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AN ASSESSMENT OF THE IMPLEMENTATION OF TECHNICAL VOCATIONAL EDUCATION OF KHAMI DISTRICT SECONDARY SCHOOLS IN THE BULAWAYO METROPOLITAN PROVINCE IN ZIMBABWE.

By

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Promoter: Prof. S. Rembe

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DECLARATION

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

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Mpofu M.

Date:.....

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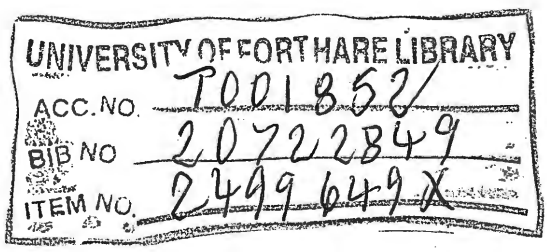

ABSTRACT

The Zimbabwean Government, after independence, tried to transform the lives of its citizens through skills development. It therefore viewed technical vocational education as a panacea for servicing the developmental needs of its society. Its aim of implementing technical vocational education in its secondary schools was based on the premise that students, after graduation, can contribute towards the economic growth of their country through attained technical skills. It hoped to develop students' positive attitude towards labour as well as their technical and self-reliance skills.. The above assertion prompted the researcher to engage in this study whose purpose was to assess the implementation of technical vocational education in Zimbabwean secondary schools. The study sought to assess:

- how students are selected to the vocational path way.
- the capacity of teachers in delivering vocational education in secondary schools.
- the availability of resources in the implementation of technical vocational education in secondary schools.
- support and monitoring mechanisms provided by schools, government and SDCs to schools.

To achieve these objectives, the re[illegible]pted for the mixed method methodology which is embedded in the post-positivist research paradigm. Post-positivist research paradigm attempts to increase our understanding of the way things are and that objectivity is an ideal that can never be achieved, and research is conducted with greater awareness of subjectivity. By combining qualitative and quantitative methodology, it assisted the researcher to strike a balance and avoid being subjective on issues like selection of students, teacher capacity, funding, monitoring and availability of resources. The researcher had to opt for questionnaires, interviews, document analysis and observations.

In general, the methodology was appropriate in that it produced the desired results. The survey alone would not have given the researcher the chance to analyse some documents related to students' performance as he compared what was said with what was happening, hence, arriving at a true picture of the implementation of technical vocational path-way. Below are the main findings of this study.

The study established that implementation of technical vocational education was faced with a number of problems. There was inadequate professionally qualified teachers. As such, schools were manned by temporary teachers and this affected the implementation process as well as acquisition of technical skills by students. Shortage of specialist rooms, equipment and materials affected the quality of students' work and all this emanated from poor funding by government and parents. It also emerged that there was inadequate quality control supervision from the district offices as well as in-service training programmes conducted by district officials.

Nonetheless, the study revealed that there was in site in-service training mainly conducted by school subject committees and school management team. The study further established that the schools used old and new syllabuses and this affected the national examination average pass rate. The average pass rate was low for all school categories. Generally, private schools had better results than government schools and the farm school had the worst results. Overall, the findings of the study have shown that the problems encountered by schools in implementing technical vocational education was multifaceted.

The study among other things recommends that:

- the government should include technical vocational education subjects for pre-service teachers in each of its training colleges for secondary schools so as to increase the output of trained technical vocational teachers.

- the government should improve the capacity of teachers currently in the field through in-service training courses for teachers who trained long ago, to develop their instructional skills in line with the new technology and global trends.

- in order to avoid a high rate of internal and external brain drain among teachers, the responsible authorities should improve teachers' remuneration and conditions of service. The salaries of technical vocational education teachers should be in line with those of their counterparts in the private sector.

- the government should increase its funding of technical vocational education if schools are to achieve the intended objectives of implementing technical vocational education in secondary schools. The schools must be fully equipped with modern technological facilities, equipment, text-books and libraries for research

- the study revealed that many gaps still exist in technical vocational education in creating jobs and contributing towards economic growth. It therefore, recommends that research be conducted with the possibility of adding indigenous skills, associated with manufacturing artifacts and craft to be implemented in secondary schools. This might expand the existing range of technical vocational education subjects offered..Traditional artifacts and crafts could be exported, thus foreign current could be earned. In turn this might create employment and also contribute towards economic growth of the country.

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DEDICATION

This study is dedicated to my visionary father, Timothy Matshilu Mpofu who passed away without seeing this work, my loving wife, Lindiwe Vo Mpofu who always encouraged me to further my education and my great teacher and cousin, Mathibini Dokolemele Mazethuka Ncube.

ACRONYMS

'A' Level	Advanced level
BSPZ	Better Schools Programme of Zimbabwe
CBA	Concerns-Based Adoption Model
CPD	Continuous Professional Development
DEO	District Education Officer
EC	Educational Change Model
EWP	Education with Production
F1	Academic secondary education
F2	Technical vocational education in secondary schools
HOD	Head of Department
INSET	In-service education and training
KISS	Keep short and simple
NGO	Non-Governmental Organization
'O' Level	Ordinary Level
OD	Organizational Development Model
OCED	Oxford Consortium for Education Achievement
OECD	Organization for Economic Co-operation and Development
ORC	Overcoming Resistance to Change Model
MoHET	Ministry of Higher Education and Training
MoHTE	Ministry of Higher and Tertiary Education
MoESC	Ministry of Education Sports and Culture
SA	South Africa
SDA	School Development Association
TVE	Technical vocational education
SDC	School Development Committee
UNESCO	United Nations Educational and Scientific Organization
ZGCE	Zimbabwe General Certificate in Education
ZIMSEC	Zimbabwe Schools Examination Council

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CHAPTER ONE

BACKGROUND OF THE STUDY

1.1 Introduction

Worldwide secondary schools continue to implement technical vocational education with the aim of addressing issues of youth unemployment, poverty and economic growth of their countries (McGrath, 2005). Hence, technical vocational education has to be seen to cater for a variety of knowledge, skills creativity, inculcate love and appreciation of scientific skills. It should nature talent, abilities, interests and aptitudes among learners. Nonetheless, complaints and concerns have been raised by parents, media and other sectors on the way technical vocational education fails to meet its objectives. Hence, this study seeks to assess how technical vocational education is implemented in Zimbabwe. It focuses specifically on Shamva District. This chapter presents the overview of technical vocational education which includes the background of the study, statement of the problem, research questions, objectives, the purpose of the study, assumptions of the study, definition of terms, limitations and delimitations of the study.

1.2 Overview of technical vocational education

The global economic recession of the 1970s and 1980s led to unprecedented levels of unemployment among the youth and this demanded change in the education system so that students should be trained to be self reliant (Mahomed, 2001; Mooko, Tabulawa, Maruatona & Koosimile 2009). Mupinga, Burnet and Redman (2005) postulate that technical vocational education (career and technical education) has been seen by many governments as a panacea for servicing the developmental needs of society.

On the other hand, education philosophers, who believe this, feel that the social, political and economic world outside the school can be changed, partly or completely, by introducing technical vocational education in the content of education (Mandebvu,

1991). Because of this, vocational and technical education programmes at secondary school level serve numerous purposes. Purposes range from narrow skills training, aimed at providing individuals with occupational skills for employment in specific jobs, or a cluster of jobs, to enhance general education (Mahomed, 2001). Technical vocational education also assists students to be trainable as well as to be aware of what is expected of them in their special and varied technical jobs (Hawk 2000; Lynch 2000; Ministry of Higher and Tertiary Education (MoHTE), 2005; Shavit & Muller, 2000). Hence, many countries have introduced technical vocational education as part of the formal secondary school curriculum, a view shared globally (Hawke, 2000).

Globally, policy- makers have viewed technical vocational education as a crucial tool of economic development. By improving students' technical skills, it is assumed that these technical skills could be assets in the improvement of their country's economic performance as well as solve social problems such as poverty and unemployment (Akoojee, Gewer & McGrath, 2005; McGrath, 2002; Mandebvu, 1991).

However, this is contrary to the assumption of vocational advocates who argue that students who engage in technical vocational education contribute immensely towards a country's economic growth as compared to academic subjects. Research evidence does not indicate higher rates of return to the investment in vocational secondary education than in academic secondary education. Studies by Zidderman (1997) in Ivory Coast (West Africa), Indonesia (South East Asia), and Peru (Latin America) confirm that there is no significant difference between the earnings of vocational and academic graduates. Rather, it is more common that net returns for vocational education are lower than those for academic education. When the capacity of vocational schools to produce a work force exceeds that of the labour market to absorb them as workers, overproduction of vocational graduates leads to wages lower than the cost of education or unemployment (Mahomed, 2001).

Furthermore, lack of skills at the individual level is generally viewed as a major contributing factor to poverty. If students or employees have no skills to provide to the

labour market, or to make a living in subsistence or self-reliant projects, they are most likely to be living in poverty (McGrath, 2002). It has been revealed in cross-national studies of social stratification and labor market sociology, "that in countries with an extensive vocational education system, youth unemployment is lower, poverty is lower, and school leavers' chances of unskilled work are reduced" (Van de Werfhorst, 2007: 1)

In the past 35 years, technical vocational education in countries like Germany, Australia and many British colonies in the 1970s implemented it with the expectation to solve the growing problem of youth unemployment (Mahomed, 2001). By so doing it was assumed that this could prevent school-leavers from being a threat to social stability as unemployed teenagers could indulge in some dangerous activities (Akoojee, Gewer, & McGrath, 2005; Van de Werfhorst, 2007). Therefore, these global perspectives influenced countries like the then Rhod[illegible]Zimbabwe) to implement technical vocational curriculum in their schools.

1.3 Technical vocational education in pre-independence Zimbabwe

Transformation in the school sector in technical and vocational education occurred in the then Rhodesia (now Zimbabwe) after the Education Commission Report, chaired by Professor Judges in 1962. This commission recommended the introduction of an 'ecological curriculum' which led to the implementation of technical vocational education in secondary schools referred to, as F2 during that time. Students from this system wrote examinations which were locally set and obtained the General Certificate in Education (MoHET, 2005; Moyana, 1986).

This was mainly practical curriculum running parallel to the more prestigious F1 stream which was mainly academic where students obtained Cambridge School Certificate. This type of technical vocational education was only provided to black students, not the white, coloured and Asian populations. It was seen as being inferior, not only to the F 1 system, but also to the technical vocational education system offered to whites, Asians

and coloureds at Salisbury (now Harare) Polytechnic and Bulawayo Polytechnic College (MoHET,2005; Moyana,1986; Zvobgo, 1994).

It was made even worse by the introduction of The New Education Plan of 1966 which advocated that, only 12.5 per cent of black students who completed primary education (Grade 7) each year were admitted to academic secondary education (F1). Thirty-seven comma five per cent of these students were to be admitted to (F2) and the 50 per cent were to join the labour force either as farm labourers or factory workers (Chinyamunzore, 1995; Moyana, 1986; Mupinga, Burnet & Redman, 2005; Zvobgo, 1994). This meant that students who were admitted to technical vocational secondary schools F 2 were those who had not done well at Grade 7 level; (only those who had obtained division three and four), while the cream that passed with division one of two were admitted to the prestigious F1. It has to be noted that those who obtained division five were considered to have failed and were not admitted to secondary education.

The students that enrolled in technical vocational education were taught skills in building, wood work, home economics and food and nutrition. This was mainly to curb unemployment as well as create self reliant skills for developing their rural communities (Moyana, 1986). Most of these subjects were mainly gender- biased as boys did wood work, building, metal work and agriculture while girls did food and nutrition and fashion and fabrics. This only applied to black students (MoHTE, 2005; Moyana, 1986; Zvobgo, 1994).

This type of education was a dead end whose products could not proceed further with education after four years of secondary education, while those in F 1 could further their education. The system itself looked down upon its own products since they could not train as teachers or nurses at the time. They were just meant to go to the rural areas and develop those areas using the acquired skills (MoHET, 2005; Nziramasanga, 1999). Consequently, because of the above cited reasons, that system became unpopular among parents and students and they developed negative attitudes towards technical vocational education (MoHTE, 2005; Moyana, 1986).

However, despite the fact that the system had some short-comings, especially politically, it also had some good aspects. Firstly, that system was well supported in terms of infra-structure, equipment and other resources. Secondly, students were taught by qualified personnel and the classes were manageable as the teacher- student ratios were low (MoHET, 2005; Nziramasanga, 1999). Finally, according to Nziramasanga (1999), many graduates from that system are now running their own businesses.

1.3.1 Technical vocational education in post-independence Zimbabwe

Zimbabwe's aim of implementing technical vocational education in its secondary schools after independence was based on the premise that, students after graduation could contribute towards the economic growth of their country through attained technical skills. Hence, Barker (1986: 161) outlined the aims of technical vocational education after independence as:

- to develop an individual's attitude of self-reliance,
- to develop his/her ability to adapt to technological change,
- to develop his/her basic understanding of Education with Production (EWP), and
- to develop adequate manpower resources related to the needs of the economy

Therefore, when Zimbabwe attained independence in 1980, the government had to change its education policies so as to have a multiracial education system in line with its socialist ideology (Zvobgo, 1994). It has to be noted that the dual education system during the colonial era divided people on racial lines; with the Ministry for African Education and the Ministry for European Education. This type of education system was then abolished (Moyana, 1986; Mungazi, 1986; Zvobgo 1986). This was a move by government to achieve racial equity among its schools. Parallel technical vocational secondary schools were also phased out and converted into conventional schools in 1981 (MoHET, 2005). Those students who had done F2 and had passed were given a life line as they were admitted to colleges like their counter parts who had done F1, but instead of five ordinary level passes they were supposed to have six passes. Previously these students were not admitted into training colleges.

Nziramasanga, (1999) however, argues that the act of converting technical vocational education secondary schools into conventional secondary schools was a political gimmick to please the electorate and it was counterproductive. He further argues that those resources could have been used as a good base for developing technical vocational education. Kanyongo (2005) concurs with Nziramasanga (1999), in that, technical vocational education policies immediately after independence were politically motivated as goals and targets were not well defined or focused.

The phasing out of the F 2 system after independence was replaced by the introduction of the philosophy of Education with Production (EWP), (MoHTE, 2005; Nziramasanga, 1999; Zvobgo, 1994). This was to be in line with the proposed government's socialist ideology (Zvobgo, 1986).

1.3.2 Education with Production

Conditions of severe want in refugee camps in Botswana, Zambia and Mozambique during Zimbabwe's liberation struggle where students in refuge schools had engaged in agricultural production, leatherwork, and sewing led to the philosophy of Education with Production (EWP), (MoHTE, 2005; Nhundu, 1997; Nziramasanga, 1999; Zvobgo, 1994). In this type of education learners were involved in active participation activities from which they acquired and improved their skills through practical and productive activities (Nhundu, 1997). Therefore, the introduction of EWP in Zimbabwean schools was to be in line with the proposed government's socialist ideology (Zvobgo, 1986). The major objectives of EWP as stipulated by Nhundu (1997:52) were to:

- promote socialist values and attitudes in pupils;
- assist in the mental decolonisation of the learner;
- overcome the gap between mental and manual work, theory and practice, and class work and real-life situations;
- work towards the reduction of the education budget by making schools self-reliant;
- develop attitudes favourable to agricultural production;

- supply the economy with worker-intellectuals with a strong bias towards industrial and technical skills.

These objectives are an extension of those objectives outlined by Baker (1986) in section1.2.1 (page 5). The implementation of EWP in Zimbabwe was directed towards the development of human capital for both traditional and modern sectors of the economy. To achieve this objective, students in schools were not only taught how to produce and develop positive work attitudes, but also acquire a broad-base general education (mathematics, social and natural sciences, literature etc), (Nhundu, 1997).

This was in line with Dekker and Lemmer's (1994) view that the slogan education with production gives vocational education an ideological, socialist character in that it aims at improving the productivity of masses through education to offset costs of education or training. Education with Production was [illegible] the concept of education for self reliance but the emphasis was on skills development. It borrowed heavily from Nyerere's philosophy of "Education for Self Reliance" (MoHTE, 2005). Basically, EWP emphasised the combination of theory and practice in the curricula.

Van Rensburg (1984:8) a proponent of EWP as development concept, postulates:

> The assimilation of knowledge, especially science, and the ability to conceptualise, are generally best served by the active linking of theory and practice, with the attention of time to both as a means of systematically guiding the learners...Education is thus recognized as a whole social process involving action and reflection across the range of human experiences.

Education with Production was thought to be a better policy for social-transformation and development but it was inhibited by unclear implementation strategies. Different schools understood it differently and as such, implemented it differently because the implementers were not conscientised, or given in-service training on its implementation (Nhundu, 1997). Zvobgo (1986) said it was unfortunate that EWP was identified with agriculture as some schools produced a lot of maize, groundnuts and some reared rabbits and other animals.

Education with Production was never successful as schools tended to move towards their conventional counterparts (those doing academic subjects) and became more academic in order to enable their subjects to compete with others in advanced level ('A' Level) and university education (MoHTE, 2005; Nhundu, 1997; Ndebele, 2007). The philosophy of EWP did not receive widespread support from the implementers and the general populace who could not be moved from their desire for traditional academic education, hence, it was abandoned (MOHTE, 2005; Nziramasanga, 1999). This shows the power implementers hold over the implementation of a programme. For successful implementation of a programme, there is need for consultation with the implementers (Mazmanian & Sabatier, 1995). These are some hazards which may befall unclear policies or top-down policies. Education with Production is a living example of this misconception. Its failure however, led to a new policy of technical vocational education (MoHTE, 2005).

