa is moving away from an academically orientated education to career-orientated education. This then confirmed that Agricultural Sciences, as a subject, is not given the necessary support by the Department of Basic Education, that is why most schools are now phasing the subject out of their curriculum.

4.3.2.9 Constant changes in curriculum and assessment of tasks

Constant changes in the curriculum and assessment of tasks were some of the challenges faced by principals in managing the teaching of Agricultural Sciences in the FET band. One of the principals said:

P8: Constant changes in the curriculum and assessment tasks to me I think is a challenge. (See Appendix C, line 12).

The statements also suggest that constant changes in curriculum and assessment of tasks were challenges to principals. Literature confirms that Continuous Assessment is an assessment (CASS) which comprises both informal and formal assessment (DoE,

2011). School-based moderation involves assessment, evaluation, monitoring, analyzing and controlling learners' and teachers' work (Hoover, 2002).

4.3.2.10 Teacher determination

Some of the interviewed principals indicated that although few teachers were not encouraged to take Agricultural Sciences seriously and do not have commitment, there are some that are determined and love the subject such that they sacrifice their time for the benefit of learners. The following remark by one of those interviewed confirms this:

P5: I think a few of them are determined because they even teach beyond normal working hours (See Appendix C, line 43).

P6: Yes, teachers are determined, because they plan educational excursions for their learners although some learners do not have interest in the subject as they only choose it because they do not have any other alternative. (See Appendix C, line 44).

This then confirms that even under difficult conditions, there are teachers who were able to teach the subject successfully. Northhouse (2010) indicates that determination is a desire to get a job done, and this includes characteristics such as initiative, persistence, dominance and drive. Principals, who are determined, can be able to assist teachers to be proactive and have the capacity to persevere in the face of obstacles. However, principals who lack determination are not proactive, do not take initiative and have no capacity to persevere in the face of obstacles.

4.3.2.11 Lack of integrity

Principals raised the issue of lack of integrity as a challenge to them and said that:

P8: And also lack of integrity on most aspects relating to the subject. (See Appendix C, line 8).

P5: No, as a result of the lack of integrity and that they are unable to manage and control their attitude as they are stressful through redeployment (See Appendix C, line 88).

According to Northhouse (2010), integrity can be described as the quality of honesty and trustworthiness. These are the kind of principals who adhere to a strong set of principles and take responsibility for their actions. Principals who lack integrity do not have the quality of honesty and trustworthiness and do not adhere to a strong set of principles. Therefore, lack of integrity may lead not to adhere to the policies and implementation of school-based moderation.

4.3.2.12 Self-confidence

Principals indicated that they were not confident in assisting teachers as they were not empowered and trained on the moderation and assessment of Agricultural Sciences.

P6: What I can say is that as the principals I do not even have the content knowledge of Agricultural Science, so this results in me not being unable to manage it successfully and this leaves me with no confidence of assisting in the moderation, teaching and learning of the subject. (See Appendix C, line 10).

Self-confidence implies the ability to be certain about one's competences and skills. It includes self-esteem, self-assurance and the belief that one can make a difference, Northhouse (2010) indicates that a principal and a teacher who lacks self-confidence do not have the ability to be certain about their competences and skills and lack self-esteem and self-assurance. In this regard, when a principal lacks self-esteem, she/he regards moderation as a tool of punishment and finds it very stressing (Putter, 2003). This implies that principals without self confidence in managing the teaching of the subject will have serious challenges which may also have negative impact.

4.3.2.13 Time management

Indication by principals is that time management is one of the challenges that they were facing in managing the teaching of Agricultural Sciences in the FET band. This was also supported by principals who indicated that:

P2: This adds to the burden the principals of ensuring proper general management of time in the teaching of the subject. (See Appendix C, line 5).

With regard to the above responses in the discussion, literature indicates that there is not enough time for managing the teaching and learning of Agricultural Sciences by principals (DoE, 2009). This then implies that inadequate time management by principals will result in poor management of the teaching of Agricultural Sciences.

4.3.2.14 Implementation of redeployment

Redeployment of teachers is one of the major challenges that principals are facing in managing the teaching and learning of Agricultural Sciences. Some of the interviewed principals concurred with the statement when they said:

P1: It is very challenging as redeployment cannot be stopped by the principal as it is the process and policy of the department to redeploy educators based on learner-teacher ratio at that particular school. Although disturbing and affecting both learners and teachers, it must to be done and principals as manager have no control over it. (See Appendix C, line 84).

P3: Yes, redeployment can affect the management of teaching. If an Agricultural Sciences educator is redeployed to another school, the likelihood is that the educator who is not specializing in the subject may be compelled to teach the subject even when they are not professionally qualified to teach the subject. Such a move may have a serious negative impact on the learner's academic performances. (See Appendix C, line 86).

It is clear from the above statement that redeployment was a challenge that affects teaching and learning. According to Zengele (2013), redeployment is the transfer of permanently-employed full-time teaching staff from one educational institution to another. Redeployment means that teachers are moved to achieve fairness in order to

make schools function effectively successfully. The process of educator redeployment is an ongoing issue that still affects schools and teachers.

4.3.2.15 Lack of administration capacity of the principals

Indication by principals is that their lack of administration capacity in teaching of Agricultural Sciences resulted in inaccuracies and was a major cause of stakeholders such as unions and political parties getting involved and staff members becoming overloaded. The above comments were confirmed by some principals who said:

P6: What I can say is that as the principals I do not even have the content knowledge of Agricultural Science, so this results in me not being unable to manage it successfully and this leaves me with no confidence of assisting in the moderation, teaching and learning of the subject. (See Appendix C, line 10).

P10: As you can see this a big school, sometimes I find it difficult to administer the teaching and learning of the subject, because there are few learners studying the subject. (See Appendix C, line 14).

From the principals' comments, it is clear that there are challenges with regard to the administration of the teaching of Agricultural Sciences as most of them are not well equipped with the skills of managing its teaching.

Literature confirmed that lack of administrative support is seen as the school managers were having competing issues and being unavailable for teachers' problems (Bays & Crockett, 2007).

4.3.2.16 Teachers' resistance to relocate

Most principals indicated that relocation of teachers due to redeployment is a challenge as most of the teachers were not satisfied with the process as it discouraged them from teaching.

P4: Redeployment has a negative attitude towards the management of Agricultural Science teachers as most teachers are not satisfied with the process of relocating to other schools. (See Appendix C, line 87).