1.3.3 The two-pathway system

After the failure of EWP, the Ministry of Education Sports and Culture had to re-introduce vocational education. This was introduced by the Education Act of 1991 which made a commitment to move from quantitative expansion to quality and relevance in education through vocationalisation of schools (Raftopoulos, 2003). Zimbabwe's education reforms from 1990 to 2001 were more qualitative in nature and focused on the relevance and quality of education and training through new approaches to content, technologies, and skill provision (MoESC & MoHET, 2001; Mumbengegwi, 2001).

Zimbabwe's technical vocational education was then outlined to address people's concerns on the need to equip pupils with survival skills and competencies (Zvobgo, 1994). According to Barker (1986) and MoESC (2002), technical vocational education's major objectives were to:

- develop students' abilities to adapt to technological change
- develop adequate manpower resources related to the needs of the economy

- re-orient the nation's attitudes to view dignity in labour and develop an individual's attitude of self reliance.

Therefore, technical vocational subjects such as design and technology, technical drawing, physical and health education, accounts, music, art and drama were offered as part of a broad-based curriculum at basic education level (MoESC,2002).The new education structure put great emphasis on vocational skills and provided progression lines to higher levels.

These new changes were included in the Secretary's Circular Number 3 of 2002, Director's Circular Number 3 of 2006 and Policy Circular Number 77 of 2006 and Director's Circular Number 39 of 2007 (MoESC, 2002; 2006; 2007). The above mentioned policy circulars gave guidelines into the implementation of the two-pathway education structure in Zimbabwe. The two pathways are: the general (academic) education pathway and skills (non academic) technical vocational education pathway.

The two-pathway Education structure is meant for post Form 2 (9 years of schooling) to cater for the learner's varying aptitudes, interests and abilities (MoESC, 2002; MoESC; 2007). This entailed giving learners at Forms 1 and 2 levels a broader curriculum which included: Sciences, Mathematics, Humanities, Computer Studies, Languages, Business/Commercial subjects and Technical-vocational subjects. At Forms 1 and 2 levels all students were to take at least two technical subjects (MoESC, 2007). This type of education provided quality, holistic and relevant education. At Form 2 students were to write examinations used for selection at Form 3 level where they choose either the technical vocational education or the academic pathway suitable for that individual.

A student who chooses the academic pathway has to follow this route up to University level provided he/she passes Advanced level ('A' Level). He/she has to complete eight subjects of own choice, excluding technical/ business subjects. However, he/she has to do core subjects which include: Mathematics, English, Ndebele or Shona, Geography, and History and then any other two academic subjects. At Lower sixth (Form 5) the

student is allowed to select three subjects depending on the career to be pursued. For example, if one wanted to do Law, there is a need to take English Literature, History and Divinity and to be a Medical Doctor, one had to study, Biology, Chemistry and Physics. The student has to pass these subjects at Upper sixth (Form 6) where they write the Zimbabwe General Certificate in Advanced Level (ZGCE A-Level). The requirement for a student to qualify for entry at university was that the student has obtained two points from two subjects (MoESC & MHET, 2001). It has to be noted that all academic subjects at secondary level are examined by Zimbabwe Schools Examination Council (ZIMSEC) and for one to qualify for entry into University, one should have first passed five subjects at Ordinary level (Form 4) with 'C' or better, including English .

The technical-vocational path includes the five core subjects: English Language, Ndebele/Shona, Mathematics, Science and one subject of own choice and two major subjects offered by the school in technical-vocational education. The technical subjects include: Metal Work, Welding Technology, Building, Fashion and Fabrics, Agriculture, Horticulture, Technical Graphics and Computer Studies. One has to follow this route up to 'A' Level where an individual may choose three subjects from Art and Design, Agriculture, Clothing and Textiles, Food Science, Textile Clothing and Design and Geometric and Mechanical Drawing. However, it has to be noted that for one to advance to this level, he/she should have passed five 'O' level subjects with 'C' or better including English for him/her to proceed to 'A' Level and to be admitted to the University. At the university, one may either do Engineering, Draughtsman, Architecture, Food Science and Textile Clothing or Design (MoESC, 2007).

The business and commercial side which is also considered under the non-academic path way has its own subjects like Commerce, Principles of Accounts, Business Studies and Computers (MoESC, 2007). One has to do the five core subjects if one opts for business and commerce.

The choices by students to either pathway should be based on students' observed attitudes, interests and aptitudes (students' natural talent should be considered (MoESC, 2007). These should be observed by class teachers or subject teachers throughout the student's junior level phase, that is, Form 1 and 2 levels. The teachers should conduct continuous assessment in their subjects for students' selection to technical vocational education (MoESC, 2007). This continuous assessment should be reinforced by the junior examinations conducted at the end of the junior course, that is, final year of Form 2. At the end of Form 2, each school will be expected to administer formal school-based full examinations covering all subjects offered at that level (MoESC, 2007). This is done for the purposes of selecting students fairly and correctly to the relevant path way. However, there are concerns that schools seem not to have an idea about the need for continuous assessment.

For successful implementation of these technical vocational education subjects, teachers had to follow the timetable and periods as stipulated in MoESC (2002) (See Table1. 1).

Subject	Period	Subject	Period
Economics	4	Business Studies	4
Principles of Accounts	4	Commerce	4
Computer Studies	4	Metalwork	6
Woodwork	6	Agriculture	6
Tech/Graphics	6	Building	6
Food &Nutrition	6	Fashion & Fabrics	6
Computer Studies	4		

Source: Adapted from Secretary's Circular 3 of 2002: 3

Table 1.1: Technical vocational education time tables and periods

Table 1.1 above shows the number of technical/vocational subjects and periods per week which teachers have to follow. Each period has a duration of 40 minutes. Students are also required to take core subjects with vocational subjects as alluded to before. The core subjects are: (a) English Language (5 periods) (b) Ndebele/Shona (5 periods), (c) Mathematics (5 periods), (d) Science (6 periods), (e) History (4 periods). According to MoESC, (2002) students can do eight subjects, English Language, Ndebele/Shona, Mathematics, Science and History (the core subjects) and choose three from either Business/Commerce or Vocational/Technical subjects. However, at 'O' Level all students are required to do Computer Studies.

The content of the new technical vocational education was intended to suit new technology and modern trends. For example, the Food and Nutrition as well as the Fashion Fabrics syllabuses were designed to lay a strong basis which kept abreast of developments in modern science and technology. This allowed students to follow different careers in life as they could train as textile and fashion designers, nutritionists, food analysts and caterers or become small scale entrepreneurs (MoESC, n.d).

Technical vocational education had to change from the labour- specific, skill-oriented technical programs to technical education of a general nature, with an emphasis on design and technology in line with the demands of industry. These reforms were from 1990 to 2001 (Kanyongo, 2005; MoESC, 2002). For example, the content of the subjects became both theoretical and holistically practical. The 'O' Level studies, for example, Building Studies, included all the aspects of construction for bungalows from soil, foundations to roof, including plumbing and finishes, and these are treated in theory with some aspects in practice. Students sit for examinations in both theory and practical.

However, people have raised concerns that the staff appointed to implement this new technical vocational program were the same professionals trained for the labour-specific, craft-based programs and despite the fact that in-service workshops were held, not all technical education professionals were retrained in line with the new focus (Mupinga et al., 2005). There were also concerns raised from the section of the media, especially newspapers that technical vocational education has failed to achieve its objectives as students performed badly and teachers left the teaching profession. It was also highlighted that the available staff was demotivated because of low salaries and most of them were less qualified and lacked experience (The Chronicle Reporter, 1998; Financial Gazette, 8 December 2003; City Press, 2008). The media has indicated that there was general consensus among parents that technical vocational education faced a shortage of learning facilities, equipment and library books (Financial Gazette, 8 December 2003; Nziramasanga, 1999).

Some complaints were also levelled against technical vocational education teachers as there was poor coverage of syllabus by schools and some schools used the old syllabus (Zimbabwe School Examination Council, 2004). It is further argued that, in the absence of set performance standards, the course objectives from which teachers derive the content for the various technical subjects are open to different interpretations, resulting in producing students lacking uniform competencies. *The Herald* of 13 June, 2006 confirmed the concerns raised by its sister paper, *The Financial Gazette*,10 June, 2006 when it reported a case where students were incited by parents to boycott classes in protest against the poor standards of teaching in schools. It was also alleged that there was public outcry about the uncultured school graduates in the country's education system (The Sunday Mail, 20 February, 2006).

While concerns have been raised about the teaching fraternity, teachers have also alleged that parents have a negative attitude towards technical vocational education (Nziramasanga, 1999). If teachers' allegations were founded, they could impact negatively on the implementation of technical vocational education as the parents are the main funders of this curriculum as Policy Circular 77 of 2006, clearly states that

parents should provide infrastructure and learning materials and equipment. This policy stipulated that there is parental involvement in the implementation of technical vocational education in secondary schools. The School Development Committees (SDC) in non-government schools and the School Development Associations (SDA) in government schools are the custodians of schools. They manage school affairs on behalf of parents. According to Policy Circular No.77 of 2006 the SDCs, SDAs are expected to take part in providing infrastructural development and are also mandated to collect school levies for technical vocational subjects from students.

However, despite the fact that the SDC/SDA are officially recognised stake- holders in the system, there was no circular directly addressed to SDC/SDA chairpersons about these issues, but only to school heads and heads of other government departments (MoESC, 2007).

The media acknowledged that implementation of technical vocational education in secondary schools was faced with challenges as these were exposed by the country's leading financial newspaper (Financial Gazette, 2003: 8) which noted:

> The malady plaguing the local education system is fed by under-funding from the state budget; high inflation which topped 525.8 per cent continued to eat into grants provided by the state to schools. Low morale within the teaching profession had led to staff exodus from the teaching profession.

This inflation has continued to haunt Zimbabwe and has caused most of the professionals to leave the country; to countries like South Africa and Botswana. Presently,(2008) Zimbabwe's currency is the lowest in the world. It only matches that of Germany in 1924. The Z$10 million note could not buy a banana in May, 2008 (Daily Sun, 27 November, 2008;The Sunday Times, 21 May, 2008). The situation which prevailed in Zimbabwe led to demotivation among the teaching fraternity. This led to teacher migration as well as industrial action by the remaining professionals. Students and teachers did not attend classes during third term. Teachers in 2008 earned less than Z$ 100 000 a month (about R70) as indicated by Raymond Manjongwe the

Secretary General of Progressive Teachers Union of Zimbabwe (Daily Sun Reporter . 27 November, 2008).

It is under such circumstances that the researcher embarked on the assessment of implementing technical vocational education in Khami District secondary schools, with the view of establishing the situation in the schools. Khami District was selected because it is a peri-urban district and could project a balanced view on the implementation of technical vocational education. The district is one of the five districts which constitute Bulawayo Metropolitan Province. It has eight secondary schools which all implement technical vocational education

Khami District had an enrolment of 4134 male students and 4672 female students which totaled 8706 students from all the 8 secondary schools. The district had 2289 Form 4 students of which 932 were boys and 135[illegible]s. These statistics show that Khami secondary schools had more female students than male students. These students were manned by 82 male teachers and 171 female staff, making a complement of 253 staff members. There were two thousand, two hundred and eighty-nine Form 4 students who wrote final national examinations at the end of 2008.

1.4 Statement of the problem

The above discussion shows that although the Ministry of Education, Sport and Culture in Zimbabwe has recommended the implementation of technical vocational education in secondary schools, there are some problems facing its implementation. Zimbabwe's education system, once a beacon of shiny hope in Africa, is collapsing fast (Daily Sun, 27 November, 2008). There are complaints that there is acute shortage of syllabi and some schools use old syllabi. Concerns have been raised that teachers use poor selection criteria and students' performance is not pleasing (Gora, 2007; Ministry of Education, Sport & Culture Quality Assurance Division 2006; The Sunday Mail, 20 February 2006).

There is general consensus that, there is shortage of learning facilities, equipment, library books and computers (Financial Gazette Reporter, 27 November, 2003; Gora, 2007; Maunze, 2007). Shortage of qualified staff, poor qualification of teachers and use of untrained teachers, migration of teachers to neighbouring countries, poor salaries and lack of motivation among the remaining staff has been indicated as factors which could affect the implementation of technical vocational education (Daily Sun, 2008; Financial Gazette Reporter, 27 November, 2003; The Sunday Times, 21 May, 2008). Lack of transport or shortage of vehicles at District offices as well as lack of active standard control unit for technical vocational education subjects has been highlighted as a cause of concern (MoHET, 2006). There are concerns that parents have negative attitudes and perceptions about technical vocational education (Gora, 2007; Mupinga, et al., 2005). It is against this background that this study seeks to assess the implementation of technical vocational education in Khami District secondary schools in the Bulawayo Metropolitan Province, Zimbabwe.

1.5 Research questions

1.5.1 Main research question:

How is technical vocational education implemented in secondary schools?

1.5.2 Sub-research questions

1.5.2.1 How are students selected to the vocational path way?

1.5.2.2 What is the capacity of teachers to deliver technical vocational education in schools

1.5.2.3 What resources have been made available in secondary schools by school heads, government and SDCs to implement technical vocational education?

1.5.2.4 What are the perceptions of teachers, parents and students regarding implementation of technical vocational education?

1.5.2.5 What support and monitoring mechanisms have been put in place in schools to enable them to implement technical vocational education?

1.5.2.6 What can we learn from the findings of this study regarding curriculum implementation models?

1.6 Purpose of the study

The purpose of this study was to assess the implementation of technical vocational education in secondary schools. Specifically, the study sought to assess the extent to which schools implement technical vocational education in Khami District.

1.7 Research objectives

The study sought to assess:

1.7.1 how is technical vocational education implemented in secondary schools?

1, 7.2 how students are selected to the vocational path way.

1.7.3 the capacity of teachers in delivering vocational education in secondary schools.

1.7.4 the availability of resources in the implementation of technical vocational education in secondary schools.

1.7.5 what are the perceptions of teachers, parents and students regarding implementation of technical vocational education?

1.7.6 support and monitoring mechanisms provided by schools, government and SDCs to schools.

1.8 Assumptions

The study assumed that:

1.8.1 schools have inadequate resources for successful implementation of vocational education.

1.8.2 most of the teachers who offer technical vocational education are not qualified.

1.8.3 student selection to vocational streams does not use Form 2 results.

1.8.4 there is lack of monitoring of vocational education in schools by the district offices and SDCs.

1.9 Significance of the study

This study is of great importance in that its findings might contribute to the existing world debate on the benefit of implementing technical vocational education in secondary

schools. The study further shows the relationship between human capital theory and technical vocational education at the secondary school level. Furthermore, this study is of great benefit to the Ministry of Education, Sports and Culture, Bulawayo Metropolitan Provincial Education and Khami District as it unravels the importance of the capacity of teachers in the implementation process of technical vocational education and the impact of shortage of the material resources on the implementation process.

The District Education Officers will benefit as this study provides knowledge and insight on how schools in different environments implement technical vocational education and also solutions on how the implementation of technical vocational curriculum could be improved within the schools. The students are also beneficiaries in this study, as it unfolded to school authorities the need for consulting and counselling of students before the selection process. This study is of great benefit to the SDC/SDA as it revealed challenges faced by schools in terms of [illegible] and as such, government may propose better funding policies as the current ones failed to produce desired results.

Teachers also benefit from the findings of the study as poor conditions of service were observed to have a negative impact on the learning process. Also, design and the implementation of a more appropriate strategy could begin to be considered in implementing technical vocational education curriculum. It would also assist all the departmental officials responsible for the implementation of technical vocational education to focus on monitoring and staff development programmes to improve implementing technical vocational education. The findings of the study would provide vital reference material for other researchers who may want to carry out similar studies in the implementation of technical vocational education in secondary schools from a Zimbabwean perspective.

1.10 Rationale of the study

The field of Technical Vocational Education and Training in Southern Africa has been badly neglected. It is very difficult to find an article in the international journals on the topic, and it is even less likely to find one written by a national from the region (McGrath,

2005). Hence interest in this study was piqued as a national from this region, to investigate the implementation of technical vocational education in Zimbabwean secondary schools. Technical vocational education is supposed to engage students in lifelong work skills that ensure that they are able to interact meaningfully in the changing world and also create self- employment. Teachers as implementers of this curriculum are supposed to increase their knowledge base, skills and have a better range of knowledge, which may be used when required.

Teachers need to be motivated and recognized for their hard work to reflect upon their teaching and implement new effective teaching and learning practices. A number of concerns were raised on the quality of technical vocational teachers and availability of resources for its implementation. Therefore, there was a need for this research to find out how teacher capacity and resources could affect the implementation process of technical vocational education in secondary schools. Because as implementers, if teachers lack motivation, adequate resources and materials, facilitation skills, sound knowledge of policy documents and sound knowledge of classroom practice; they might find it challenging to successfully implement technical vocational education.

There was a need to hear the views and opinions of education officials, teachers, students and school development committees on how technical vocational education is being implemented. Their views were considered to be of great importance for informed decisions on policy making in terms of implementing technical vocational education in secondary schools. In the study assessment means all forms of written and practical tests used to measure students' performance.

1.11 Delimitation of the study

The study focused on the implementation of technical vocational education in secondary schools. The research was confined to eight secondary schools in Khami District in Bulawayo Metropolitan Province, Zimbabwe. The population the study comprised eight secondary schools, heads, technical subject teachers, Form 4 students, parents and School Development Committee chairpersons and secretaries in Khami District.

1.12 Limitations of the study

Any research study has its own limitations and so this study was no exception. However, measures were put in place to safeguard against any demeanours that might have had adverse effects on the outcome of the study. The researcher anticipated that not all questionnaires distributed to the teachers might be returned to the researcher. This problem was sorted out by making frequent follow-ups with the school heads who were involved in the distribution of the questionnaires to HODs, teachers, students and SDC/SDA chairpersons and their secretaries. Good communication between the researcher and the school heads and district education officers was an added advantage in sorting out this problem.

Some respondents found the study a bit sensitive such that they did not want to reveal some valuable information on the implementation of technical vocational education in their schools. This was taken care of by the use of multiple methods of data collection. The researcher took time and explained to the respondents the aim for the research and why their contributions were important to the research. Serving respondents with an introductory letter from the regional office and the university also made the respondents to be at ease. Adherence to the research ethics also set the minds of the respondents at ease.

This study was limited by the financial state of the researcher to cover all the incidentals such as costs of materials and transport. Nonetheless, the researcher used his budget to cater for some of these costs. Time was another limiting factor as schools were busy with their normal school programmes when data were being collected but this was addressed by making appointments in advance.

1.13 Definition of terms

1.13.1 Assessment

Assessment is the process of documenting, usually in measurable terms, knowledge, skills, attitudes and beliefs. Assessment can focus on an individual learner, the learning community (class, workshop, or other organized group of learners), the institution, or the educational system as a whole. Academic Exchange Quarterly (2009) say assessment include portfolio studies, or experimental work that address learner's work. It also addresses the learner's aptitude and preparation, motivation and learning styles. Assessment looks at learning in achievement and satisfaction in different educational contexts and also addressing issues of measurable standards and benchmarks. Lin and Gronlund (1995) concede that assessment is an integrated process for determining the nature and intent of student learning and development as well as obtaining information on which to base educational decisions.

1.13.2 Implementation

Ham and Mill (1984:104) define implementation as "those actions by public or private individuals (or groups) that are directed at the achievement of the objectives set forth in prior policy decisions". Implementation is "the process of putting an idea, programmes, or set of activities new to the people attempting or expected to change" (Fullan, 1982:56).

Implementation in this study means activities conducted by civil servants and the public to achieve objectives set by the public policy of vocational education.

1.13.3 Vocational education

According to Shavit and Muller (2000), vocational education (or vocational education and training, also called career and technical vocational education prepares learners for careers that are based in manual or practical activities. Learners directly develop expertise in a particular group of techniques or technology, hence sometimes referred to

as technical education. Nziramasanga (1999:414) views vocational education as "vocational preparation offered in schools that devote at least half of their curriculum to occupationally specific theory and practical courses".

Vocational education in this study was used interchangeably with technical/vocational education, meaning education given to students at secondary level which include theory and practice. It involves technical subjects.

1.14 Organization of the study

The study consists of six chapters as follows:

1.14.1 Chapter 1. Background of the study.

This chapter discusses the background of the study where concerns and complaints by stakeholders are raised on the implementation of technical vocational education in Khami District secondary schools. This section further discusses the statement of the problem , the purpose of the study, and it also presents the research questions. The objectives , assumptions, significance and limitations of the study are also discussed in this section.

1.14.2 Chapter 2. Literature review

This chapter discusses human capital theory and curriculum implementation models used in this study. It also discusses literature on issues such as: teacher capacity, selection of students to technical vocational education stream, financial and material resources and monitoring of technical vocational education curriculum.

1.14.3 Chapter 3. Methodology

This chapter, presents and justifies the research methodology used in the study. It also discusses the philosophical assumptions underlying various methodologies and the one which the study is placed. The research design, population and sampling procedures, research instruments used to collect data and ethical considerations are discussed also.

1.14.4 Chapter 4. Data presentation; analysis and interpretation

In this chapter ,the researcher presents and analyses all the data collected through questionnaires, interviews, focus group discussions and document analysis as well as observations. Data are presented using frequency tables, pie charts and graphs.

1.14.5 Chapter 5. Discussion of findings

This chapter discusses the findings of the research. The discussion in this section includes the comparison of the findings with data found in the literature. The objective of this chapter is to bring the findings into the fold of the existing knowledge in the implementation of vocational education in secondary schools.

1.14.6 Chapter 6. Summary, conclusions, and recommendations

This chapter gives the summary of the findings in relation to the problem, the methods used to reach the findings and how they relate to the research questions. Conclusions and recommendations reached and their implications for the policy makers and further research required in the area conclude the chapter.

1.15 Summary

This section discussed the background of the study where concerns and complaints by stakeholders were raised on the implementation of technical vocational education, statement of the problem and the purpose of the study were viewed. The research questions, objectives, assumptions, significance and limitations as well as, the chapter outline are presented in this section. The following chapter will discuss literature review.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter is divided into two parts. The first part focuses on theoretical framework used in this study. Part II focuses on the related literature on major aspects or issues in the implementation of technical vocational education. The literature enabled the researcher to have an insight into what other researchers have written on technical vocational education. The review of related literature assisted the researcher to understand what other people have written in the area on implementation of technical vocational education.

Literature by researchers such as Bell and Stevenson (2006) Bowels and Gentis (1976), Lingard and Ozga (2000), Shavit and Muller (2000), Schulz (1997) have been reviewed. Some of these researchers like Laugio and Lillis (1998) and Shavit and Muller (2000), have shown in their studies that technical vocational education is inundated with a number of problems such as poor qualification and shortage of human, material and financial resources which has impacted negatively on its implementation. The literature on issues such as teacher capacity, students' selection, and availability of both material and financial resources in the implementation of technical vocational education in secondary schools is reviewed. Furthermore, the researcher reviewed literature on monitoring of resources by school heads, district education staff in relation to the implementation of technical vocational education in secondary schools. The literature on Continuous Professional Development was reviewed in this section as well.

PART I

The study has adopted a number of theories which have been used to explain the data collected. The theories include; the Human Capital Theory, Overcoming Resistance to

Change Model, Concerns-Based Adoption Model, Educational Change Model and the Rogan and Grayson's Implementation Theory. The Human Capital Theory is discussed first.

2.2 Human capital theory

The Human Capital Theory works on the premise that educated or skilled individual's contribute much towards the development and economic growth of society or a country, by contributing to national income over the entire working of that individuals' lifetime (Psacharapoulos & Woodhall, 1985; Shavit & Muller, 2000). Scholars who believe in Human Capital Theory view educating an individual as an investment like any other investment project.

They believe that the years spent in schooling are not wasted years as one may learn a number of skills during that time and those skills would be beneficial in the near future. Educated and skilled workers earn more during their life time (Bell & Stevenson, 2006; Johanson & Adams, 2004; Shavit & Muller, 2000; Schultz, 1997). For example, a student who leaves school at Grade 7 and goes to work at an early age will earn less than one who furthers his/her education and gets a professional qualification. As a skilled professional he/she will be paid a higher salary for his/her knowledge and skill.

The perception is that an educated and skilled worker is more productive than an uneducated and unskilled worker (Bell & Stevenson, 2006; Blaung, 1985; Johanson & Adams, 2004; Psacharopoulos & Woodhall, 1985; Shavit & Muller, 2000). In terms of production, it is assumed that a specialist agriculturalist can produce more than an ordinary farmer because he/she is able to use modern methods of farming and new technology as compared to his/her uneducated counterpart.

Schools, by engaging in technical vocational education, are preparing students for the world of work. Economists in Education consider the investment in people as a way of creating human capital which is as important in development as physical capital. For example, government spends money on individual students who do technical vocational

education with the hope of getting returns/benefits. These returns are called social benefits (Bell & Stevenson, 2006; Forojalla, 1993; Psacharopoulos & Woodhall, 1985). Social benefits returns are benefits received by government after educating an individual. In this case, these benefits can be creation of employment by the graduates through job creation such as self-help projects like poultry, bakeries and small welding shops or services provided. These projects contribute directly towards the economic growth of the country.

The researcher feels this is difficult to achieve as this is not a linear process or as simple as that. It is a complicated situation which is determined by a number of factors. The implementation of technical vocational education in schools which is designed to inculcate the desired technical skills which render students to be employable is determined by the capacity and competence of teachers and their attitudes towards the curriculum. Attitudes of learners and the availability of both financial and material resources can act as an impediment to the successful implementation of technical vocational curriculum. Hence, it can negatively affect the skills development of students and their chances of employability. The interest groups such as SDCs/SDAs, parents and local government authorities can also act as a barrier to implementation of technical vocation education.

The present wave of human capital, in arguing for a relationship between education and training and economic growth, sees technical vocational education primarily in economic terms. Its analysis includes the adoption of competency-based education and training models that see people as objects to which value is added through education and training (Samson, 1996). It can be observed that if students are given technical skills and knowledge, they become more valuable to their employer as they can be more productive than an individual without those technical skills. The employer may waste more money in training an individual without the required skills.

Seemingly, a number of countries like Zimbabwe implement technical vocational education in secondary schools to equip students with the desired skills and knowledge.

The underlying emphasis on vocational education is the assumption that training for the type of skills which match the demand of the labour market will increase the productivity of individual students and, as a result, contribute towards national economic growth. A country with a good economy is assumed to have less unemployed citizens (Johanson & Adams, 2004).

It could be assumed that by implementing technical vocational education, it is hoped that Zimbabwe would not only lead to higher work productivity but also facilitate workers' contribution to the economy and becoming self reliant. Unterhalter, Wolpe, and Botha (1992:10) concur with this idea when conceding that, "education and training in schools must serve directly to produce the technical skills required by the labor market."

However, the view of Unterhalter et al (1992) on Human Capital Theory is silent on issues of how these students get employed. One may just speculate that this is a smooth transition from school to work as long as the students have acquired the requisite skills and knowledge. The role played by the captains of industry in selecting these new graduates who are to join the labour force is overlooked, yet they are the major determinants. Hence this study will look into how schools equip students with these skills and how they are absorbed by the industry or get employed.

The major objectives of vocational and technical education in Zimbabwe is "to provide, along with general education, knowledge and skills in technical vocational fields in order to meet national manpower requirements in agriculture, business, industry and other technical services" (Kibera, 1993:12). While the researcher agrees with the above assertion, he feels that for schools to meet the demands of these sectors, there should be a manpower forecasting approach. This approach can assist in identifying the number of skilled personnel needed in each sector; failure to do that there can be an oversupply of skilled manpower who may roam the streets due to lack of employment. The study will go further to explore whether what is stated above have been achieved by schools in the implementation of technical vocational education in secondary schools.

Psacharopoulos (1998:275) basing his evidence on studies in Tanzania and Columbia discovered that:

> the expense of schools [which introduced practical subjects] was considerable more than that of the conventional academic schools... [However,] graduates from [vocationalized] secondary schools do not find employment quickly than graduates from conventional schools and ... do not demonstrate higher initial earnings than those from traditional academic schools.

The failure of technical vocational subject students to get employment is confirmed by Bell and Stevenson's (2006) studies in technical vocational education using data from a survey of 10 countries over a period of two-years which revealed that there was no positive correlation between investment and educational investment and economic growth. This means that although students did technical vocational education, it was difficult to relate the growth of economy to educational input while in some instances the economy of a country became weak despite having skilled people. This is a clear indication that technical vocational education alone cannot influence the economy of the country as there are number of factors that have to be considered. The skilled worker needs to be absorbed by industry before he can contribute meaningfully to the country's economy. On the other hand when the economy of a country is low, skilled workers cannot be absorbed by industry as business will also be low.

Therefore, technical vocational education in Zimbabwean schools should be seen to be improving students' attitudes towards labour in making them see dignity in manual work. It is meant to assist students to acquire technical skills that may be productive and contribute meaningfully towards the economic development of the country as well as increasing their chances of employability (Nziramasanga, 1999). Human capital helps to determine the earning capacity of individuals and their contribution to economic performance of the state in which they work (Psacharopoulos, 1998). While this view could be true, sometimes when there is recession it is difficult even for the educated individuals to get employment; thus creating unemployment of the educated. It is the work of this study to find out if the students attitudes have changed against manual work

as well as establish whether the conditions in schools are favourable for producing employable graduates.

Development of human capital does not only lead to higher productivity but also facilitates the absorption of workers into the economy and improves their job mobility (ability to move into more productive jobs and sectors) (Johanson & Adams, 2004; Middleton, Zidderman, Van Adams, 1993). However, for workers to be absorbed it is dependent on their requisite skills. These skills should be relevant to posts where one has to be absorbed. Moreover, the economy of a country is also a determinant factor. While human capital reduces skills bottlenecks significantly and enhances the efficiency of the labour market (Shavit & Muller, 2000). It is still to be seen whether it has the same effects in a country like Zimbabwe which has high unemployment. It can be further argued that while equipping workers with skills increases their demand, at the same time it also increases competition in the employment arena.

Bell and Stevenson (2006) argue that, the relationship between expenditure on education and the economic performance of any particular country is largely one of correlation rather than of cause and effect. A study in Turkey revealed that up to half of all high school students enrolled in vocational and technical high schools, male graduates of vocational and technical high schools have not only higher probability of wage employment but also significantly higher wages and rates of return than general high school graduates (Zidderman, 1997). There may be intervening variables at work such as investment in infrastructure or in research development. However, the connections between implementation of vocational education for employability, training and economic performance are complex and by no means clear.

The organizational principles on which the relationship between the human capital theory and education rest tend to be based on the technical-rationalist approach to education in general and to the organization of schools as institutions in particular. This gives little consideration to the benefits of technical vocational education other than economic utility (Psacharopoulos & Woodhall, 1998). Mahomed (2001) has argued that,

this emphasis on economic rationalism has meant that education values have become marginalized, thus distancing education from the social and the cultural environment.

The application of Human Capital Theory has a limit therefore, the wider benefit that may be gained from a more liberally-based vocational education may marginalize the ethical dimensions of education that might shape both the nature of educational institutions and the totality of the educational enterprise (Bell & Stevenson, 2006). Then, questions can be asked about the context from which vocational policies emanate and the extent to which vocational education grounded in Human Capital Theory can achieve its stated goals. One may even speculate that it is meant to develop students' interest and at the same time when taken to higher levels such as technical vocational colleges and universities can bring about the desired effects.

What is of paramount importance to th[illegible]apital Theory is the understanding that individuals and government decisions to spend on education are based on investment, provided that such acquisition of education and training entails foregoing present consumption for expected monitory and non-monitory benefits (Blaug,1976). Although this theory has its limitations, the researcher will draw some aspects to explain his data. The researcher will assess through the use of human capital theory whether students have managed to acquire technical skills which render them employable by engaging in technical vocational education.

Furthermore, it will be used as one of the researcher's lenses to see through how technical vocational education is implemented and as the basis for the researcher's argument and validation of the results. Finally, the findings by other scholars will be used as a foundation and a guide in analyzing data as well as to validating the researcher's findings. The significance of the implementation stage in education reforms is discussed before some implementation models of change so as to understand the curriculum implementation process.

2.3 The significance of implementation stage in education reforms

Decision-making is a complex and crucial event in the policy process. It is preceded by analytical and/or political activities and followed by equally significant planning activities. Although types of activities are crucial in developing and realizing education reforms, more attention has often been given to policy formulation at the expense of implementation stage. This is particularly the case in developing countries contexts (Haddad, 1995). Rogan (2007) concedes, the attention and energies of policy-makers are too often focused on the 'what' of desired educational change and neglect the 'how'. Referring to the experience of USA and Australia in educational change, Porter (1980) notes that those who are concerned with policy making and enacting the relevant legislation hardly ever pay attention to the implementation stage. It should be noted that such omissions by policy-makers have led to poor implementation of some programmes. For example, in Zimbabwe, EWP did not yield the intended outcomes because of poor implementation strategies (Mncube, 2007; Zvobgo, 1994).

Implementing change in any organization, including schools, requires a multitask approach. Regardless of the approach one takes, implementation has three initial stages: initiation, implementation and maintenance (Ornstein & Hunkins, 2004: 312). Initiation of change refers to setting the stage for the implementation process, getting the school culture receptive to the planned innovation. At this stage, planners raise the essential questions about who would be involved, what the expected level of support is, and what the state of readiness of people for the innovation is implementation stage, therefore, involves presenting innovation and getting people trying it out in their classrooms. It is the "doing" phase of implementation (Ornstein & Hunkins, 2004). This stage is mainly concerned with teachers as the classroom practitioners. The success of the innovation (technical vocation education) depends on financial and material support as well as on teacher capacity.

Successful implementation is a process that should have some novelty. It should encourage curriculum implementers to be creative. Considering the total process of curriculum activity can help teachers to use a particular approach or a combination of

approaches to implementation. The teaching methods used by the teachers have a great impact on the learning situation. However, their selection depends on their philosophical preferences and the implementation is also determined by the model used.

There are a variety of curriculum implementation models which one can choose from. Among the many are the Overcoming Resistance to Change Model (ORC), Organizational Development Model (OD), Concerns-Based Adoption Model (CBA) and Educational Change Model (EC) (Ornstein & Hunkins, 2004).

2.3.1 Overcoming resistance to change model

The Overcoming Resistance to Change (ORC) model rests on the assumption that the failure or success of planned organizational change efforts is basically a function of the ability of leaders to overcome staff resistance to change that is present, prior to, or at the time of the introduction of the innovation (Ornstein & Hunkins, 2004).

Ornstein and Hunkins (2004) concede that to implement a new program, that is, to introduce change, people must get advocates for the new program. It needs people who are willing to engage in something new, to push boundaries, to explore new territories. There is need for individuals who welcome diversity of thoughts and ideas, who embrace ambiguity of views, and who accept creative conflict to correct present notions regarding the nature and value of a particular curriculum (Ornstein & Hunkins, 2004). It is further argued by Ornstein and Hunkins (2004) that to establish a community of supporters for a new program, people must address their fears, misgivings, apprehension, and other factors that could inhibit the acceptance of change. The implementers must be convinced that all their values, assumptions, beliefs, visions, are included in the new program proposed. The implementers must be convinced that their ideas will be treated with honest and humility.