P6: Redeployment may have serious negative impact on the learners' performance and discourages teachers from teaching effectively.

This then suggested that principals were experiencing challenges regarding redeployed teachers who were refusing to relocate to new school due to foreseen challenges such as shortage of resources and facilities. According to Mthombeni (2002) and Lumadi (2014), schools in rural areas suffer because teachers do not want to be redeployed to such areas because there are no facilities such as adequate accommodation, water and electricity in some rural areas.

4.3.2.17 Lack of mutual trust

Principals indicated that social relationship among staff members were to be encouraged, aiming at building mutual respect and trust and yielding positive results in the school community. Some of the principals had this to say when interviewed:

P5: The school should initiate giving awards for best achievers in the subject in order to instill mutual trust between the principal and other colleagues within the school community. (See Appendix C, line 99).

P6: Positive communication may result in positive attitude towards the performance of both learners and teachers in the subject as they will be able to share information and trust each other (See Appendix C, line 100).

With regard to ensuring the above discussion, literature indicates that trust and respect must were to be practiced so as to build a positive relationship amongst staff members. According to Xaba (2011), the manner in which school managers and school governing bodies run school affairs leaves teachers with no trust that their redeployment process will be run properly. This means that there was lack of mutual trust between principals and teachers in schools.

4.3.3 Strategies that can be Employed to Address the Challenges Facing Principals in Managing the Teaching of Agricultural Sciences in the FET Band

4.3.3.1 Professional development

Indication by principals is that teachers lack professional qualification pertaining to the teaching of the subject and need to be capacitated and developed. One of the principals said:

P10: I think professional development of Agricultural Sciences teachers should be a continuous process because constant changes in the curriculum. (See Appendix C, line 104).

The above statement suggests a need for principals and teachers to be developed professionally regarding the management and teaching of Agricultural Sciences in the FET band. According to Seng (2003), some developed countries introduced a programme in which teachers without Agricultural Sciences qualifications are encouraged to further their studies in Agricultural Sciences. The implication is that if Agricultural Sciences teachers are professionally developed, it can enhance their teaching skills and interest in the subject.

4.3.3.2 DoE Recruitment based session

Indication by principal is that DoE Funza Lushaka recruitment based strategy said in partnership with the Higher Education institutions said should be a continuous process in Agricultural Sciences teachers. Few principals concurred with the initiative by the department of basic education by emphasizing that:

P5: I encourage the teachers to inform learners to study at Higher Institutions through bursaries that are awarded to new recruits, like Funza Lushaka, NFSAS, etc. (See Appendix C, line 66).

P8: The district recruitment based sessions by the Department of Basic Education should be a continuous process (See Appendix C line 102).

From the above statement, it is clear that the strategy of recruiting by the Department of Basic Education in partnership with the Department of Higher Education can result in an increase of Agricultural Sciences teachers.

The Minister of Basic Education, Motshekga in 2009, encouraged learners entering the universities to study teaching professions in subjects like Agricultural Sciences, and they are given a bursary for study purposes (DoE, 2013).

4.3.3.3 Moderation of assessment tasks

Principals indicated that Agricultural Sciences assessment tasks should be moderated and monitored. Some principals had this to say support of the statement:

P1: By moderating and monitoring assessment tasks and visiting the class for curriculum support and management. Monitoring of curriculum content coverage and period attendance registers by both teachers and learners (See Appendix C, line 28).

P7: I monitor and moderate assessment tasks executed by the teachers (See Appendix C, line 34).

P3: Quality assessment of Agricultural Sciences task depends on teamwork spirit whereby the principal and the educator work closely in ensuring that the subject is assessed qualitatively. Principals as managers should have meeting with HoDs and the teacher concerned sharing information about the importance of setting quality assessment tasks, pre-moderation and post- moderation of the tasks as well as quality control of learner's tasks. (See Appendix C, line 75).

Literature findings indicate that moderation improves the quality of assessment tasks. According to DoE (2010), one of the strategies to be used in school-based moderation

can be through teachers' progress monitoring. The implication is that principals should encourage teachers to give learners tasks that are of good quality.

4.3.3.4 Motivation, incentives and excellent awards

Principals suggested that Agricultural Sciences teachers should be motivated through incentives, certificates and awards for them to teach the subject effectively. Through motivation, teachers can work even beyond normal working hours. This was supported by principals who said that:

P2: Incentives and motivation must be provided to teachers so as to encourage them to perform to best of their abilities (See Appendix C, line 96).

P4: I think teachers should be motivated through incentives such as giving them certificates for workshop attendance, certificates of excellence and awards (See Appendix C, line 98).

P5: The school should initiate giving awards for best achievers in the subject in order to instill mutual trust between the principal and other colleagues within the school community (See Appendix C, line 99).

Findings from literature concurred with the above discussion that teachers who produce learners with distinctions in Agricultural Sciences are also awarded certificates and money from different sponsors as a donation to the DoE. The implication is that if teachers are motivated, this can improve the effectiveness of a teacher and creation of positive attitude towards teaching Agricultural Sciences (Press Release, Mirror, March, 2010).

4.3.3.5 Culture and climate

Principals should be able to create a conducive climatic environment that will create a good culture of teaching and learning. This will result in the effective teaching and

learning of Agricultural Sciences which will enhance principals' management skills. The statement was echoed by the principal who said that:

P9: Conducive culture and climate of teaching and learning must be created in schools (See Appendix C, line 103).

From the above statement, principals should create a conducive climatic environment and a culture of teaching and learning. Principals should ensure that they create an atmosphere in which they can be able to manage teachers who teach the subject (Holloway, 2012). This then implies that the principals should ensure that they create an atmosphere that is conducive to effective teaching and learning at schools.

4.4 CONCLUSION

In this chapter, data from the questionnaires and interviews were presented. The triangulation data was based on the views and the experiences of the Agricultural Sciences teachers and principals in the Vhembe District. The data indicated that principals face challenges in managing the teaching of Agricultural Sciences in the FET band. All the participants believe that the management of the teaching of Agricultural Sciences is influenced by challenges that they face. Above all, principals are compelled to phase out the teaching of Agricultural Sciences in their school curriculum as they are not receiving the necessary support from the stakeholders, amongst others, subject advisors, as they are few in the district. In this regard, challenges such as the absence of practicals in the subject and lack of resources result in negative attitudes of both teachers and learners in the subject. In the next chapter, a summary of the study, major findings, conclusions and recommendations are discussed.

CHAPTER 5

OVERVIEW, MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

5.1 INTRODUCTION

This chapter presents an overview of the study, major findings, conclusions, and recommendations on challenges that principals face in managing the teaching of Agricultural Sciences at the FET band.

5.2 OVERVIEW OF THE STUDY

Chapter 1 focused on the statement of the problem and aim of the study. Chapter 2 presented a critical study of literature review, and this formed the basis for an empirical study. Chapter 3 presented research design and methodology of the study. Chapter 4 focused on the presentation of quantitative and qualitative data followed by the analysis thereof.

The aim of the study was to investigate the challenges that principals face in managing the teaching of Agricultural Sciences at the FET band. The basic research question for this study reads as follows: “What are the challenges that principals face in managing the teaching of Agricultural Sciences in the FET band?”

The research sub-questions were as follows:

- What are the factors affecting principals in managing the teaching of Agricultural Sciences in the FET band?
- What strategies can be employed to develop and address challenges facing principals in managing the teaching of Agricultural Sciences in the FET band?

5.3 MAJOR FINDINGS PERTAINING TO THE STUDY

This section discusses major findings pertaining to quantitative and qualitative study. The major findings are categorised according to the research questions as stated in Chapter 1 (See sub-heading 1.3).

5.3.1 Major Findings for Research Question No. 1 (What are the Factors Affecting Principals in Managing the Teaching of Agricultural Sciences in the FET Band?)

Professional qualification is one of the major problems as most of the Agricultural Sciences teachers hold the lowest qualification (M+3).

The majority of teachers teaching the subject were not committed due to principals who are not proactive and are unable to manage teachers as they lack management skills in the teaching of the subject.

Most principals lack the ability to solve problems on the teaching of Agricultural Sciences as this demands that they understand teachers' capability to teach the subject. The researcher also found that the majority of principals were unable to provide support provided by the subject advisors to Agricultural Sciences teachers as they could not offer subject area support as provided by the subject advisors. Lack of practical work in Agricultural Sciences is a challenge. The researcher further found that teaching and learning materials were not available in most schools, and this seems to be a contributing factor towards poor performance in Agricultural Sciences.

Curriculum advisors do visit schools for curriculum support although they are few. Most principals do not have the pedagogical knowledge of teaching strategies used in the teaching of Agricultural Sciences. This is also a challenge to most principals in managing its teaching. As a result of this, the researcher also found that most

principals were unable to encourage teachers to give quality assessment tasks as they lack the necessary expertise on assessment of tasks.

5.3.2 Major Findings Pertaining to Research Question No. 2 (What Strategies can be Employed to Develop and Address Challenges Facing Principals in Managing the Teaching of Agricultural Sciences in the FET Band?)

The following are findings on the strategies that can be employed to improve management of the teaching of Agricultural Sciences in the FET band:

- From the qualitative and quantitative findings, it is clear that all the participants believed that principals and teachers should be developed professionally regarding the management and teaching of Agricultural Sciences in the FET band.
- The strategy of recruiting new teachers, by the Department of Education in partnership with the Department of Higher Education could result in the increase of Agricultural Sciences Teachers.
- Moderation and monitoring of assessment tasks and visiting the class for curriculum support and management is important as principals are able to manage and monitor content coverage.
- Teachers teaching Agricultural Sciences should be motivated through incentives, certificates and awards so that they could teach effectively and even work beyond normal working hours.
- Good communication between principals and teachers should be encouraged in order to ensure a conducive environment for teaching and learning. This then implies that the principal should ensure that channels of communication are explicitly formulated in order to lower the stress levels of teachers and address unresolved issues. Good communication will result in effective teaching and learning of Agricultural Sciences and will enhance the principal's management skills.

- Constant changes in the curriculum and assessment of tasks were some of the challenges faced by principals in managing the teaching of Agricultural Sciences in the FET band.
- The implementation of Redeployment is a major challenge as it cannot be stopped by principals as it is the policy and process of the department to redeploy educators based on learner-teacher ratios.

5.4 CONCLUSIONS

On the basis of major findings presented above, the following conclusions were drawn:

- **Factors that affect principals in managing the teaching of Agricultural Sciences in the FET band.**

All the respondents believed that:

- Most of the teachers were unqualified to teach the subject whereas a few of them have the relevant professional qualifications for teaching the subject. Therefore, it makes it difficult to manage for principals to manage the teaching of the subject.
- Attitude of both teachers and learners towards Agricultural Sciences was negative as a result of various factors, amongst others, lack of support from curriculum advisors, demotivated teachers as there were no clear plans on practical task and education excursions. If teachers have negative attitudes towards the subject, this will also have an impact on the interest of the subject and might become a challenge to principals.
- Most principals were not adequately equipped with professional capacity to manage teaching of Agricultural Sciences, coupled with the challenge of minimal support from subject advisors and parents. If they are not capacitated, it will become difficult for them to manage the subject
- Insufficient and shortage of resources, Learning and Teaching Support Materials (LTSM) for both teachers and learners are also a serious challenge that

principals, as managers, were unable to address easily. This will have a serious impact because without the necessary resources, teaching and learning of the subject cannot be done effectively.

- Constant changes in the curriculum and assessment of tasks were some of the challenges faced by principals in managing the teaching of Agricultural Sciences in the FET band. This is due to changes in terminologies and approaches as most principals are still holding on to the traditional methods.
- Lack of practical work and land for showcasing concepts Agricultural Sciences is a challenge because learners are doing only theory in class but it must be linked to practical work which can be done at school or by visiting Agricultural institutions, namely, farms and food processing factories.
- Implementation of Redeployment is a major challenge as it cannot be stopped by principals as it is the policy and process of the department to redeploy educators based on learner-teacher ratio. Redeployment must be viewed as a way of balancing learner-teacher ratio but not as a punishment to those who are redeployed, and this remains a challenge to principals and results in a negative attitude towards the subject, lack of commitment and shortage of Agricultural Sciences teachers.
- **Strategies that can be employed to develop and address challenges facing principals in managing the teaching of Agricultural Sciences in the FET band**

All the respondents believed that:

- Principals and teachers need to be developed and capacitated professionally on the management and teaching of the subject. This will make them develop some interest in the subject and avoid phasing it out in their curriculum.
- A recruitment based strategy should be a continuous process in the teaching of Agricultural Sciences.