According to this model, one of the strategies to overcome resistance to change is power equalization between management and organizational members-school

administrators and teachers in the case of implementation of technical vocational education. The leaders of the innovation accept that the subordinates will initially be negatively predisposed towards the innovation and hence, will resist it. Therefore, curriculum leaders using this model should be mindful of dealing with the concerns of the staff. Hence, some term it a concerns-based adoption model (Ornstein & Hunkins, 2004).

An assumption of this approach is that individuals must change before an organization can be altered. Also, change is a very personal experience, and we must allow for individual personalities to shine through in the change or implementation process. Furthermore, the introduced change must address the needs of teachers and other interested players as seen by those players (Sowell as cited in Ornstein & Hunkins, 2004). Hall and Loucks (1981) as quoted by Ornstein and Hunkins (2004) in their research on the implementation of curr[illegible] schools and colleges, noted that concerns could be classified into four broad developmental stages:

Stage 1: unrelated concerns,
Stage 2: personal concerns,
Stage 3: task-related concerns
Stage 4: impact-related change.

They further argued that when dealing with the ORC model, educators must deal directly relate with concerns on stages 2, 3 and 4. If these are ignored, people will deal with it in ways that are not intended in the program's conception. Therefore, such concerns can by addressed by school heads or heads of departments through staff meetings, keeping teachers informed about the new innovation. When concerns are shared, often people with some insecurity regarding the program find out that they really have nothing to worry about, and do not necessarily have to make changes. Perhaps teachers could find that they do have to change their strategies and that they do not have to teach different content. By sharing concerns, they may realize that they are capable of making any changes necessary in order to deliver the new program in its intended fashion. This leads us to a similar model of change which also views concerns

as of paramount importance in the implementation of an innovation, the Concerns-Based Adoption Model.

2.3.2 Concerns-based adoption model

Very closely related to the ORC model is the Concerns-Based Adoption model. This model views all change as originating with individuals, individual change, and, through their changed behaviours, institutions change. Change occurs when individuals' concerns are made known. All change is personal, and for individuals to "buy into" change they must have ownership of the concern as a process. Furthermore, they must view the result of the implementation as having a personal impact on their professional lives. Because change starts with individuals and involves individuals throughout the change process, one needs to realize that change is a slow process; it needs time to take shape; individuals need time to learn new skills, formulate new attitudes (Marsh & Willis, 2003).

According to Marsh and Willis (2003), this model focuses on the adoption phase and implementation phase. It does not centre on the curriculum development and design phases of curricular activity. It assumes that the teachers and other educational workers have already created or selected a curriculum for the school. The focus here involves enabling the teachers to adopt this curriculum and to view it as their own. The model is solely an implementation model. It reviews the curriculum as a resource for use and the teachers as a part of the user system. To get the users ready to teach the resource, the curriculum, those charged with curriculum implementation must find out and address teachers' concerns. One wonders if teachers' concerns are addressed in the implementation of technical vocational education in secondary schools.

A study by Fuller (1969) cited in Marsh and Willis (2003) on evolution of preservice teachers to experienced teachers revealed that preservice teachers had a sequence of concerns about self, teaching itself and students. Lieberman and Miller (1991) in their work with teachers, found a similar pathway of teachers' concerns. Others have even found that there are even two stages before the concerns for self. The first being aware

of the innovation and the second possesses the levels of information that trigger in people some interests in learning about the innovation, while not realizing that the innovation may have a direct impact on them (Ornstein & Hunkins, 2004).

If one accepts these two stages, then Fuller's first stage (concerns about self) becomes stage 3. Here, teachers wonder whether they have the skills and knowledge to implement the innovation. At a fourth stage, teachers have the reservation about how to manage their time and resources to implement the program successfully, and actually how to teach the program. Fuller's third stage, the fifth and final stage of the model (concerns about students) is where teachers centre their attention on how the new curriculum influences students' learning. The concerns are raised as: awareness of innovation, awareness of information level, concerns for self, concerns for teaching and concerns for students (Ornstein &Hunkins, 2004).

Once the concerns of the teachers are addressed successfully, the curriculum is implemented. However, with this model one is interested in the level of its use. Hopefully, teachers would not take the new curriculum and then do nothing different. In this model also, teachers should not simply take the new curriculum and act solely as technicians with it, teaching it as curriculum notes. The teachers should be creative with the curriculum and modify it where necessary, and make it uniquely appropriate for their students. This model allows for curriculum modification by both teachers and heads of school as seen fit and gives room for in-service training for teachers.

In this study, the Concerns-Based Adoption model will be adopted in looking at the implementation of the technical vocational education because it draws on 'systems thinking'. It is based on the Systems Model that everything acts within a certain environment. Implementation of an innovation takes place within an organisation which has its own systems and people within that organisation constitute the system. People in the organisation are in relationships and have to work as teams. In school, there are parents, students, teachers, school heads and district education officers from the districts; all these people have to work as a team in implementing technical vocational

education. Each member of this system has a role to play. If one component of the system malfunctions, the whole system fails. An interplay or overlap exists among these groups (Ornstein & Hunkins, 2004).

According to Likert (1996), people in these overlapping position act as "linking pins". The notion of linking pins coincides with the ideas of teamwork and organisational development. The "linking pins" play a major role in changing attitudes and behaviour among people within their operational areas (Likert, 1996). In this case, heads of technical departments and chairpersons of working teams as well as education officers act as linking pins.

For example, the model assumes that if those people in higher work teams treat those in the lower work teams with respect, trust and support, it is likely that the same behaviour will be rubbed on to those on the lower echelons of the organisation and they will exhibit the same behaviour when dealing with their colleagues. This assumption applies to all people whether placed on standing or ad hoc committees. The entire culture is affected (Ornstein & Hunkins, 2004). This is also relevant in the implementation of technical vocational education which leads us to the next model which will be discussed, the Educational Change Model.

2.3.3 Educational change model

Just as schools differ from one another, so do notions of how to bring about changes within schools. Current efforts to implement technical vocational education is based on the assumption that all schools are essentially the same and will therefore benefit from the same kind of in-service training (INSET) and implementation strategy. Hopkins, Ainscow and West (1994:56) concede,

> It is almost always the case that centrally imposed (or top-down) change implicitly assumes that implementation is an event rather than a process; that a change proceeds on autopilot once the policy have been enunciated or passed. This prospective ignores the critical distinction between the object of

change...and the process of changing-that is how schools and local agencies put the reforms into practice.

This study will look into how technical vocational education is being implemented as an innovation and the change model propounded by Fullan (1991) will be used. According to Fullan (1991), successful implementation of change involves need, clarity, some complexity, and quality of programmes. The key players to successful implementation of curriculum are administrators, teachers, students, and school board, community and government members. All these key players have to play their roles effectively.

People who wish to implement the new curriculum need to understand the characteristics of the change being considered. Fullan (1991) has discussed key factors that affect implementation. There should be communication and support from all stake holders. Often, people will resist the innovation because the need for the change is not communicated to them or, if communicated, not accepted by those people to be affected by the change. Needs are influenced by the value people hold. When people view change to coincide with their values, they are more willing to accept the innovation being suggested (Ornstein & Hunkins, 2004). This can also apply to technical vocational education since it is also an innovation.

Table 2.1: Factors affecting implementation

Characteristics of the change
1. Need and relevance to the change
2. Clarity.
3. Complexity
4. Quality and practicality of program
B. Characteristics at the school district level
5. History of innovative attempts
6. Adoption process
7. Central administrative support and involvement
8. Staff development (in-service and participation)
9. Time line and information systems
10. Board and community characteristics
C. Characteristics at the school level
11. Principal characteristics and leadership
12. Teacher characteristics and relations
13. Student characteristics and needs
D. Characteristics external to the local system
14. Role of government agencies
15. External funds

Source: Adapted from Michael Fullan, The New Meaning of Educational Change, 2nd ed. (New York: Teachers College Press, Colombia University, 1991).

2.3.3.1Characteristic of the change

When implementing vocational education, parents, teachers and students should know what it will do and what it will involve. There are two questions that people raise regarding innovations. People want to know the purpose of the innovation and how it is going to be conducted and its benefits. There should be clarity about the objectives of the programme or innovation.

Clarity about goals and means is always an issue in any change of activity (French & Bell, I990). The implementers of any innovation according to this model, should be clear from the outset on its goals and it has to specify their involvement. Above all, they should know its private benefits. Often, people are not clear as to why a particular innovation is actually different from what they are doing. Teachers and parents should be clear about why technical vocational education is being implemented as well as its gains.

Complexity refers to the difficulty, which is relative to many factors. For staff experienced in curriculum development, extensive change can be rather easy. For inexperienced staff, the same change can be challenging. In most organizations, the idea is to remember the KISS theory: Keep it short and simple. (Ornstein & Hunkins, 2004). However, simple changes may be satisfying; simple changes often do not make much difference. The implementers of te[illegible]ational education need to recognize the innovation for what it is and have a realistic perception of its difficulty level. Ornstein and Hunkins (2004:313), argue that "to accept an innovation people need to accept its quality, worth, and practicality.

Although we would hope that any curriculum innovation would have evident quality, developers often miss the mark when it comes to practicality." The ideas are sound, but teachers simply do not have the time to carry out the suggestions. Sometimes, curricular are wrongfully implemented but could be practically implemented if those in charge make sure that the necessary materials are available for teachers. Technical vocational education curriculum could face some problems if teachers are not provided with relevant equipment for students. Parents and responsible authority should make sure that they provide teachers with all needed support as well as learning materials.

2.3.3.2 Characteristic of the school district level

The process of curriculum implementation needs to be monitored or supervised to determine what is taking place within the schools, whether the curriculum is implemented according to the set objectives or policy. At district level, the DEOs provide

direction and guidance and make sure teachers and school heads have the skills to implement technical vocational education. Those charged with supervising curriculum development and implementation are responsible for overseeing or directing the work of others (Ornstein & Hunkins, 2004). The DEOs have to understand the history of technical vocational education in the Zimbabwean context and consider that during the pre-independence era, people had a negative attitude towards its implementation (Moyana, 1989, Zvobgo, 1994).

The teachers' capacity or level of training have to be considered and as such, conduct in-service training courses to boost their knowledge and teaching strategies as well as clarify the goals and objectives of the new technical vocational education syllabi. They have to realise that some innovations like EWP failed because of lack of clarity and misconception among its implementers (Ndebele, 2007; Nziramasanga, 1999; Zvobgo, 1994). The school environment where the [illegible] takes place has to be taken into consideration.

2.3.3.3Characteristics at the school level

There is a need to take into consideration the community where technical vocational education is being implemented, the characteristics of the school and other key players. Schools in the studied area have different characteristics as some are peri-urban and others are urban. They also belong to different responsible authorities, some are government, some are private and others are farm schools. Hence, these different characteristics may have an influence in the way they implement technical vocational education. In curriculum development, regardless of the approach one has taken; attention must be given to understanding the students' needs to be addressed by the programme as suggested by the constructivist curriculum paradigm. In this case, the selection of students to technical vocational education path-way.

In curriculum implementation, one must also attend to teachers' requirements for them to accept the new curriculum (Fullan, 1991). This include their professional qualification, specialisation, experience and their attitudes as well as motivation. Failure to attend to

students' and teachers' needs by programme planners of any innovation can lead to unsuccessful implementation of the desired innovation. Hence, this study will also focus on whether teachers have the capacity to implement technical vocational education curriculum. Their professional qualifications, specialisation and experience would be considered as an important factor in the implementation of technical vocational education.

The Educational Change Model would be used to assess how technical vocational education curriculum is being implemented in schools considering the role played by administrators as supervisors (HODs and school heads) and quality assurance controllers (DEOs), teachers, students, school board and parents as outlined by the model. This model has a high measure of relevance to the Zimbabwean scenario, as education officers, parents, SDCs/SDAs and teachers are cited as key players in the implementation process of technical vocational education. This is as stipulated by Zimbabwe Ministry of Education Sport, and Culture Director's Circular Number 77 of 2006.

There are a growing number of researchers who feel that in order for school to survive, the decision that impacts school operations must be shared with the school community at the local level (Hargreaves, 1994; Bottery, 2001). Also to be assessed is how these individuals can promote or inhibit successful implementation of technical vocational education in schools. The study sought to find out the support schools get from parents in terms of material and financial resources. A third theory discussed is the theory of curriculum implementation by Rogan and Grayson (2003).

2.3.4 Rogan and Grayson's implementation theory

Within this study, in order to explore how schools implement technical vocational education, the researcher adopted the implementation theory that was developed by Rogan and Grayson (2003). The framework draws on the school development, educational change, and science education literature, and attempts to overcome some of the shortcomings of earlier frameworks developed by Beeby (1996), and Verspoor

and Wu (1989). Beeby (1996) categorized schools and educational systems according to four developmental stages (Dame School, Formalism, Transition and Meaning), and assumed that schools progress from 'lower' to 'higher' stages (Rogan & Grayson, 2003).

However, Beeby's model neglects the complexity of an educational system and focuses only on teachers, making no reference to other aspects of the school context. The more comprehensive model, which was developed by Verspoor and Wu (1989) and later on adapted by De Feiter et al. (1995) broadens the focus of development by including factors related to teachers, curriculum and school. Of special note is the fact that this model neglects students. Similar to Beeby's model, it proposes four stages of development: Unskilled, Mechanical, Routine and Professional. This model also implies a linear view of curriculum change, moving from one stage to the next higher stage. Therefore, both models tend to obscure the complex and idiosyncratic nature of the process (Rogan & Grayson, 2003).

Rogan and Grayson, (2003) base their theory of implementation on three main constructs: profile of implementation, capacity to support innovation, and support from outside agencies. The 'support from outside agencies' describes the kinds of actions undertaken by outside organizations, such as provincial and district education offices, to influence practices, either by support or sanction. The role of the District Education Officers (DEOs) is to see that standards are maintained. They are there as quality assurance officers, to provide schools with expertise and professional development courses. In many developing countries like Zimbabwe, outside agencies may also involve international development agencies such as World Vision and local or international NGOs like Plan International Zimbabwe. These usual provide students with food provisions and learning materials like text-books.

According to Rogan and Grayson (2003), the sub-constructs are divided into two: material support and non-material support. Material support may include infra-structure such as specialist rooms and material resources such as student text- books, facilities

and other equipment used in the learning process. Non-material support is mostly provided in the form of professional development. These involve in-service training where teachers' skills could be upgraded. This is probably one of the most visible and obvious ways in which outside agencies attempt to bring about change in schools. Literature on 'learning organization' suggests that teacher professional development can also be promoted through co-operation and support among teachers (Karsten, Voncken & Voorthuis, 2000).

Therefore, it can also be regarded as a sub-construct of school capacity. To bring about change, there is also need for outside agencies to monitor the implementation process. This is mainly the duty of the regional and district officers. They have to inspect schools at least once in two years so as to give feedback to teachers on their performance. It is their duty to see that technical vocational education curriculum is being implemented according to the policy [illegible]s.

The construct 'capacity to support innovation' is concerned with factors that are likely to support or hinder the implementation of new ideas and practices in the new curriculum. This construct recognizes that schools differ in terms of their capacity to implement innovations. Possible indicators fall into four categories: physical resources, school ethos and management, teacher factors, and student factors. Physical resources are crucial as poor conditions and limited resources can limit the performance of even the best teachers and students (Fullan, 1991). The school ethos and management are not the same, yet they are considered together as they are closely intertwined, particularly in schools in developing countries. If the school is in disarray and not functioning well, innovation cannot or will not be implemented. This could be determined by the school head's qualification and experience.

The leadership role of the school head is critical in reform implementation as he/she has to supervisor teachers with varying qualifications and give them feedback (Fullan, 1991). Teachers play a pivotal role in reform processes, and factors such as their background, training, subject matter knowledge, motivation, commitment to teaching,

and attitudes towards proposed innovation influence their capacity and willingness to implement change. Likewise, the background of students, and the kind of strengths and constraints they might bring to the school are crucial. A range of issues influence student attitudes to learning and responses to change, such as their home environments, parental commitment to education, health and nutrition, and proficiency level in the language of instruction. The contribution of these four factors to the capacity of school to support innovation is likely to be dynamic and changing over time.

The third construct, 'profile of implementation' assists in understanding, analyzing and expressing the extent to which the objectives of the reform programme are put into practice. It recognizes the fact that there can be multiple ways of putting a curriculum into action. However, it assumes that some broad commonalities of what constitutes excellence will emerge. In addition, the profile recognizes that there can be different levels at which implementation might be [illegible]ur. Therefore, implementation of a new curriculum involves a number of things and the course it may take is hardly predictable.

In this study, the Rogan and Grayson's (2003) theory of implementation was used because of its relevance to the areas of enquiry. Rogan's theory takes into consideration current realities that exist in different institutions of learning. There is diversity in various institutions created by different reasons like funding policies of the past government and socio-economic conditions that exist in different communities. The theory builds on the strengths of various educational components present in the education system like District education personnel, teachers, students and the school environment.

It considers issues such as: support given to schools by outside agencies, capacity factors and profile of implementation of technical vocational education. These are the main areas which the research seeks to answer. The Capacity to Support Innovation attempts to "understand and elaborate the factors that are able to support or hinder the implementation of new ideas in a school system". Support by outside agencies focuses

on the monitoring system, professional development provided by district education officers to teachers, and provision of physical resources from the district, parents and other stakeholders.

The capacity factors include: physical resources, that is, school infra-structure such as specialist rooms, furniture and other equipment used by students which are procured by parents and responsible authorities. It is important for schools to have adequate specialist rooms and equipment for use by students in technical vocational education classes in order for students to develop technical skills as suggested by the human capital theory. It is these skills which make students employable and create self-help projects. Capacity factors also include teacher capacity, that is, teachers' qualifications, specialisation, experience and teaching strategies they use in the classroom. Student factors focus on their selection to technical vocational classes, their attitudes, class size and their willingness to learn technical skill

Then the last construct, profile of implementation will deal with coverage of learning areas, the nature of classroom interaction, examinations and items made by students (curriculum issues). This is what happens in the black box, that is, the interaction of students with teachers and their use of teaching strategies as well as the learning materials to produce the outcomes or the throughput. The quality of the product depends on the quality of the teachers, equipment and student factors.

PART II

STUDIES CONDUCTED TO ASSESS IMPLEMENTATION OF TECHNICAL VOCATIONAL EDUCATION

2.4 Capacity to support innovation/Implementation

The capacity to support innovation is an attempt to understand and elaborate the factors that are able to support, or hinder, the implementation of new ideas and practices in a system such as a school. It should be understood that not all schools have the capacity to implement a given innovation in the same way, especially considering their different environments. Rogan and Grayson (2003) cite four indicators of the capacity to support innovation as; physical resources, teacher factors, learner factors, and the school ecology and management. Financial and parental support are other factors which cannot be neglected. These are discussed in detail under different subsequent sub-headings.

2.4.1 Learner factors

Implementation of technical vocational education can be affected by a number of factors such as student factors which relate to the background of the learners and the kind of strengths and constraints that they might bring to the learning situations. Students might, for example, come from a home environment where there is no place for them to do homework, and no one to support them in their studies (Rogan & Grayson, 2003).

The other factor like students' selection can also have a bearing on the implementation of technical vocational education. For example, research has shown that, besides individual background characteristics, the student composition of classes can also affect the achievement of students. It has also been found that student composition and classroom and school practices are to some degree related to each other (Opdenakker, 2004; Van Damme,& Minnaert, 2005 cited in Opdenakker &. Van Damme, 2006).

Different countries use different selection criteria in placing students to technical vocational classes.

In Zimbabwe, students are allocated to vocational classes using mainly examination results and continuous assessment by class teachers. The selection of students using examinations or tests is confirmed by (Kellaghan & Greaney, 2004; Linn & Gronlund, 1995; Mehrens & Lehman,1984). They view the purpose of any standardized achievement test as to provide the user with the information concerning an individual's knowledge or skills so that the user can make decisions-of selection and classification for academic and vocational counseling.

Ogunniyi (1984: 102) posits that marks and grades "provide objective criteria for assessing students' performance and help to place students in identifiable groups." These students are placed in different cl[illegible]rding to the way they would have performed in a particular test.. Mehrens and Lehman (1984) argue that while achievement test can be important in vocational and educational guidance, achievement test data by themselves have limited meaning. They need to be augmented by other information-data about interest, and aptitudes- to arrive at the best decision possible.

Mehrens and Lehman (1984) further argue that test results are fallible. People do change and future predictions can and do go away. Ogunniyi (1984) acknowledges the views of Mehrens and Lehman (1984) on the fallibility of examination results when he posits that, there is no mark or grade which is perfect as different people can award different marks on a given essay. He also argues that marks given to students usually reflect the teacher's performance rather than the student's potential. It has also shown that some students who under-performed in some schools went on to do well in comparison to their colleagues who had been referred to as "intelligent".

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Having observed these limitations of marks, there is a great danger of using public examinations in the selection of students to vocational education. Examinations

sometimes are not a true reflection of an individual's capabilities as they are dependent on the mood and circumstances when one writes them. Kellaghan and Greaney (2004) point out the limitation of public examinations as being testing only narrow areas of the curriculum.

However, using examinations and pre-vocational evaluation to select students with a flare in the vocational education track is a noble idea as students with the right aptitude and ability for technical subjects can be channeled to the correct track. For Doll (1993:62) Hilgard and Goodwin theory of learning states that, "learners engage in an activity most willingly if they have helped to select and plan the activity. From Hilgard and Goodwin's theory of learning one can assume that, if students are assessed and counselled and given a chance to make a choice, they are most likely to have a positive attitude towards vocational education and can perform well.

The age range for selection of students to vocational track varies from country to country. In Germany, it is done at the age of 10 while in the Netherlands, it is conducted at the age of 12 (Van de Werfhorst, 2007). The vast majority of OECD countries select students somewhere between the age of 10 and 16 and are sorted into schools of different types. These students are selected according to their abilities and interest. In some cases, age is considered when these students are selected (Meier & Schutz, 2007). Using students' abilities and interest can motivate students to learn because they would be working towards the achievement of their objectives.

However, scholars have different views on ages to begin tracking. Meier and Schutz (2007) argue that if students are selected at the early age it is better because the gains are higher, but some argue that if children are selected at an early age, there is a chance of them being wrongfully placed. Some believe that delaying the age when tracking starts, lowers the risk of mistakenly sending the children to the wrong school type, but also reduces gains of appropriately placed students.

Hallinan (1994) states that in theory, the track system is based on academic ability, although in some cases other factors often influence students' selection. Non-academic factors such as schedule conflicts often affect students' track allocation. It can be observed that in such cases, some students are placed into classes to suit the school timetable. Such moves can impact negatively on the learner. According to Hallinan (1994) secondary schools in general, tend to assign students to high tracks based on objective criteria, while low-track students are often placed using more- arbitrary measures. Hallinan (1994) accepts that students who are placed in technical vocational education classes are sometimes unfairly placed without the use of correct standard of selection. This view is shared by Oakes (1987) who concedes that the disproportionate placement of poor students to low tracks does not reflect their actual learning ability. For example, when students' selection criterion is mainly based on only the student's decision; there is a danger of misplacing the student because some of them are young and immature to make informed decision. Students may choose a wrong track because of peer pressure without making an informed decision.

Van de Werfhorst (2007) argues that technical vocational education attracts different students' population in different countries, with technical vocational education being more negatively selected (e.g. on academic ability, parents' social class, or motivation) in systems with limited institutionalization than in highly vocationalized systems. In highly vocationalized systems, a vocational qualification is more acceptable, because it leads to good employment opportunities (Van de Werfhorst, 2007). In countries like Britain, technical vocational education is said to be an area for the intellectually weak students (Wolf, 2002 cited in Van de Werfhorst, 2007). The researcher therefore, examined the criteria used in the selection of students in Zimbabwe and these data were used to explain the Zimbabwean system based on what people have said.

Literature has revealed that selection of students in most countries is done through assessment of aptitudes and competencies as well as through examinations (Ogunniyi, 1985; Van de Werfhorst, 2007). The performance of students in the implementation of technical vocational education is determined by the calibre of students selected into that

programme. Van de Werfhorst, 2007 concedes the faultiness of tests as measuring instruments, especially when used in isolation from other instruments. If these instruments are faulty, it implies that students can be wrongly placed. The researcher seeks to find out if such situations prevail in the implementation of technical vocational education in the studied area.

This study seeks to find out how students are being selected to technical vocational classes and the suitability of measures used as well as the suitability of those measures. The study also seeks to find out if there were any criteria used in the students' selection. Literature was used to support or refute the researcher's findings.

2.4.2 Teacher capacity

According to Aspin, Chapman and Wilkson (1994:40), the capacity of the nation to survive and prosper economically depends, crucially, on how well the country develops all its human resources and schools are considered as one of the prime agencies within which this development can be brought about. Lomofsky, Thomson, Gouws, and Engelbrecht (1998) argue that the biggest challenge to education involves giving teachers the confidence to believe in themselves that they can accomplish the task at hand.

Teachers are integral to the thinking that drives program creation and implementation. Both individual teacher characteristics and collective or collegial factors play roles in determining implementation (Fullan,1992). Therefore, those responsible for teacher education have a critical role to play in driving the change process forward, as they can help identify and shape the new competencies teachers need (Wagner, 2000). These competencies are necessary as teachers are involved in the curriculum development and implementation (Ornstein & Hankins, 2004).

It has been noted that teaching styles can help to interpret the influences of teachers on student achievement and on attitudes towards subjects (Ebenezer & Zoller, 1993 cited in Opdenakker & Van Damme, 2006). Classroom practitioner's teaching behavior and

teaching styles can make an important difference to student learning (Centra & Potter, 1980; Wentzel, 2002 cited in Opdenakker & Van Damme, 2006). In essence, teachers should be individuals of high calibre, who are able to deliver content and make learning come for students. Without well qualified, caring, and committed teachers, learning becomes difficult because students of diverse abilities need different levels of attention.

Husen, Saha, and Nooman (1978) cited in Psacharopoulos and Woodhall (1985), concede that the quality of teachers is another vital determinant of pupil performance. Haddad's (1978) (cited in Psacharopoulos and Woodhall,1985), findings revealed that the quality of teachers were a more vital determinant variable for teacher performance as compared to class size. However, in-service training and upgrading of teachers may often be a quicker and more efficient way to improve teacher quality than enlarging initial teacher training capacity. For technical vocational teachers to execute their duties effectively they need to have small and manageable classes, because big classes can reduce individual teacher-pupil contact time.

The other issue which a teacher has to deal with in the classroom is student diversity. Laukkan (2008) points out that in order to cope with this student diversity, a teacher has to be a highly educated pedagogical expert. This means that for teachers to cater for students' individual differences and abilities, they should be well trained. This is a view shared by Kansanen (2003:89) when he points out that "the basic aim of every teacher education programme is to educate competent teachers and develop the necessary professional qualities to ensure lifelong teaching careers for teachers". Kansanen (2003) further elaborates that initial teacher education is of great importance and that any challenges appearing in the programme will have consequences that will be very difficult to correct in the future. The need for in-service teacher education is inevitable, but the basis for professional competence is taught to student teachers in the period of initial teacher education.

However, this cannot be enough as technology changes rapidly, especially in technical vocational education where there are always some new developments (Johanson &

Adams, 2004). This view is shared by Ornstein and Hunkins (2004) who argue that teachers need to continually develop themselves within the education system to acquire different knowledge and teaching skills so as to face the new challenges, purpose and scope of the new curriculum. Sachs (1997) concedes that a professional has to continually learn throughout their career, with the intention of deepening their knowledge, skills, and staying abreast of developmental issues. This can simply be referred to as increased professionalism, which allocates the teachers' work under a wider spectrum of educational contexts and systematically evaluates their work with the focus on development. This could assist the teacher and encourage him/her to be a good facilitator of learning who reflects on his/her teaching, discusses it with peers, and tries to understand it in a broader context.

The capacity of teachers is determined by their qualification, experience and ability to communicate (Gatawa, 1990). The incomp[illegible]teachers as the chief implementers of curriculum can be a barrier to effective learning. Qualification is a vital professional element in teachers as the major curriculum implementers. Nkomo (1995) extrapolates that teachers should have the capability to interpret the national curriculum "proposal" or "prescription" according to each teacher's level of professional training. In the researcher's view it, is this knowledge which they use to interpret syllabi into schemes of work for use in their classes. If teachers lack this knowledge, they may lose confidence before their students and community. This is a view which Evans (1993:143) acknowledges, "if there is lack of public confidence in teachers' professional knowledge, there will be a parallel crisis of confidence in teachers' professional execution of duties". Therefore, it is quite appropriate that the norms and standards should emphasize the aspect of teacher competence.

Nkomo (1995) further argues that teachers' personal qualities and intelligence have an influence the way a teacher handles classes, school environment, resource materials and learners' characteristics have an influence in the teaching methods. Thus, the teacher's level of professional competence can enormously influence effective curriculum implementation. In view of that, implementation of technical vocational

education can be distorted by a teacher who lacks the skills and knowledge to adapt and adopt a given plan. On the other hand, an appropriately qualified, well motivated teacher can achieve almost all the aims and objectives of the syllabus; if they are clearly defined.

Teachers, as the filters through which curriculum passes, have teaching resting upon their astonishingly well developed talent for "intersubjectivity" which is the human ability to understand the minds of others' (Bruner, 1996a:20 cited in Northedge, 2003:173; McCutcheon, 1988: 198). This therefore demands a high level of training and education. Teachers' understanding of curriculum and their enthusiasm or boredom, with various aspects of it, colours its nature. Hence, the curriculum enacted in classrooms differs from the one mandated by administrators or developed by experts (McCutcheon, 1988). It is thus noted that as implementers of technical vocational education curriculum, teachers can interpret it differently from [illegible] was designed by the curriculum development unit. Similarly, there are a number of things which can affect the successful implementation of the designed curriculum, such as the teacher's attitude and preparedness.

Nkomo (1995), argues that teachers' attitudes, preparedness and quality of training to implement a given curriculum are important variables. In schools where there is a high degree of trained teachers, there is a corresponding high performance. The major outcome is good academic performance. The reverse is true of the schools with poorly qualified staff and leadership as revealed in researches by Nyagura and Reece (1989) in Zimbabwe. They found out that where teachers were not well qualified, the performance was low.

Chakanyuka (1996) points out that academic performance is higher where the teachers are well qualified, motivated and action-oriented. While the researcher concurs with the above view it could be highly difficult to envisage such a situation where teachers migrate from their countries of origin to Zimbabwe. These teachers leave a gap in their countries of origin which causes staff shortage that sometimes leaves teachers with

high student ratios and demoralises teachers. Such situations have been noted among Zimbabwean teachers who seem to lack motivation due to their colleague's migration to other countries (Brown, 2008; Gora, 2007).

The ongoing migration of teachers within the Southern Africa Development Cooperation (SADC) has had various impacts on quality education (Brown, 2008). The outflow of teachers from Zimbabwe still remains a national and regional concern today as it has strained its education system, forcing it to operate with skeletal staff (Kassiem, 2007; Brown, 2008). It can be observed that implementation of technical vocational education in Zimbabwean secondary schools might face challenges.

Brief (1998) postulates that, the equity theories which focus on organizational justice, say that disequilibrium is created if employees perceive their input to be unequal (unfair) in relation to the outcomes they experien[illegible]iary). In this case, these teachers with low morale and poor salaries are most likely to go to better paying jobs or migrate to countries which offer better work conditions or which value their services. If conditions of service are good, school teachers are intrinsically motivated to exert themselves to the tasks before them, and tend to enjoy their work and the challenges that go with it (Hobson 1942 cited in Masumbe & Coetzer, 2006). However, this will mean that teachers should be given more attractive salaries, especially on the lower scales, greater freedom and less supervision (Hobson, 1942 cited in Masumbe & Coetzer, 2006).

McClelland (1985) cited in Everard, Morris & Wilson, (2004), noted that the effect of monetary incentive on people who are achievers is rather complex. Achievers have a fairly high opinion of the value of their services and prefer to place a fairly high price tag on them. These people are likely to remain long in an organization that does not pay them well. However, it is questionable whether an incentive payment actually increases their production since they always work hard. McClelland (1985) further observed that the monetary incentives are actually more effective with people whose achievement drives are relatively weak, because they need some kind of external reward to increase

their effort. The main significance of additional income to achievers is as a way of measuring their success (Everard, Morris & Wilson, 2004).

Studies by Johanson and Adams (2004) in Sub-Saharan Africa reveal that most technical vocational education teachers are under qualified and those who are qualified leave jobs for better paying jobs in the private sector. Another aspect of brain drain which needs mentioning is the movement of professionals from poorer countries to more advanced countries. South Africa, for example, is able to attract large numbers of the best educated and skilled workers from its neighbours (Johanson & Adams, 2004). Based on what has been articulated by Johanson and Adams (2004), Zimbabwe as a neighbour of South Africa with its weak economy, can also be affected by the strength of the South African rand and as such technical vocational education can lose some of its well qualified and experienced teachers.

Kerre (1987) observes that Kenyan vocational education also suffers from shortage of trained personnel. He revealed the case of the need in Kenya to develop a high number of new teachers with a vocational and technical education background as a number of teachers lacked adequate training. A number of institutions were manned by poorly qualified personnel. Kerre (1987) concluded that, among the three problems causing serious constraints in the schools for vocational and technical education background, were facilities, equipment and materials, insufficient and poorly trained teachers. The most serious constraint faced by both primary and secondary schools is the availability of technical vocational education qualified teachers (Kerre, 1987). In the same studies in Kenya. Kerre, (1987: 42) went on to argue that "up to a minimum total of 5 vocationally trained teachers are (sic.), required for each of the 12,943 primary schools in the country". When secondary and post-secondary are added to this total, it is clear that there is definitely a need for attracting and training vocational education teachers.

Studies by Lauglo and Lillis (2002) in three Sub-Saharan African countries (Ghana, Kenya & Botswana), confirm Kerre's (1987) findings that teachers with relevant experience and qualifications in technical vocational education are hard to come by and

to retain. Zambia similarly has poor quality of technical vocational education as staff are untrained and implement an outdated curriculum (Fluitman & Alberts, 2000). The challenge experienced by African countries on technical vocational education seems to be universal. This is revealed in studies by Gill and Heyneman (2000) where the quality of education in Egypt is said to be poor because of lack of teachers.

The problem of teachers leaving the profession and joining other better paying sectors or migrating, seems not to be unique to Sub-Saharan African countries only, but is also prevalent in Europe, as revealed by Ingersol (2003). He postulates that teachers resign in order to pursue better jobs or other careers, because for most of them, teaching is a stepping stone for better more challenging occupations (Ingersol, 2003). This mentality is also common in England as revealed by Chavalier and Dalten (2004: 8), who point out that the decision to leave the profession is highly influenced by their age." Chavalier & Dalten (2004) further postulate that this is an indicator that young teachers have a high rate of departure as well as mobility and sense of adventure.