- Assessment tasks should be moderated and monitored to ensure quality of tasks given to learners, which will enable principals to manage the teaching of the subject effectively and with interest.
- Agricultural Sciences teachers should be motivated and encouraged through incentives, certificates and awards so that they can teach the subject effectively. This initiative must be done in circuits, district provincially and nationally through practicals and theoretical examinations.
- Good communication skill through proper channels is important and should be encouraged in order to ensure smooth running of teaching and learning. Principals should be able to communicate effectively with their teachers whenever they have challenges, when they are excelling in the teaching of the subject and when giving instructions.
- Principals should create a conducive climatic environment that will create a good culture of teaching and learning. This may assist both teachers and principals in addressing challenges that may arise and also lowering their stress level and may increase the level of performance and create an atmosphere that is conducive to effective teaching and learning at schools.

5.5 RECOMMENDATIONS PERTAINING TO THE STUDY

The recommendations pertaining to the study are discussed here under based on the research questions of the study stated in Chapter 1.

5.5.1 Recommendation to Research Question No. 1 (What are the Factors Affecting Principals in Managing the Teaching of Agricultural Sciences in the FET Band?)

Principals should encourage Agricultural Sciences teachers to enhance their professional qualifications.

- **Motivation**

If principals encourage teachers to further their professional qualifications in the teaching of Agricultural Sciences, they can develop more interest in the subject and this will increase immensely the number of teachers who are professionally qualified to teach the subject effectively. This will also improve the managing capacity of principals in the subject.

It is recommended that principals should be capacitated in managing and solving problems in the teaching of Agricultural Sciences

- **Motivation**

It is the responsibility of the principals to manage the teaching and learning of Agricultural Sciences. If they have the capacity of managing and solving problems that emerge in the teaching process, teachers and learners will then develop an interest in the subject. In this regard, schools will not phase out Agricultural Sciences in the curriculum.

All schools that study Agricultural Sciences should have land for practical activities.

- **Motivation**

Agricultural Sciences cannot be taught successfully if theory is not linked to practice. This will help learners to have better retention and understanding of what happens in the business, if they are given opportunities to practice by using a variety of resources. Practical classes are essential in that they enhance the understanding and application of scientific knowledge.

Adequate LTSM and resources for practical work in teaching Agricultural Sciences should be provided.

- **Motivation**

There should be adequate LTSM at all Agricultural Sciences schools because most of the teaching is theoretical and some of the concepts need to be well defined and understood. True knowledge of teaching is achieved by practice and experience in the classroom. The availability for LTSM and resources for practical will enhance the bridging of theoretical and practical knowledge.

5.5.2 Recommendations to Research Question No. 2 (What are Strategies that can be Employed to Develop and Address Challenges Facing Principals in Managing the Teaching of Agricultural Sciences in the FET Band?)

Principals should be encouraged to motivate teachers to be professionally developed

- **Motivation**

Teachers should be encouraged to develop themselves through attending workshops, seminars and in-service training. If higher institutions introduce distance learning programmes for those interested in teaching Agricultural Sciences, a number of unqualified teachers will decrease, and principals will be able to manage the teaching of the subject effectively.

It is recommended that the Department of Basic Education and higher education institutions should continue with the programme of recruiting learners who can be trained to be Agricultural Science teachers.

- **Motivation**

Due to redeployment, aging, working conditions and constant changes in curriculum, most of the schools are experiencing the problem of shortage of teachers. Even though they are leaving the education system, new teachers will be employed, and schools will not continue phasing out the subject.

Moderation and monitoring of Agricultural Sciences as continuous assessment tasks (CASS) should be sustained.

- **Motivation**

Principals will be able to empower and encourage teachers to understand and know the importance of giving quality assessment tasks. This will also help principals to know the processes of moderation and monitoring of assessment tasks.

It is recommended that principals should develop good communication and motivational skills for Agricultural Sciences teachers

- **Motivation**

Good communication is essential in school management as it lowers the stress levels of both teachers and principals. It assists in addressing unresolved issues whereby principals spend most of their time communicating with other stakeholders. Good communication also results in effective teaching and learning of the subject. Principals can manage the teaching of the subject by awarding incentives and certificates in order to generate positive attitudes towards the subject.

5.6 LIMITATIONS OF THE STUDY

Collecting data was not simple as there were challenges which I encountered. Some participants were not co-operative and kept on promising that they will complete the questionnaires within a short period of time but failed to respond as promised. Distance to schools was a challenge as it delayed me from interviewing and analyzing data on time.

5.7 RECOMMENDATIONS FOR FURTHER STUDY

Recommendations for further study that need attention are as follows:

- Comparison on challenges faced in managing the teaching and learning of male and female Agricultural Sciences principals in the FET band.
- An analysis on the impact of gender on challenges faced by principals in managing the teaching and learning of Agricultural Sciences.
- Inclusion of Agricultural Sciences in the GET band curriculum.

5.8 CONCLUSION

The study proved that there are challenges that need to be addressed and attended to in the managing and teaching Agricultural Sciences, amongst others, professional qualifications of Agricultural Sciences teachers, teacher commitment in teaching Agricultural Sciences, availability of teaching and learning materials at Agricultural Sciences schools, teachers' and learners' attitude towards the subject and lack of administrative capacity of the principals. Without the necessary knowledge and skills in the subject, there will be challenges that may be faced by the country in future with regard to food security, inter alia, food availability, food accessibility, food utilization and food system stability. In view of the above, it is important to make sure that Agricultural Sciences is managed well in schools.

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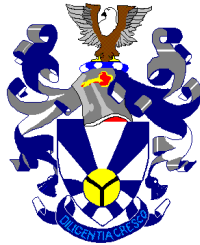
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APPENDICES

APPENDIX A: QUESTIONNAIRE FOR TEACHERS



UNIVERSITY OF ZULULAND

PRINCIPALS' CHALLENGES IN MANAGING THE TEACHING OF AGRICULTURAL SCIENCES QUESTIONNAIRE

I am investigating challenges facing principals in managing the teaching of Agricultural Sciences in the FET band as part of my Master's degree at the University of Zululand. Your anonymity is absolutely guaranteed. You are not required to state your name in the questionnaire. The integrated results will, however, be made available to each school involved in this study.