Studies in technical vocational education by Shavit and Muller (2000) in Germany and other East European countries reveal that most teachers leave vocational education institutions for better paying jobs in the private sectors. However, in countries like Hungary and the Czech Republic, vocational education is taught by old people as younger people are not willing to teach technical vocational education subjects where salaries are low and most of those old people retire because of old age (Gill, Fluitman & Dar, 2000).

A study in Hungary by Godfrey (2000) revealed that attitudes in education and training sector are changing fast, but teachers are still widely accused of preferring theory to practice. Teachers' lack of experience may be the cause of preferring to teach theory because they will be lacking the desired technical skills. Godfrey (2000) further points out that instructor training colleges for vocational education are not systematically organized as they fail to produce enough qualified personnel. They also have a problem of retaining highly trained staff as they also compete with private sectors where

employees are highly paid and there are better conditions of service. Low salaries make it difficult for technical vocational schools to compete with industry for the best talent (Gill et al. (2000). In the researcher's view implementation of technical vocational education seems to be inundated with a number of challenges such as teacher qualification, low salaries of teachers as well as brain drain. Hence, this study sought to find out if the same conditions prevail in the Zimbabwean situation.

2.4.3 Perceptions of people towards vocational education

For many years, technical and vocational education in Africa has been considered as a career path for the less academically endowed (Johanson & Adams, 2004). This perception has been fuelled by the low academic requirements for admission into technical and vocational classes and the limited prospects for further education and professional development (Johanson & Adams, 2004). Worse, the impression is sometimes created by governments that the primary objective of the vocational education track is to keep dropouts from the basic and secondary school system off the streets.

These are the students who are unable to move up the educational ladder, not because of poor grades but because of lack of places at the higher level (Johanson & Adams, 2004). The governments have failed to rather project this type of training as an effective strategy for investment in human capital. This perception has also affected people's perceptions of teachers who teach vocational education. These teachers are also thought to be uneducated or lowly qualified (Shavit & Muller, 2000). Factors like these could have an adverse effect.

Old policies emphasized academic education and ignored technical education. This attitude is clearly illustrated by Lofthouse in Bush and West-Burnham (1994: 150) who state, "Teach these boys and girls nothing but facts. Facts alone are wanted in life. Plant nothing else and root out everything else".

This statement was meant to emphasize the importance of academic subjects as compared to technical vocational subjects. Such lines of thinking can create negative attitudes towards vocational education. Attitudes play a major role in the success or failure of a programme. If people involved in a particular programme have a negative attitude, it is most likely to fail.

Studies by Shavit and Muller (2000) indicate that students in France who attended vocational secondary school education have lower occupation prestige than that attained by graduates of tertiary education students; as such parents and students have negative attitudes towards vocational education. In Germany, sons of skilled workers were most likely to join vocational jobs because of their parents' attitudes. Most of them are encouraged by their parents to start vocational education at a tender age of ten (Shavit & Muller, 2000). Although Germany has a developed economy, people's feelings towards technical vocational educa[illegible]ways the same.

The impact of attitudes in curriculum implementation has also been proved in a recent study in Romania by Rex and Singh (2003) which revealed that negative attitudes of teachers and adults are the major barrier to inclusion –children do not have prejudice until adults show them. Parents and teachers have great influence on what children learn and as such children's perceptions are a reflection of those attitudes held by their parents or teachers. A similar study on the Korean vocational education by Gill and Ihm, (2000) confirm the impact of attitudes of parents on a programme when they forced the government to change vocational school curriculum to a general one because of parents' attitudes towards it.

In many countries, if not all, the second-class status of technical vocational education makes young people hesitant to choose technical and vocational education as their career preparation (UNESCO, 1993). UNESCO (1993) suggests that to make technical and vocational education more attractive, the curriculum should be designed to make articulation between technical and vocational education and higher education possible. Well-prepared vocational and career guidance should be available to technical

vocational education students making them fully aware of the nature of the curriculum, choices available and possible career opportunities. Transferability of skills from basic to advanced levels and flexible opportunities should help to enhance human capital development because without doing that, students may fail to be equipped with self-reliant skills.

The Zimbabwean government has attempted to change the vocational education curricular and implement it as stated in UNESCO (1993).The Ministry of Education, Sport and Culture has deployed career and guidance counselling personnel at District level to assist students in schools but these people concentrate on counselling physically and mentally challenged students (MoESC, 2006). This move by the government is hoped to change people's mindset or attitudes towards implementation of technical vocational education in the near future.

Ingrained attitudes are not changed overnight. Biased or prejudiced attitudes may be unintentional but nevertheless can result in discriminatory behavior that can affect student performance. Such attitudes may be exhibited on the part of everyone involved in the educational process. Therefore, holding lower expectations on technical vocational education for some students can perpetuate lower academic performance and inhibit student success. Lauglo and Lillis (1998) assert that positive attitudes towards vocational/technical education should be promoted among students if they are to acquire skills relevant for future trades and occupations. Mouly (1973) shares the same view with Lauglo et al. (1998) when he postulates that promoting favourable attitudes towards a given school subject is the equivalent of encouraging the student to study the subject with eagerness and persistence. There is therefore a dire need for all stakeholders in Zimbabwe to inculcate positive attitudes towards vocational education among their children.

Parents, teachers and students evaluate the curriculum in relation to what has been done in the past (Gatawa, 1990). The preference for academic achievement by most post colonial countries is a direct result of the attitudes developed during the colonial

era where vocational education was looked down upon (Moyana, 1989; Zvobgo, 1994). It was an alternative for those students who had failed to qualify for the prestigious academic system. Above all, it was used as an oppressive tool for the colonized nations as students were given minimal skills so as not to compete with their masters (Moyana, 1989; Zvobgo, 1994). For one to change such attitudes one has to look at the causes of such attitudes so as to propose a remedy.

A study of technical/vocational education and training in Nigeria by Ishumi (1993) showed that a vocational stream was viewed in Africa as comprising a second rate institution for less able students. This attitude towards education was further enforced by the socio-economic conditions which existed, and still exist in some third world countries. Under these conditions, African students developed a preference for studying academic subjects (rather than vocational subjects) because they were more likely to get a job , with attractive career prospects in the country's formal sector (Godwin, 1990).

It is these aspects cited by Godwin (1990) that the researcher attempted to investigate in Zimbabwe, a country with the highest inflation in the world where many private companies have closed and some factories are now white elephants. Such situations have a negative impact on the implementation of vocational education as it does not inspire students to learn and have high aspirations as most of their colleagues are unemployed. This view is supported by Nkomo (1995:45) who argues that "the learner is an active creator of knowledge and if he/she decides to be passive, knowledge acquisition is inhibited".

Kreitner and Kinicki (1992) suggest that managers need to appreciate the dynamic relationship between beliefs, attitudes, subjective norms, and behavioural intentions when attempting to foster productive behaviours. Although negative attitudes are often resistant to change, meaningful training experience can have a favourable impact.

Nziramasanga (1999) confirms Shavit and Muller's (2000) findings in France when he reveals that in Zimbabwe, teachers have complained about the need for reorientation of

parents' attitudes towards technical vocational education subjects as most of them prefer academic subjects. This therefore suggests that parents have low esteem of vocational education. Teachers may find it difficult to deal with students who have negative attitudes towards the subject and as such, implementation of vocational education in schools may encounter problems and parents may not be willing to provide materials and equipment for a curriculum they despise. Parents' negative attitudes may be rubbed on to their children as well, as witnessed by the situation in Germany where children preferred vocational education to academic because their parents had positive attitudes towards technical jobs (Shavit & Muller, 2000).

Attitudes are based on salient or important beliefs that may change as relevant information is received. Therefore, attitudes of parents and students have to be changed to positive, if they are to see dignity in vocational education. It is assumed that teachers' attitudes can be changed if they are exposed to staff development programmes (Nhundu (1997) but if they fail to change, it can be disastrous in the case of implementation of vocational education in Zimbabwe where they are regarded as agents of change. When teachers are exposed to staff development activities, they acquire new skills, knowledge, beliefs, attitudes and ways which help them to deal and cope with change, otherwise change is difficult to assimilate unless its meaning is shared (Nhundu, 1997). Therefore, this study sought to find out what perceptions teachers, parents and students have towards the implementation of technical vocational education and their impact on the learning process.

2.4.4 Parental support

During the past several decades, parents and the community worldwide have increased their expectations of education and become more demanding of better school performance for their children (Cheng, 2000). Also, there is increasing demand for school accountability to the public and to demonstrate value for money because school education is financed by the taxpayers (Adams & Kirst, 1999 cited in Cheng, 2002). Such issues have forced educational leaders at all levels to provide more clear avenues

for parents and the community to participate in the development of the school (Cheng, 2002).

According to Berger (1987), countries like Canada and USA have a long tradition of parental involvement in their schools. Parental involvement in schools is also evident in Asia: in countries like Taiwan, Hong Kong, Korea, Malaysia and Japan where it was a rare thing in the past. Schools in these countries have now recognized the importance of involving parents and local communities in the school affairs of their children (Wang, 2000 cited in Cheng, 2002).

The school teaches children on behalf of the parents and society. Parents are therefore, partners and players in the educative process of their children and have a role to play. The role of parental involvement is to get parents to have a more active role in their children's education and this can be done [illegible] different approaches (Brown, 2001). Dempsey and Sandler (2005) argue that parental involvement in children's learning is a multidimensional construct that entails a wide range of parental characteristics and behaviours, but broadly refers to activities in which parents engage to support the academic achievement of their children (Dempsey & Sandler, 2005).

According to Chivore (1995), parents provide the school with financial and material as well as human resources. They supplement books and help students with their homework by way of supervision at home. He further postulates that this can only be possible where there is close co-operation and communication between the school head, staff and the community. Parents' active involvement in their children's learning, such as monitoring or helping with homework, influences children's academic success through modeling, reinforcement, and instruction which in turn support children's attributes for achievement, such as confidence and self-regulation (Hoover-Dempsey, Battiato, Walker, Reed, DeJong, & Jones, 2001).

However, despite the fact that parents have been awarded this high status of partnership by governments, they have always considered education as the domain of

teachers and they do not need to play an active role in the process (Cheng, 2002). It is often believed that school education should be solely the responsibility of teachers and heads of schools. Parents have always looked upon them as the custodian and experts of education (Cheng, 2002). Such views are inculcated by the professionals themselves who see parents as unqualified and unable educators (Edward & Warin, 1999). Cheng and Townsend (2000) they point out that, parental and community involvement is often perceived as mistrust of teachers and school heads. To involve them can be perceived as a loss of face among the professionals.

Community involvement in school education can benefit the school from seeking more local resources, support, and intellectual input to the school. Parents and community leaders can share the management responsibility, strengthen communication between families, the community, and the school, motivate teachers, monitor school operations, and even assist the school in combating [illegible] influences inherent in the local community (Cheung, Cheng & Tam, 1995; Goldring & Sullivan, 1996 cited in Cheng, 2002).

2.4.5 Financial and material support

Ornstein and Hunkins (2004) argue that money is needed to support all school programmes for their successful implementation. It is required for materials and equipment to institutionalize a new programme. Money is also necessary to provide often-overlooked human support for the implementation effort. Ornstein and Hunkins, (2004) concede that implementation of programmes have sometimes failed due to shortage of financial support.

How funds are managed and training materials are purchased influences the behaviour of training institutions and the outcomes of skills development. The allocation mechanism for training resources is a powerful means to help schools develop students' skills to become more market responsive and efficient (Johanson & Adams, 2004). Hence, for any school programme to be successfully implemented, there is a for strong financial backing.

In Zimbabwe the need for cost-sharing efforts between the state and interest groups such as SDCs/SDAs, churches and local authorities, have resulted in the quality of curriculum implementation being heavily influenced by the interest groups (Nkomo, 1995). The influence of the responsible authority, for example, churches/local government authorities determines the product which arises from the interaction of the teacher, instructional materials and the school environment. For instance, private school governing boards and church organizations select the type of teacher they want and they are also responsible for supplying the learning materials and equipment for learners.

Financial and material resources are considered as an important component of the successful implementation of technical and vocational education. Schools cannot operate without textbooks, learning materials, equipment and infrastructure. One of the instructional implications of Piaget's theory of cognitive development is that learners need to be kept active by providing them with "rich environments that allow for active exploration and hands-on activities" (Schunk, 2004:451). The latter is echoed in the constructivist approach to learning which indicates that children need to become actively involved with new information by engaging with it; and one way to do it is through the use of appropriate instructional materials (Prichard, 2005). Students doing technical vocational education need to manipulate and experiment on the learning materials so as to improve their technical competencies.

The curricular need support from responsible authorities with educational funding (Glatthorn, Boschee & Whitehead, 2006). In many countries, technical vocational education is funded by the country's Ministry of Education (Gill et al., 2000; Johanson & Adams, 2004). How funds are provided, managed and training materials are procured influences the behaviour of training institutions and the outcomes of skills development. For example, institutions which are well funded are able to procure adequate and up to date equipment for their students.

Psacharopoulos and Woodhall (1985) argue that there is relation between school inputs and the level of student achievement (that is, the relation between input and output in educational institutions) has shown that student performance in developing countries is largely determined by the quality of school inputs and not by external socioeconomic factors. That means it is possible to improve internal efficiency by such measures as providing students with textbooks or teacher quality. Evidence from Chile, Peru, the Philippines, and Uganda (Heyneman, Farrell, & Sepulveda-Stuardo1981; Heyneman, Jamison, and Montenegro,1984; cited in Psacharopoulos and Woodhall,1985), points to the importance of school textbooks and shows that improving the availability of textbooks may be one of the simplest and most-effective ways of improving school efficiency.

Studies by Johanson & Adams (2004) in Kenya and Botswana and then by Gill and Heyneman (2000) in Egypt, and by Da[illegible] in Tanzania reveal that vocational curriculum development, delivery and innovation require relatively large financial inputs. Aboum's (1996) findings in 26 Sub-Saharan African countries on studies in technical vocational education had similarities with those of Adams and Johanson (2004). He found out that the whole infrastructure support of service, school inspection and supervision, in-service teacher education, curriculum development, and maintenance of school furniture, equipment and physical facilities have deteriorated. The poor quality of these resources can compromise the implementation process as well as the quality of education.

Also to be considered is the availability of both human and financial resources (UNESCO, 1993). The allocation mechanism for educational resources is a powerful means to help the learning or training system and it assists schools to be market-responsive. It should be mentioned, however, that the student-oriented and individually paced nature of competence-based vocational education delivery requires heavy investment on equipment and training of teachers (Johanson & Adams, 2004). Johanson and Adams (2004) indicate the importance of the availability of resources to develop and implement appropriate and relevant vocational education curricula. In the

researcher's view, the availability of resources can only be solved through partnership between government and private sector and other social partners.

In Zimbabwe, School Development Committees were introduced under The Education Act, in1992 based on Section 62 as read with Section 29A of the Education Act, 1987 as amended. This Act stipulates that parents in non-government schools will be involved in the affairs of their children and will also collect levies as stipulated by statutory instrument (Government of Zimbabwe, 1992).The School Development Association Regulations, 1993, are based on Section 62 of the Education Act, 1987 as amended stipulates that: Parents in the government schools should be involved in the school affairs of their children and collect levies as set by the Statutory Instrument (Government of Zimbabwe,1993). This was reinforced by Zimbabwe Policy Circular Number 77 of 2006 which mandated parents (SDC/SDA) to play a major role to buy learning materials and equipment for technical education in secondary schools for effective implementation of vocational curriculum (MoESC, 2006).

These school boards were given the mandate to run the affairs of the schools, to collect school levies and maintain the school infrastructure as well as to hire and fire staff, but only those paid by them and not those who were employed by the public service (Government of Zimbabwe, 1992/1993). While decentralization was a noble idea as government's administrative financial responsibilities were shaded, it increased the gap between the rich and the poor and increased the inequalities which vocational education sort to redress (Kanyongo, 2005). Kanyongo (2005) further argues that a lot of workers were laid off because of Economical Structural Adjustment Programme (ESAP) and as such most parents could not manage the levies to buy various school equipment or build classrooms. Considering Kanyongo's (2005) findings, one wonders how schools manage with most school funders being unemployed.

The importance of using appropriate instructional materials to promote learning is apparent in the information-processing theory (Schunk, 2004). The ability to control attention is highlighted in this theory. Strategies that would gain and maintain learner

attention include getting learner's interest and building variety into a lesson. Both of these strategies could be implemented through the use of appropriate and stimulating teaching materials (Schunk, 2004). Technical vocational education is a hands on discipline which needs students to manipulate materials and experiment with them. This view is confirmed by Schunk (2004) who posits that, cognitive learning theory also highlights the importance of employing experiments in the science classroom to facilitate discovery learning.

However, the Ministry of Education, Sport and Culture tried to solve the problem of technical vocational education funding through 2001 and 2002 policies (MoESC,2001, 2002). These policies left this initiative to individual heads to make a choice of technical and vocational subjects to be taught, depending largely upon the facilities and staff available in the school, including learner preference (MoESC, 2006). This is a good policy but there is a danger of it being [illegible] by some school heads that are academically biased as they can choose to allocate minimal funds to technical and vocational subjects.

A number of studies by different scholars (Gill et al., 2000; Johanson & Adams, 2004; Shavit & Muller,2000) reveal that technical vocation education suffer from lack of funding, shortage of materials, facilities, equipment and use of absolute machinery. This state of affairs can impact negatively on the implementation of technical vocational education. This view is shared by Gorton (1983) who states that efforts to implement innovations typically failed because of resources that were limited. It is under such circumstances that the researcher seeks to investigate the availability of resources in the implementation of technical vocational education.