By filling in the questionnaire, it is assumed that you have agreed to participate in this study.

YOUR ASSISTANCE WILL BE VERY MUCH APPRECIATED

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke.

.....
Researcher's Signature

SECTION A: GENERAL INFORMATION

Select an appropriate answer by indicating with a tick what applies to you:

1. Gender

Male	1
Female	2

2. Age (indicate with a tick)

20 – 29 years old	1
30– 39	2
40 – 49	3
50 years and more	4

3. Employment status (indicate with a tick)

Principal	1
Head of department (HOD)	2
Senior teacher	3
Master teacher	4
Teacher	5
Other (specify)	6

4. Qualifications (indicate with an X). Choose the highest qualification that applies to you.

Secondary Teachers Diploma (STD) 2yrs	1
Secondary Teachers Diploma (STD) 3yrs	2
STD + Degree	3
Degree + UED	4
BA.Ed/B.Ed.	5
Hons + Teachers qualification	6
Master's Degree qualification	7
Doctorate + teacher qualification	8
Other (specify)	9

5. Work Experience
(Indicate with a tick)

0 – 5 years	1
6– 10 years	2
11 – 15 years	3
16 – 20 years	4
21 – 25 years	5
26 – 30years	6
More than 31 years	7

SECTION B: Challenges facing principals in managing the teaching of Agricultural Sciences at the FET band.

Indicate the extent to which you agree or disagree with each of the following statements about challenges facing principals in managing the teaching of Agricultural Sciences at the FET band.

		Strongly agree	Agree	Disagree	Strongly disagree	Not sure
1	Agricultural Sciences teachers are all professionally qualified	1	2	3	4	5
2	Working conditions contribute to effective teaching of Agricultural Sciences	1	2	3	4	5
3	Teachers are committed in teaching Agricultural Sciences	1	2	3	4	5
4	The principal has management skills in the teaching of Agricultural Sciences	1	2	3	4	5
5	The principal understands the teacher's capacity as managers and facilitators of their subjects	1	2	3	4	5
6	The principal is able to solve problems about the teaching of Agricultural Sciences	1	2	3	4	5
7	The principal assists the support provided by subject advisors to Agricultural Sciences teachers	1	2	3	4	5
8	Subject advisors offer subject specific support to principals in managing the teaching of Agricultural Sciences	1	2	3	4	5
9	The principal provides additional support to their teachers regarding the teaching of	1	2	3	4	5

	Agricultural Sciences					
10	Teaching and learning materials are available at all Agricultural Sciences schools	1	2	3	4	5
11	Subject advisors visit schools for curriculum support	1	2	3	4	5
12	The principal encourages teachers to use a variety of teaching strategies	1	2	3	4	5
13	The principal has pedagogical knowledge of teaching strategies in Agricultural Sciences	1	2	3	4	5
14	The principal encourages teachers to give quality assessment tasks in the teaching agricultural sciences	1	2	3	4	5
15	The principal engages the Department of Education in the managing of Agricultural Sciences in the FET band	1	2	3	4	5
16	The principal encourages teachers to attend Agricultural sciences workshops	1	2	3	4	5
17	Incentives are given to outstanding performance by teachers	1	2	3	4	5
18	Agricultural equipment is available in all schools offering agricultural sciences	1	2	3	4	5
19	Schools offering agricultural sciences are having gardens for practical activities.	1	2	3	4	5
20	Agricultural sciences teachers are coping with constant curriculum challenges	1	2	3	4	5
21	Monitoring instruments are available to schools	1	2	3	4	5
22	Principals receive support from the	1	2	3	4	5

	Department of Education					
23	Parents support agricultural sciences programmes at school	1	2	3	4	5
24	Subject advisors offer subject specific support to teachers teaching Agricultural Sciences	1	2	3	4	5
25	Learners show an interest in Agricultural Science activities	1	2	3	4	5
26	The influence of principals, as managers, remains relevant to enhance the effective teaching of Agricultural Sciences	1	2	3	4	5
27	Principals monitor all the class activities done by teachers	1	2	3	4	5
28	The principal has an understanding of moderation of Agricultural Sciences assessment tasks	1	2	3	4	5
29	There is enough time for principals in managing Agricultural Sciences assessment tasks	1	2	3	4	5
30	The implementation of redeployment affected many Agricultural Sciences teachers.	1	2	3	4	5
31	The role of principals in managing the teaching of Agricultural Sciences in schools is affected by the redeployment process	1	2	3	4	5
32	Principals have administrative capacity in the teaching of Agricultural Sciences	1	2	3	4	5

Thank you very much for your cooperation.

APPENDIX B: INTERVIEW SCHEDULE

This interview schedule seeks to find out whether principals encounter challenges in managing the teaching of Agricultural Sciences at the FET Band and what strategies can be employed in order to develop and address challenges principals are facing in managing the teaching of Agricultural Sciences in the FET band.

- What are the factors affecting principals in managing the teaching of Agricultural Sciences in the FET band?
- As principals, do you think your Agricultural Science teachers have the relevant qualification for teaching the subject?
- How do you manage the teaching of Agricultural Science?
- As the principal, do you think teachers are determined to teach Agricultural Sciences?
- Does the School have enough resources that can help you to manage the teaching of Agricultural Science?
- How do you ensure that Agricultural Science teachers are getting full support in the teaching of Agricultural Sciences?
- What do you think principals should do to ensure quality in Agricultural Sciences assessment tasks?
- Do you think principals are able to manage Agricultural Sciences teachers affected by redeployment?
- What strategies can be employed to develop and address challenges facing principals in managing the teaching of Agricultural Sciences in the FET band?