2.4.6 Monitoring

Once a plan or program has been designed, it must be implemented. Essentially, implementing involves the administrator in the process of making sure that the plan is carried out as intended. This includes providing resources, assistance, and monitoring progress (Gorton, 1983). Fullan (1992) argues that the monitoring theme is not

evaluation in the narrow sense of the term. It involves information systems, resources, and acting on the results through problem-coping and solving. It can therefore be observed that monitoring the process of implementing technical vocational education is just as important as measuring its outcomes.

Further, Zepeda (2006:101) acknowledges that evaluation of teaching in classrooms "can and should take many forms involving the stakeholders-teachers and administrators-who have primary responsibility for the instructional program". Thus, the challenging responsibility for administrators is to "provide multiple opportunities for teachers to examine their practices, to reflect on those practices, to collaborate with others as they are assessing the practices, and then empower these professionals to act on the many lessons learnt from endeavors" (Zepeda, 2006:118), as they attempt to influence teaching and learning through specific instructional leadership actions.

Historically, monitoring and evaluation have been the weakest link in the chain of school improvement and school effectiveness although reasons are complex and varied, the best known is that imposition of external inspection in what was perceived to be a vacuum in schools, that is, teachers were thought to be weak and needed to be assisted could cause negative attitude towards school inspection. Monitoring needs to be placed in the central process of learning and improvement (Burnham & O'Sullivan, 1998). It has to be conducted in a healthy and friendly environment. Monitoring has been defined by the Oxford Consortium for Education Achievement (OCEA, 1996:4) as "the collection of information in order to answer the question 'Are we doing what we set out to do?' Information can be collected in variety of ways....Monitoring can take a variety of timescales depending on its purpose, focus and method".

Monitoring is the continuous process of ensuring that the implementation of the plan is proceeding smoothly. Monitoring involves the collection of information about the project in progress. The emphasis is on continual feedback about the ways in which the resources are used and the manner in which implementation is being conducted. These data are constantly fed back to those people involved in the project so that the

immediate changes and adjustments can be made (Bryant and White, 1982). Hence, school heads and district officials as custodians of curriculum implementation have to monitor it. At the school level, the school head is the chief instructional supervisor. He/She provides the means for curriculum implementation through time tabling, classroom allocation, text-book allocation, syllabus and all instructional materials as well as creating a conducive atmosphere for an effective teaching and learning process (Nkomo, 1995). Fullan (1992) argues that many good monitoring practices go unreported because of the isolation of teachers, schools, and districts from each other. Furthermore, monitoring exposes new ideas to scrutiny, helping to weed out mistakes and further develop promising practices.

Hellinger (2002) shares the same view with Nkomo (1995) when he postulates that monitoring involves the heads looking at teachers' weekly plans and the learning objectives, and the plans teachers are [illegible]owards. This includes examining samples of pupils' work, visiting classrooms, observing the implementation of teaching, learning and curricula policies, reviewing pupil assessment information and evaluating pupil, class and school levels of performance and progress. Zepeda (2006:103) affirms: "Teaching is the primary work of teachers and should be the basis for in-class assessment of teaching and learning for both teachers and students". This is necessary for schools if the curriculum has to be implemented in accordance to its objectives.

Nkomo (1995) further outlines the role of the head as to monitor and guide the curriculum interpretation through ensuring that schemes of work, lesson plans, and records of marks are prepared regularly and in accordance with the approved curriculum. Above all, the head as an instructional leader, has to monitor the actions of teachers and what is happening in schools and report on it to district officials. However, it has to be noted that formal monitoring procedures by themselves do not produce better results as revealed by Fullan (1992) as he argues that all research on effective schools show that paying constant attention to students' academic, personal, and social development is essential for success. This is in line with findings of the U.S. Department of Education (2004:11) that successful school heads "analyze instruction and student

learning through regular classroom observations and provide detailed feedback to teachers that supports instructional improvement".

Ornstein and Hunkins (2004) accept that curriculum implementation has to be monitored, that is, it has to be supervised by school heads and district officials or inspectors. They acknowledge that the word supervision is related to curriculum implementation. It is not only the manner of teaching which needs to be monitored but also the content that is actually being addressed has to be supervised as well. The school heads and heads of departments provide guidance and make sure that teachers have the necessary skills and use the correct teaching methods or strategies (Ornstein & Hunkins, 2004).

Monitoring and evaluation have become integral components of any reform process (Wilson, 1996). Indeed, the school head[illegible]hip is critical to the success of any curriculum implementation as they create a good climate as well as cordial working conditions. According to Coleman (2005), instructional leadership is learning-centred leadership. Its key concerns are likely to be curriculum, teaching and learning and monitoring of learning. Skills expected from this leader are the ones that lead directly to the improvement of learners' performance.

Teachers will always be willing to work under a healthy environment. If the head as an instructional leader is effective, it is likely that the teachers within the system will feel committed to and comfortable with the programme which is being implemented and as long as teachers are satisfied, the school will run smoothly (Ornstein & Hunkins, 2004). Maslow's theory of motivation assumes that it is easy to supervise individuals or teachers who are intrinsically motivated (Everard, Morris & Wilson 2004). However, these teachers need professional support to keep themselves in line with new developments. Nkomo (1995) shares the same view as he stresses the need for instructional supervisors such as the District Education Officers (DEOs), heads of schools and heads of departments to maintain the standard of education as expected

by the National Government. The quality of these educational authorities is expected to determine the curriculum implementation process.

However, while there is general agreement that the school head is a key person in enhancing the teaching and learning process (Hoy & Clover, 1986). Research by Locki, Patrick and White (1983) cited in Mutopa, Shumba, Shumba, J., Maphosa and Mubika, (2006) shows that knowledge of the job description of school heads is still very limited although monitoring is one of their common job descriptions. Nonetheless, there is continued interest in the way heads of schools run their school activities in order to enhance quality teaching (Hoy & Miskel, 1982). The head of a school has a great task to monitor all the school systems, from distribution of resources to their use (Fitz-Gibbon, 1996). The researcher agrees with the above assertion as lack of monitoring can cause unfair distribution of resources among the departments thereby affecting the implementation of technical vocational [illegible] as well as conflicts among staff members.

Studies by Gill et al., (2000) reveal that school heads in some Sub-Saharan countries cannot take any actions on teachers who absent themselves because of economic situations which have eroded their salaries. Some teachers spend time farming in their fields or running their business. If heads try to charge the offender, he/she may tender his/her resignation. Such situations are also prevalent in Zimbabwe where teachers' salaries are very low and teachers and school heads embark on menial jobs to supplement their meagre salaries (Nziramasanga, 1999). One wonders what is taking place where such conditions prevail. The difficulty faced by heads in monitoring the curriculum is also revealed in the study by Mutopa, Shumba, Shumba, J., Maphosa and Mubika (2006) on teaching heads in Zimbabwe. The study established that some school heads failed to supervise and monitor classroom learning due to teaching workload.

Madziyire, Makombe, Makoni & Mugwagi (1995) confirm the problem of workload although they cite the problem mainly by teachers in rural areas. In some schools,

heads find it difficult to observe their teachers due to large numbers of teachers while in rural areas the head carries a heavy load of teaching and does not have enough energy to carry out effective supervision (Madziyire et al., 1998:175). Nyagura and Reece's (1989) study on curriculum implementation in secondary schools in Zimbabwe, pointed out that new teachers (young teachers) required more advice, encouragement and support from their heads for successful execution of their duties. Therefore, if these young teachers are not assisted, implementation of technical vocation education could not be effectively implemented.

In most Sub-Saharan countries technical vocational education suffers from lack of qualified personnel to monitor it as well as from shortage of management personnel in vocational education (Gill et al., 2000; Hawes et al., 1986). Effective supervision of schools and teachers by the Ministry's Education Officers in Zimbabwe is being hampered by lack of transport or shortage of vehicles (MoEHE, 1996). This situation has also been noted by parents who complain of lack of supervision by the district officers as school heads are always absent from their stations (Nziramasanga, 1999).

Such issues can impact negatively on the development of human capital through technical vocation education as those inexperienced heads and teachers may not get necessary support and suffer from lack of qualified personnel to monitor it as well as from shortage of management personnel from their authorities. These professionals can lose the chance of being corrected at the opportune time. This view is supported by Chivore (1995) as he asserts that monitoring allows for appropriate corrective action in the case of deviations and shortfalls.

Cohen, Manion and Morrison (2002) have emphasized the need for monitoring or scanning as an important factor in successful classroom management. Monitoring is continuous surveillance. It may be physical design or implementation process of an activity which seeks to ensure that input deliveries, work schedules, targeted outputs and other needed actions are proceeding according to plan. Chivore (1995) further asserts that it bears a close relationship and resemblance to on-going evaluation and in

most cases, it is a precondition for it. This then includes periodic checks for compliance with policy, tracking implements delivered and re-examining the needs of the programme as per original design.

It is therefore of paramount importance that the school head, as an instructional leader and DEOs, have to occasionally do internal and external monitoring of curriculum implementation in schools. Their main objective being that of checking the achievement of goals and set standards, so as to recommend areas for improvement and those which need staff development or in-service programmes.

2.4.7 Continuous professional development of teachers

The importance of in-service education and continuing professional development for the teaching profession is increasingly acknowledged in countries throughout the world (Fraser, Killian, Aileen, Reid, Lesley, McKinney & Stephen 2007). Coolahan (2002) cited in Fraser et al. (2007: 155), in a paper commissioned by the OECD, locates this trend within the wider policy agenda of lifelong learning and identifies certain desirable characteristics associated with successful in-service provision, as follows:

- it should incorporate both on and off-site school dimensions;
- teachers should have a greater role in setting the agenda and being actively engaged in an experiential process;
- in many countries through training of trainers' courses, teachers have been assisted to work with their peers as facilitators and team leaders. This gives rise to sense of empowerment and confidence building which cultivates a good spirit de corps; and
- collaborative, interactional techniques are very much in favour, rather than lectures to large groups

It can be observed that for the successful implementation of any curriculum teachers need to receive professional development assistance either from within the school or off

school. This may even mean teachers going to colleges for further education. One wonders if schools implementing technical vocational education in Khami District conduct such teacher development programmes.

According to Coolahan (2002), it is also recognized internationally that teacher development is often best promoted within the context of school development, with more and more schools being encouraged to be involved in collaborative development planning. While this view tends to emphasise the interest of the education system, this needs to be to the exclusion of the personal and individual needs of teachers. However, there are a number of models or approaches to professional development of teachers; the 'top-down' approach of traditional models of in-service and the 'bottom-across' approach whereby teachers in clusters of schools may collaborate on professional learning and development activities.

Research by Fraser et al. (2007:155) suggest that professional development is an essential part of improving school performance. However, the problem is that the discourse about professional development is typified by 'conceptual vagueness' as it encompasses the following:

- lifelong learning of professionals;
- a means of personal development;
- a means for individual professionals to ensure a measure of control and security often precarious in the modern workplace;
- a means of assuring the worried public that professionals are indeed up-to-date, given the rapid pace of technological advancements;
- a means whereby professional associations can verify that the standards of their professionals are being upheld; and a means for employers to garner a competent, adaptable workforce.

Friedman and Philips (2004) indicate that legitimacy of professional development activities is often perceived of in terms of formal training courses linked to work or gaining qualification-portable and bankable. However, an emerging paradigm is one that

moves professional development away from the practice of attending courses and training days to the concept of lifelong or continuing learning. Middlewood et al. (2005), in their examination of the educational context, argue that; professional development is an ongoing process of reflection and review that articulates with development planning that meets corporate, departmental and individual needs; and learning is a process of self development leading to personal growth as well as development of skills and knowledge that facilitates the education of young people .

Therefore it is under such circumstances that Kriek and Grayson (2009) argue that, any effort which is aimed at improving the standard of education should target the teacher. That is, issues like students' extra-lessons or weekend schools can only assist students to pass examinations, but have little impact on education standards. Kahle (1999:2) argues that, "Schools are only as good as their teachers, regardless of how high is their standards, how up to date are their techn[illegible]ow innovative is their programs". Therefore, any sustainable improvement in the implementation of technical vocational education should focus on teacher development.

According to studies by Youngs and King (2002), instructional quality can be strengthened when the school heads create internal structures and conditions that promote teacher learning. Therefore this means establishing regular meetings with teams of teachers to plan and reflect on their practice, aligning school-wide professional development activities with school objectives, promoting social trust among staff members, and practising distributed leadership.

The key to effective management is the ability to get results from other people, through other people and in conjunction with other people. Efficient school heads are not necessarily effective heads. But if relationships and motivation are good, people will readily accept and overcome some administrative and or environmental flaws (Herzberg, 1975:29 cited in Everard et al., 2004: 34). There is a need for supervisors to use the 'motivators', that is, people's need for achievement, recognition, responsibility,

job interest, personal growth and advancement potential within the institution for their personnel. Such an initiative calls for teacher support programmes.

Every administrative, managerial or leadership position has staff development as one of its facets. Curriculum matters are in the forefront since education is dynamic. This is done to improve upon the production or implementation of the curriculum (Chivore, 1995). These in-service training (INSET) programmes involve teachers and there are ways in which heads could identify teachers' areas of need and work on them so as to enhance staff performance. According to Chivore (1995), these in-service courses are meant to improve the qualitative and quantitative contributions of staff to the overall goals of the school. These programmes should aim at enabling individuals to be more effective in their syllabus interpretation as well as in instructional delivery.

Curriculum designers need to provide the necessary support for their recommended programmes so that they can be successfully implemented. This is to build self confidence among the curriculum implementers. Ornstein and Hankins (2004) argue that; teachers often need in-service training or staff development, time to feel comfortable with new programmes. Considering that the two-path way system is still a new phenomenon in Zimbabwe, there may be a need for the teachers who were trained a while back to be given staff development workshops. Ron (1986) suggests that staff development should be aimed at orienting staff for changing tasks, training staff for promotion posts, to raise work standards and to achieve a high degree of job satisfaction.

The changing context of professional practice has significantly contributed to the need for continuing professional development. No amount of formal education is sufficient in today's fast-changing circumstances (Alemna, 2001; Cervero, 2000 cited in Frick & Kapp, 2007). A teacher's knowledge on implementation of technical vocational education can be easily outdated in this fast changing world of new technology, hence the need for continuously updating the acquired knowledge and skills. It is argued that continuing professional development is a vital instrument through which professionals

can remain relevant in society (Frick & Kapp, 2007). For technical vocational education to remain relevant to society, teachers should give students skills and knowledge which will render them employable as well as equip them with entrepreneurship skills.

Taylor and Vinjevold (1999) cited in Kriek and Grayson (2009) argue that teachers' poor grasp of knowledge of a subject can act as major inhibition to teaching and learning a subject. Strengthening the teacher's content knowledge should therefore be an important component of any professional development programme. However, teaching content knowledge is not enough, as indicated by Adler and Reed (2002) cited in Kriek and Grayson (2009: 186) who postulate, "The issue is how to integrate further learning of the subject with learning about how students in school acquire subject knowledge". Frick and Kapp (2007) argue that professional development programme is also important for the maintenance of the human resources base of any organization and should be seen as an integral part of the organizational strategy and maintain its workers.

Harris (2003) emphasizes the importance of teacher's continuing professional development as very important to respond to the new challenges in the education system. On a similar issue, Dass (1999:2) reports that traditional, "one-shot" approaches to professional development have been inadequate and inappropriate in the context of current educational reform effort. So with this kind of scenario, successful implementation of vocational education is hard to achieve.

Studies in Zimbabwe by Maphosa, Shumba, Shumba, Chinamasa and Mubika (2007) found that teachers in schools held staff development meetings to discuss various curricular issues in the hope of improving their classroom practice. Issues dealt with were more reminders of the already known aspects of teaching and learning. The discussions in these staff development workshops were mainly dominated by senior teachers and administrators, there was an uneven participation by teachers. Teachers viewed these staff development workshops as moderately effective in helping them

improve their curriculum practices. However, there are different types or forms of these in-service courses at school level; the short term and the long term.

2.4.7.1 Short Term Courses

Short-term courses take one hour to a week or two weeks. The level usually determines the duration (Chivore, 1995). School-based courses can take up to two hours at most while cluster or district based courses take up to a day. Such courses concentrate on specific aspects of the curriculum, such as feedback from high levels, conferences or workshops (Chivore, 1995). For example, where a new syllabus is being introduced this may take two, three or four days up to a week or two, depending on material to be covered and availability of funds. According to Chivore, (1995) these short in-service courses include orientation, new curriculum courses and courses for untrained teachers.

Orientation aims at correcting certain defic[illegible]in the system especially teachers appointed into new school systems that are different from their previous ones or teachers coming into new socio-cultural systems (Chivore, 1995). On the other hand the new curriculum in-service staff development course is one which enables the teachers to face challenges resulting from new challenges or changes in the syllabus or school curriculum (Chivore, 1995). Teachers needed this in-service when technical vocational education was being introduced. For example, when such new curriculum is introduced, it becomes imperative to in-service teachers in the new approach and its implications to students. This is an updating process aimed at equipping teachers with the latest developments in the new content and methodology of the new syllabus (Chivore, 1995).

2.4.7.2 Long-Term Courses

Long-Term Courses can have a duration of a term to one year or more to be completed. These mainly involve further studies at registered higher institutions of learning such as colleges and they culminate in one being awarded a certificate. Such studies can be taken on a full time or part-time basis (Chivore, 1995). This type of in-service programme is mainly meant for professionally qualified personnel or trained teachers to acquire higher qualifications for more responsibilities and status within the secondary

school system, in Zimbabwe this includes Bachelor of Education or Postgraduate Diploma.