Thank you

APPENDIX C: VERBATIM INFORMATION ON INTERVIEWS WITH THE PRINCIPALS



UNIVERSITY OF ZULULAND

Question1

RESEARCHER	Interview Question	
Researcher	What are the factors affecting principals in managing the teaching of Agricultural Sciences in the FET band?	1
Respondent 1	What I have observed is that there is poor attendance to classes by teachers, Lack of parental support towards the subject, lack of LTSM resources e.g. textbooks, library.	2
Respondent 2	Principals are generally not adequately equipped with professional capacity to manage the teaching of Agricultural Sciences. Coupled with this challenge are factors such as the minimal support from subject advisors, parents and lack of resources.	3
	Worse still, is the fact that they are very few, if any, Agricultural sciences educators occupying promotional posts at school.	4
	This adds to the burden the principals of ensuring proper general management of time in the teaching of the subject.	5
Respondent 3	Lack of resources required to make the subject more practical than theoretical. Lack of HoD's who are professionally qualified to	6

	head the department of Sciences.	
	Lack of parental and departmental support for effective teaching and learning. Redeployment of professionally and skillful teachers to other schools.	7
Respondent 4	There are unqualified teachers who lack teaching skills teachers related to Agricultural Sciences.	8
Respondent 5	There is no suitable space or land for learners to do practical activities. The other thing is that hours and work load of teachers is inappropriate	9
Respondent 6	What I can say is that as the principals I do not even have the content knowledge of Agricultural Science, so this results in me not being unable to manage it successfully and this leaves me with no confidence of assisting in the moderation, teaching and learning of the subject.	10
Respondent 7	As a principal, I can say that learners have a negative attitude towards the subject and maybe this is because they do have the necessary foundation of Agricultural sciences in the grades	11
Respondent 8	Constant changes in the curriculum and assessment tasks to me I think is a challenge and also lack of integrity on most aspects relating to the subject.	12
Respondent 9	The implementation of redeployment is a challenge. In this school some of the teachers were relocated to other schools. Which led to the phasing out of the subject	13
Respondent 10	As you can see this a big school, sometimes I find it difficult to administer the teaching and learning of the subject, because there are few learners studying the subject.	14
		15
RESEARCHER	2. As the principal, do you think Agricultural Sciences teachers have the relevant qualifications for teaching the subject?	16

Respondent 1	No, because most of them were not trained and do not have the necessary professionally qualifications to can teach the subject effectively.	17
Respondent 2	There are very few Agricultural Sciences teachers with relevant professional qualifications. Resultantly, schools have to rely on those whose knowledge of the subject does not go beyond what they were taught at high schools	18
Respondent 3	Most teachers are not professionally qualified in teaching the subject effectively. They lack professional skills that can advance the quality teaching of Agricultural Sciences as an important subject.	19
Respondent 4	Yes, some the teachers who teach the subject are professionally qualified.	20
Respondent 5	I think that Agricultural Sciences have the necessary qualifications for offering the subject	21
Respondent 6	As the principal I have observed that in most of the local schools school, some do have the interest in the teaching the subject but are not professionally qualified	22
Respondent 7	No, most of the teachers who teach this subject do not have the necessary qualifications	23
Respondent 8	What I have noticed all these years is that most of the teachers do not have the relevant qualifications for teaching the subject in the FET Band	24
Respondent 9	Few of the teachers have the secondary teachers Diploma which is the lowest qualification that a teacher should have.	25
Respondent 10	Only a few of them are qualified.	26
RESEARCHER	3. How do you manage the teaching of Agricultural Sciences?	27
Respondent 1	By moderating and monitoring assessment tasks and visiting the class for curriculum support and management. Monitoring of	28

	curriculum content coverage and period attendance registers by both teachers and learners.	
Respondent 2	By soliciting the expertise of curriculum advisors which is often not adequate given the fact that they have become a very scarce commodity. We, as a school, also engage expertise of colleagues from other school. The challenge though is the same as that relating to curriculum advisors as they are very scarce.	29
Respondent 3	Agricultural Sciences teachers are encouraged to have lesson preparations when teaching. HoDs must ensure that each teacher is executing his/her lesson presentations according to the pacesetter. By conducting class visits and controlling written tasks in order to record strength and weaknesses and assists the teacher in case of challenges they are experiencing.	30
Respondent 4	As the principal I ensure that HoDs assist by monitoring the teaching and learning of the subject	31
Respondent 5	In this school, class visits are conducted by HoDs and some members of SMT coupled with task moderation as per pace setter.	32
Respondent 6	What I can say is that, I check the strength and weaknesses on the teaching of the subject and this done quarterly.	33
Respondent 7	I monitor and moderate assessment tasks executed by the teachers	34
Respondent 8	As the principals I consult the teacher only when he comes with challenges of the subject.	35
Respondent 9	This subject is done by few learners, so I only concentrate on those done by many learners.	36
Respondent 10	Sometimes I outsource expertise of colleagues from other schools as some teachers have a developed a negative attitude towards school based moderation as they view it as a way of punishing them.	37
RESEARCHER	4. As the principal, do you think teachers are determined to	38

	teach Agricultural Sciences?	
Respondent 1	Yes, because they are dedicated and show commitment by teaching even beyond normal working hours and over the weekend.	39
Respondent 2	Yes, they have the determination to teach Agricultural Sciences. This is highlighted by the formation of organization and structures, like subject committees and (Association of South African Agricultural Sciences Educators (ASAAE) aimed at reviving interest in the subject. Through these structures they are able to engage the department on matters pertaining to challenges to the current status of the teaching of the subject. The enthusiasm is dampened by lack of ideal support from the department and other relevant stakeholders.	40
Respondent 3	Most teachers are not determined to teach Agricultural Sciences to the best of their abilities because they neglect practical work and project as they focus their attention on theories relating to the examinations.	41
Respondent 4	No, teachers are not determined and willing to teach the subject	42
Respondent 5	I think a few of them are determined because they even teach beyond normal working hours	43
Respondent 6	Yes, teachers are determined, because they plan educational excursions for their learners although some learners do not have interest in the subject as they only choose it because they do not have any other alternative.	44
Respondent 7	No , this teachers are demotivated as a result of the lack of support from the subject advisors	45
Respondent 8	No, some these teachers have a negative attitude towards the subject	46
Respondent 9	What I have observed is that teaching strategies and skills are not integrated by some of these teachers.	47
Respondent 10	No, as a result of redeployment, they then loose interest in the	48

	subject.	
RESEARCHER	5. Does the school have enough resources that can help you to manage the teaching of Agricultural Sciences?	49
Respondent 1	No, there is a serious shortage of resources in most of the schools due to lack of interest in the subject, hence, the phasing out of the subject in most schools.	50
Respondent 2	Some schools do have resources such as gardening tools, water taps and this cannot be used optimally given the country wide challenge of water scarcity, and small portions of land within the premises of the school which can be used as gardens for practical work. Learners are only able to access more advanced resources during excursions.	51
Respondent 3	Our schools do not have enough resources that can enhance the quality of teaching of Agricultural Sciences as both a theoretical and practical subject.	52
Respondent 4	No, there is no space or land to do practical of the subject	53
Respondent 5	What I have realized is that there is inadequate equipment for doing Agricultural Sciences practically in most of the schools	54
Respondent 6	I think the Department of Basic Education is failing to provide practical materials in support of the teaching of the subject	55
Respondent 7	As principals the resources such as seeds, fertilizers and equipment are not supplied by the Department	56
Respondent 8	In our schools we don't have adequate resources that can be used for practical by both learners and teachers	57
Respondent 9	This school is situated in a rural area with lack of water supply which affects the exercising some the activities that are supposed to be done effectively.	58
Respondent 10	We don't have enough Learning and Teaching Support Materials (LTSM) to support the subject	59
Researcher	6. How do you ensure that Agricultural Sciences teachers	60

	are getting full support in the teaching of Agricultural Sciences?	
Respondent 1	By involving curriculum advisors for curriculum support. Involving parents so that they too can support their children with assignments and all the necessary information required for the subject. Engaging learners with assignments. By supporting educators through provision of textbooks and other resources pertaining to Agricultural Sciences	61
Respondent 2	We engage the expertise of the few curriculum advisors available and colleagues from nearby schools. Teachers are also encouraged to participate in professional development encounters where they are afforded the opportunity to network engage with colleagues on matters concerning the teaching of Agricultural Sciences.	62
	Parents are also advised to encourage their children to develop a positive attitude to the subject which is very important for the economic development of the country. If these efforts were complemented by a positive response from all concerned, the challenges pertaining to this subject would have been minimized.	63
Respondent 3	By giving Agricultural Sciences teachers support and engaging curriculum advisors as well as educators from neighbouring school that have special knowledge about the subject. Providing support when there are Agricultural Sciences meetings and workshops.	64
Respondent 4	By making sure that they attend the workshops and training of the subject	65
Respondent 5	I encourage the teachers to inform learners to study at Higher Institutions through bursaries that are awarded to new recruits, like Funza Lushaka, NFSAS, etc.	66
Respondent 6	Here we encourage teachers to outsource other teachers from neighbouring schools who are experts in the field.	67

Respondent 7	By engaging the expertise of few subject advisors available	68
Respondent 8	Teachers here are encouraged to network and engage with other colleges on matters pertaining to Agriculture	69
Respondent 9	By encouraging them to fully participate in structure and formations such as Association of South African Agricultural Educators (ASAAE)	70
Respondent 10	In this school parents are also advised to encourage their children to develop a positive attitude towards Agricultural Sciences	71
RESEARCHER	7. What do you think principals should do to ensure quality of Agricultural Sciences assessment tasks?	72
Respondent 1	The principal as a manager must have a knowledge of the assessment techniques so that he can be able to assist where there are challenges to the teacher. Monitor all the written exercises so as to ensure the quality of assessing tasks.	73
Respondent 2	In my view, principals are doing enough through consultations with various stakeholders and encouragement of Agricultural Sciences teachers to maintain their commitment towards the teaching of the subject. They should also engage the expertise of curriculum advisors of the subject.	74
Respondent 3	Quality assessment of Agricultural Sciences task depends on teamwork spirit whereby the principal and the educator work closely in ensuring that the subject is assessed qualitatively. Principals as managers should have meeting with HoDs and the teacher concerned sharing information about the importance of setting quality assessment tasks, pre-moderation and post-moderation of the tasks as well as quality control of learner's tasks.	75
Respondent 4	The assessment tasks that teachers give to learners should be moderated timeously	76
Respondent 5	Teachers should be assisted in the assessing of tasks based on	77

	the assessment strategies	
Respondent 6	As principals I think that teachers should conduct pre and post moderation to ensure the quality of tasks	78
Respondent 7	All SMT members should be capacitated with the moderation and assessment skills	79
Respondent 8	Subject advisors should be invited to provide support with regard to assessment and teaching strategies to teachers.	80
Respondent 9	Teachers should be encouraged to give learners activities from the previous question papers and to use different teaching strategies and skills as this may improve academic performance of learners in Agricultural Sciences.	81
Respondent 10	The HoDs should monitor teachers 'assessment strategies for informal tasks.	82
RESEARCHER	8. Do you think principals are able to manage Agricultural Sciences teachers affected by redeployment?	83
Respondent 1	It is very challenging as redeployment cannot be stopped by the principal as it is the process and policy of the department to redeploy educators based on learner-teacher ratio at that particular school. Although disturbing and affecting both learners and teachers, it must to be done and principals as manager have no control over it.	84
Respondent 2	The impact of the redeployment of Agricultural Sciences teachers cannot be redressed, first because teachers of the subject have already become a rare species. When these teachers are redeployed schools cannot easily find replacement. This result in the employment of untrained volunteers and are currently unemployed graduates most of whom do not have the relevant qualifications.	85
Respondent 3	Yes, redeployment can affect the management of teaching. If an Agricultural Sciences educator is redeployed to another school, the likelihood is that the educator who is not specializing in the	86

	subject may be compelled to teach the subject even when they are not professionally qualified to teach the subject. Such a move may have a serious negative impact on the learner's academic performances.	
Respondent 4	Redeployment has a negative attitude towards the management of Agricultural Science teachers as most teachers are not satisfied with the process of relocating to other schools.	87
Respondent 5	No, as a result of the lack of integrity and that they are unable to manage and control their attitude as they are stressful through redeployment	88
Respondent 6	Redeployment may have serious negative impact on the learners' performance and discourages teachers from teaching effectively.	89
Respondent 7	Lack of Agricultural Sciences teachers is a result of the implementation of redeployment	90
Respondent 8	To me I think this affect the performance of learners because they end up writing the exams without teachers.	91
Respondent 9	Redeployment affects the social relationship between the teachers and the principals.	92
Respondent 10	No, redeployment is an ongoing process which is difficult to manage as it affects teacher- learner ratio	93
RESEARCHER	9. What strategies can be employed to develop, and address challenges faced by principals in managing the teaching of Agricultural Sciences in the FET band?	94
Respondent 1	Good communication skills are vital so as to enhance motivation and commitment. Teachers must be developed professionally through training and workshops which must be done by the department of education through curriculum advisors. School climate must be conducive for both teachers and learners with the principal being able to manage teaching and learning effectively	95
Respondent 2	Teachers are already devising strategies to enhance the	96

	minimization of challenges pertaining to the restoration of the importance and dignity of the subject. Incentives and motivation must be provided to teachers so as to encourage them to perform to best of their abilities.	
Respondent 3	Agricultural Sciences should be allocated HoDs who are directly involved and have interest in the subject. School should have space for practical so that learners can do practicals effectively. Monthly reports of the activities must be provided by the teacher to the HoDs.	97
Respondent 4	I think teachers should be motivated through incentives such as giving them certificates for workshop attendance, certificates of excellence and awards.	98
Respondent 5	The school should initiate giving awards for best achievers in the subject in order to instill mutual trust between the principal and other colleagues within the school community.	99
Respondent 6	Positive communication may result in positive attitude towards the performance of both learners and teachers in the subject as they will be able to share information and trust each other.	100
Respondent 7	Ensuring that assessment tasks given to learners are monitored and moderated within a stipulated time	101
Respondent 8	The district recruitment based sessions by the Department of Basic Education should be a continuous process	102
Respondent 9	Conducive culture and climate of teaching and learning must be created in schools.	103
Respondent 10	I think professional development of Agricultural Sciences teachers should be a continuous process because of the constant changes in the curriculum	104

APPENDIX D: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

ENQ: MUTSHINYA AR
CELL: 082 932 3589
E-mail:armutshinya@gmail.com

P.O. BOX 5
MUNGOMANI
0992
06 JUNE 2016

ATT: Dr.NG RAMBIYANA
THE DISTRICT SENIOR MANAGER
VHEMBE DISTRICT
THOHOYANDOU

SIR

Application for conducting a research in Vhembe district schools

I, Mutshinya Azwindini Robert, ID No: 640501 5895 084, attached to Humbelani secondary school, Nzhelele west circuit, hereby make an application to conduct a research at schools under Vhembe District.

I have registered for a master's degree at the university of Zululand, student number: 201640104. I have also attached proof of my registration. The thesis of my dissertation is "challenges facing principals in managing the teaching of agricultural sciences in the FET band".


I hope that my application will receive the utmost attention.
Thanking you in advance

YOURS FAITHFULLY



.....

APPENDIX E: PERMISSION TO CONDUCT RESEARCH FROM DISTRICT



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION
VHEMBE DISTRICT

REF: 14/7/R
ENQ: RAVELE N.P
TEL: 015 962 1029

MUTSHINYA A.R
P.O BOX5
~~LWAMONDO~~ MUGOMANI
~~0985~~ 0992

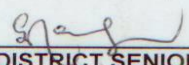
DEPARTMENT OF EDUCATION
VHEMBE DISTRICT

2016 -06- 08

PRIVATE BAG X 2250 S. BASA 0970
TEL: 015 962 1313/4 FAX: 015 962 6039
LIMPOPO PROVINCE

Re: APPLICATION TO CONDUCT RESEARCH AT VHEMBE DISTRICT SCHOOLS

1. The above matter refers.
2. This serves to inform you that your application to conduct a research study titled **"Challenges facing principals in managing the teaching of Agricultural Sciences in the FET band"** has been granted.
3. You are expected to observe research ethics, particularly those relating to confidentiality, anonymity and informed consent of your research subjects.
4. Please ensure that your visits will not disrupt the normal teaching and learning activities.
5. Kindly inform the Circuit Managers and Principals of selected schools prior to your visits.
6. Wishing you the best in your studies.


DISTRICT SENIOR MANAGER

08/06/2016
DATE

Thohoyandou Government Building, Old Parliament, Block D, Private Bag X2250, SIBASA, 0970
Tel: (015) 962 1313 or (015) 962 1331, Fax: (015) 962 6039 or (015) 962 2288

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ETHICAL CLEARANCE CERTIFICATE

Certificate Number	UZREC 171110-030 PGM 2016/345										
Project Title	Challenges facing principals in managing the teaching of agricultural sciences in the FET band										
Principal Researcher/ Investigator	AR Mutshinya										
Supervisor and Co-supervisor	Dr IS Kapueja						Prof AP Kutame				
Department	Educational Foundation and Management										
Nature of Project	Honours/4 th Year		Master's		x	Doctoral				Departmental	

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project proposal and the documents listed on page 2 of this Certificate.

Special conditions:

- (1) This certificate is valid for 2 years from the date of issue.
- (2) Principal researcher must provide an annual report to the UZREC in the prescribed format [due date-31 October 2017]
- (3) Principal researcher must submit a report at the end of project in respect of ethical compliance.

The Researcher may therefore commence with the research as from the date of this Certificate, using the reference number indicated above, but may not conduct any data collection using research instruments that are yet to be approved.

Please note that the UZREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the documents that were presented to the UZREC
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

Classification:

Data collection	Animals	Human Health	Children	Vulnerable pp.	Other
X					
Low Risk		Medium Risk		High Risk	
		X			

The table below indicates which documents the UZREC considered in granting this Certificate and which documents, if any, still require ethical clearance. (Please note that this is not a closed list and should new instruments be developed, these would require approval.)

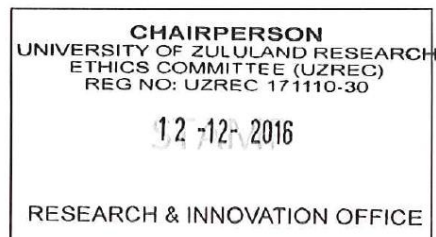
Documents	Considered	To be submitted	Not required
Faculty Research Ethics Committee recommendation	X		
Animal Research Ethics Committee recommendation			X
Health Research Ethics Committee recommendation			X
Ethical clearance application form	X		
Project registration proposal	X		
Informed consent from participants	X		
Informed consent from parent/guardian			X
Permission for access to sites/information/participants	X		
Permission to use documents/copyright clearance			X
Data collection/survey instrument/questionnaire	X		
Data collection instrument in appropriate language		Only if necessary	
Other data collection instruments		Only if used	

The UZREC retains the right to

- Withdraw or amend this Certificate if
 - Any unethical principles or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in this Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project

The UZREC wishes the researcher well in conducting the research


 Professor Gideon De Wet
 Chairperson: University Research Ethics Committee
 Deputy Vice-Chancellor: Research & Innovation
 12 December 2016



AR Mutshinya - PGM 2016/345

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