Given the complexities of professional development, professional learning and professional change as discussed above, it is argued that any evaluation or interrogation of Continuous Professional Development (CPD) programmes and models need to be taking into account the range of complex factors impacting on CPD. It can therefore be understood within this framework.

2. 4. 7. 3 Kennedy's framework for analysis of CPD models

If the purpose of professional learning is attitudinal development, that is, changes in intellectual and motivational aspects as well as functional development, then consideration should be given on how it can be facilitated. Kennedy's (2005) analytical framework suggests that professional learning opportunities can be located along a continuum where the underpinning purposes of particular models of CPD can be categorised as 'transmissive', 'transitional', or 'transformative'. Models of CPD where the purpose is deemed to be transmissive, rely on teacher development through externally delivered, 'expert' tuition (Sprinthall et al., 1996 cited in Fraser, et al., 2007), focusing on technical aspects of the job rather than issues relating to values, beliefs and attitudes. This type of CPD does not support professional autonomy; rather it supports replication and, arguably compliance. Within the transitional models, CPD has the capacity to support either a transmissive agenda or a transformative agenda, depending on its form and philosophy.

Models which fit under this category include coaching/mentoring and communities of practice. At the other end of the spectrum, transformative professional learning suggests strong links between theory and practice (Sprinthall, 1996 cited in Fraser, et al., 2007), internationalisation of concepts, reflection, construction of new knowledge and its application in different situations, and the awareness of the professional and political context. Transformative models of CPD have the capacity to support considerable professional autonomy at both individual and professional-wide levels.

However, it still remains to be seen where the CPD model used in the implementation of technical vocational education in Khami District secondary schools fit within this framework.

The Zimbabwe's two-path way technical vocational education programme if it is to succeed teachers have to be in-serviced, monitored and reorganized in line with the new dispensation. Effective monitoring of resources by SDCs, school head and education officers should be conducted if successful development of human capital through vocational education is to succeed. Moreover, education officials have to monitor how curriculum is being implemented in accordance to its set objectives. They have to provide teachers with staff development workshops since they play a major role in helping teachers to improve their classroom practices (Maphosa et al., 2005). It is under these circumstances that this study seeks to assess the monitoring systems by district education officers, heads of schools, SDC/SDA chairpersons. The findings by other scholars would assist the researcher in his analysis of data and in his argument. The literature would be used as a foundation and guide to validate the researcher's findings as no research can operate in a vacuum (Leedy, 1994).

2.4.8 The gap

No research of this magnitude has been conducted on implementation of technical vocational education by a national as indicated by McGrath (2005), and what has been discussed in this chapter. These studies did not look at how such variables as teacher capacity, selection of students, teacher support and how monitoring could facilitate or act as a barrier in implementing technical vocational education in secondary schools. Also none of these studies used triangulation as well as data collection instruments such as; questionnaires, interviews, focus group interviews, observations and document analysis within the same study. Above all, no study has involved technical vocational education subject teachers, technical vocational education students, heads of schools, and heads of technical vocational education departments, district education officers and parents within the same study of this nature.

2.5 Summary

This chapter outlined the theoretical framework which informed the study. The chapter went on further to review other studies on teacher capacity, people's perceptions towards technical vocational education, parental support, financial and material support as well as monitoring systems in place. Finally, studies on continuous professional development for teachers were also reviewed. The following chapter discusses the methodology adopted by the study to find answers to the research questions.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents and justifies the research methodology used in the study. It begins with a discussion of the philosophical assumptions underlying various methodologies and the one in which this study is placed. It also discusses the research designs, population and sampling procedures, research instruments used to collect data as well as data analysis and ethical considerations. Dick and Swepson (1997) argue that good research uses a methodology which fits the situation and the goals you are pursuing.

3.2 Orientation of the research

There are a number of theoretical paradigms in research, namely: positivism, interpretivism, post-positivism and critical theory (Mackenzie & Knipe, 2006). However, this study was underpinned within the framework of the post-positivist paradigm. A paradigm as perceived by Mungunda (2003) is a frame of reference or mental map through which we view the world. Paradigms are all encompassing systems of interrelated practice and thinking that define for researchers the nature of their enquiry along three dimensions namely: ontology, epistemology and methodology. It is the choice of paradigm that sets down the intent, motivation and expectations for the research.

Ontology specifies the nature of reality that is to be studied and what is to be known about it. Epistemology specifies the nature of the relationship between the researcher and what can be known. Methodology specifies how the researcher can go about studying practically what he believes can be known (Terre Blanche & Durrheim, 1999). The following section will discuss each of the paradigms.

3.2.1 Positivism paradigm

The positivist paradigm of exploring social reality is based on the philosophical ideas of the French philosopher, August Comte, who emphasized observation and reason as a means of understanding human behaviour (Dash, 2005). According to Comte, true knowledge is based on experience of senses and can be obtained by observation and experiment. So positivistic thinkers adopt his scientific method as a means of knowledge generation, hence, positivism is understood within the framework of the principles and assumptions of science. Babbie & Morton (2005) allude to the same method when they postulate that positivism believes that social phenomena can be studied using natural science methods. Creswell (2003:7) argues that it "reflects a deterministic philosophy in which causes probably determine effects or outcomes". Positivism is a system of philosophy that excludes everything from its consideration except natural phenomena and their interrelationships. One of the major principles of logical positivism is the verifiability principle, which states that something is meaningful if and only if it can be objectively observed by the human senses (Berg & Gall, 1989).

Positivists postulate that there is one objective reality that is observed by an inquirer who has little, if any, impact on the object being observed-the object has ontological status in itself and it can be studied objectively from the outside (Nieuwenhuis, 2007). Rensburg (2001:13) supports this view when he concedes that in a positivist framework our reason for doing research is our "knowledge interest". Ryan (2006) contends that within positivism, knowledge has been treated as follows:

- What counts is the means (methodology) by which knowledge is arrived at. These means must be objective, empirical and scientific;
- Only certain topics are worthy of enquiry, namely those that exist in the public world;
- The relationship between the self and knowledge has been largely denied – knowledge is regarded as separate from the person who constructs it. The political is separate from the personal;
- Mathematics, science and technical knowledge are given high status, because they are regarded as objective, separate from the person and the private world;

- Knowledge is construed as being something discovered, not produced by human beings.

Noteworthy from these views on positivism is the fact that, in the positivist view of the world, science is seen as the way to get at the truth, to understand the world well enough so that we might predict and control it. Positivism emphasises an objectivist approach to studying social phenomena; thus, giving importance to research methods that focus on quantitative analysis, surveys, experiments and the like.

The positivism paradigm has been criticised for its technicist element that seeks to control and predict relationships within and between variables and its view that knowledge is absolute. Researchers who use this paradigm have been criticised for their single view of reality that is measurable through objective and value-free scientific and quantitative methods. Critics of positivism argue persuasively that there is no such thing as value-free observation, especially in the Social Sciences (Borg & Gall, 1989; Gorski, 1998). The limitations of positivism have been identified as including: a deterministic view of human beings, an objectivist approach to facts which is simply obvious to the assumptions of a researcher. It is also criticised for positing that the research framework, frame the design and research outcomes (Rensburg, 2001). Rensburg (2001:14) further concedes that, positivism has a "tendency to preserve the status quo, as the research design has no transformative potential".

Furthermore, this lens of viewing the world and the nature of its epistemologies is under heavy criticism for its insistence on divisions between objectivity and subjectivity, or public and private knowledge, or scientific and emotional knowledge (Ryan, 2006). Anti positivists argue that knowledge cannot be divorced from ontology (being) and personal experience. So this view is inadequate when it comes to learning about how people live, how they view the world, how they cope with it, how they change it, and so on (Ryan, 2006).

In addition, Guba and Lincoln (1994) argue that positivistic methods strip contexts from meanings in the process of developing quantified measures of phenomena and the quantitative measures often exclude members' meanings and interpretations from data which are collected. These methods impose outsiders' meanings and interpretations on data. They also require statistical samples which often do not represent specific social groups and which do not allow generalization to or understanding of individual cases (Gephart 1999). The researcher would not use this paradigm because of the above mentioned short comings, as the researcher believes that there are multiple realities.

3.2.2 Interpretivism

The interpretivism approach developed out of the philosophy of Edmund Husserl's phenomenology and Wilhelm Dilthey's and other German philosophers' study of interpretive understanding called hermeneutics (Mertens, 2005; Nieuwenhuis, 2007: 59). Interpretivist/constructivist approaches to research have the intention of understanding "the world of human experience" (Cohen & Manion, 1994: 36), while Creswell (2003) and Nieuwenhuis (2007) suggest that reality is socially constructed. The interpretivist/constructivist researcher tends to rely upon the participants' views of the situation being studied and recognises the impact of the research of its own background and experiences (Creswell, 2003; Nieuwenhuis, 2007). Constructivists do not generally begin with a theory (as with positivists) rather they "generate or inductively develop a theory or a pattern of meanings" (Creswell, 2003:9) through the research process.

The constructivist researcher is most likely to rely on qualitative data collection methods and analysis or a combination of both qualitative and quantitative methods (mixed methods). Mixed methods research is the class of research where the researcher mixes or combines quantitative and qualitative research techniques, approaches, concepts or language into a single study (Johnson & Onwuegbuzie, 2004).

Rensburg (2001:17) concedes that by using interpretivism our knowledge interest would not be technical, that is, to inform interventions through our research," but to develop a

deeper understanding of a situation, person, community or the case". Rensburg (2001) calls this a practical knowledge interest, in reference to the assumptions that if people understand their own situation better, they would be able to take practical actions within it. However, this paradigm, like any other, has its own limitations and critiques.

Most of the critisms levelled against the interpretivist research paradigm is directed towards the subjectivity and the failure of the approach to generalise its findings beyond the situation studied (Nieuwenhuis, 2007:58). Human bias can never be underestimated nor can the notion of objectivity/subjectivity. Cohen et al. (2000:120), concede that qualitative research methodologies are criticised for being impressionistic (based on reactions or opinions, rather than on specific facts or details), biased, insignificant, ungeneralisable and idiosyncratic, subjective and short sighted. The subjective involvement of the researcher makes him/her share the experiences with his/her research participants

Another limitation levelled against the interpretivist research is that it can promote a relativist perspective; a view that 'everyone makes their own meaning and all views are equal' and thus fail to provide a basis for decision-making (Rensburg, 2001:18). Rensburg (2001) further argues that, interpretivist methodology, with its emphasis on rich contextual detail and close attention to individual life experience and meaning-making, complements quantitative data and broad sweeping overviews. It also avoids values and perspectives which may arise from post-structural, critical and positivist methodologies. This study did not use the interpretive paradigm because of the cited limitations.

3.2.3 Post-positivism

Post-positivism is a shift away from positivism. In fact, Trochim (2006) refers to it as a wholesale rejection of the central tenets of positivism in the same way Creswell (2003: 7) calls it "the thinking after positivism". Thus, post-positivism is a knowledge claim that challenges the absolute truth and recognizes that we cannot be "positive" about claims

of knowledge when studying the behaviours and actions of humans because we are all biased and all of our observations are affected (Ryan, 2006).

Eriksson and Kovalainen (2008) argued that in post-positivism, the knower and the known cannot be separated as is the case in positivism; and that, although human beings cannot perfectly understand reality, researchers can approach it with rigorous data collection and analysis. Hence, the post-positivistic approach to research opens the door to multiple methods and different worldviews as well as to different forms of data collection and analysis so as to provide and justify that rigour in the process of carrying out the research. The post-positivist paradigm emphasizes the importance of multiple measures and observations, each of which may possess different types of error, and the need to use triangulation across these multiple errorful sources to try to get a better lead on what is happening in reality (Trochim, 2006). Hence, use of both quantitative and qualitative means of data collection in the same study is encouraged.

Post-positivist works from the assumption that any piece of research is influenced by a number of well-developed theories apart from, and as well as, the one which is being tested (Cook & Campbell,1979:24 cited in Mackenzie & Knipe,2006:3). Nieuwenhuis (2007) theorises that researchers working within a post-positivist paradigm follow critical realist ontology. Realism concerns multiple perceptions about a single, mind-independent reality. Rather than being supposedly value-free, as in positive research, or value-laden as in interpretive research, realism is instead value cognizant; conscious of the values of human systems and of researchers (Krauss, 2005). Realism recognizes that perceptions have certain plasticity and that there are differences between reality and people's perceptions of reality (Bisman, 2002). Dobson (2002) contends that the critical realist agrees that our knowledge of reality is a result of social conditioning and, thus, cannot be understood independently of the social actors involved in the knowledge derivation process. Within a critical realism framework, both qualitative and quantitative methodologies are seen as appropriate (Bisman, 2002) for researching the underlying mechanisms that drive actions and events.

Nieuwenhuis (2007), concedes that post-positivism is a useful paradigm for researchers who maintain an interest in some aspects of positivism such as quantification, yet wish to incorporate interpretivist concern around subjectivity and meaning, and who are interested in the pragmatic combination of qualitative and quantitative methods. In pragmatism, the concern is "what works" best for understanding a particular research problem. Instead of "methods" being important as is the case in the positivism knowledge claims, pragmatism views the "problem" as the most important part, hence researchers should use all approaches to understand the problem (Creswell, 2003). That is, what works is what is useful and should be used regardless of any philosophical assumptions, or any other type of assumptions (Johnson & Turner, 2003).

According to Patton (2002), a pragmatic position implies the choosing of a method considering what will work best in a given [illegible] meet practical issues faced in an inquiry and thereby answer the research question. This is to say, the research question dictates the methods and not the paradigm or method. Hence, data collection and analysis methods are chosen because they are most likely to provide insights into the problem with no philosophical loyalty to any alternative paradigm. Pragmatism, just like realism and post-positivism, opens the door to multiple worldviews and different assumptions as well as to different forms of data collection and analysis methods.

Yeung (1997) cited in Nieuwenhuis (2007) holds the opinion that objectivity in post-positivism is recognised as an ideal that can never be achieved, and research is conducted with greater awareness of subjectivity. O'Leary (2004:6) concedes that post-positivism aligns in some sense with the constructivist paradigm claiming that post-positivists see the world as ambiguous, variable and multiple in its realities; "what might be the truth for one person or cultural group may not be the "truth" for another. This view of multiple realities is shared by Creswell (2003) and Maree (2007) who allege that post-positivism approaches assume that reality is multiple, subjective and mentally constructed by the individuals. In a way, different people view the truth differently or can

understand things from a different perspective. Their understanding can be influenced by their different backgrounds such as culture.

The strengths of the mixture or combinations of the different strategies, approaches and methods complement each other. As such these combinations of approaches neutralise most of the weaknesses and biases of the respective quantitative and qualitative methods and can result in valid data that bring confidence to the researcher's findings. Hence, the researcher located his study in this paradigm. More details are discussed in the following section below.

3.2.4 Paradigm that guided the study

In this study, the choice of a paradigm to guide the study was influenced by the nature of the problem being investigated. The main objective of the study was to assess how technical vocational education is being implemented in Khami District in Zimbabwe. To get a more holistic picture of how technical vocational education programmes are implemented, there was a need for the researcher to be objective to minimize the researcher's biases and have a deeper insight of the issues surrounding implementation of technical vocational education curriculum in Khami District. Thus, a paradigm that adequately supported both positivist as well as interpretivist ideas at the same time, was considered appropriate to guide the study appropriately. Hence, the post-positivism paradigm was the philosophical foundation, which supported the design of the research in this study because of its flexibility in the use of both qualitative and quantitative approaches to research.

Post-positivism paradigm was preferred in this study because the researcher in this study wished to maintain an interest in some aspects of quantification (positivism) yet at the same time wanted to incorporate interpretivist concerns around subjectivity and meaning, hence, the researcher was interested in the use of the pragmatic combination of qualitative and quantitative methods to understand the phenomenon of interest properly. The post-positivism paradigm fitted well with the study because the paradigm

opens the door to multiple methods and different worldviews as well as to different forms of data collection and analysis, which are dimensions that were key to this study.

This study focused on assessing the implementation of technical vocational education in Khami District. To understand those issues in greater depth, one needs to use different approaches. This is also shared by Trockim (2006) who postulates that the post-positivist paradigm emphasizes the importance of multiple measures and observations, each of which may possess different types of error, and therefore need to use triangulation across these multiple errorful sources to try to get a better lead on what is happening in reality. Hence post-positivists, acknowledge that people are all biased and all of their observations are affected (theory-laden); therefore their best hope for achieving objectivity is to triangulate across multiple fallible perspectives (Trockim, 2006).

3.3 Research approach

3.3.1 Quantitative approach

Quantitative research methodology is grounded in the positivist research paradigm. and Denscombe (2002) view it as an approach to social research that seeks to apply the natural science model of research to investigations of social phenomena and explanation of the social world. In quantitative research, an investigator relies on numerical data to test the relationships between variables (Charles & Merler, 2002 cited in Ivankova, Creswell & Clark, 2007). It is a typical type of research study that employs quantitative research which would be an experiment or a survey (Ivankova, Creswell & Clark, 2007).

Proponents of quantitative research methodology claim it is a "scientific method" which has the characteristics of control, operational definition, replication, hypothesis testing, objectivity, standard procedures, reliability, validity, empiricism and reproducibility, in social science (Burns, 1995; Denscombe, 2002). Empiricism is essentially the same as "observation" and is said to be a central epistemology in the natural and social sciences.

According to empiricists, the primary source of all knowledge is to be found in experience and observation as they believe that unless data can be verified by the senses, it cannot be accepted as scientific (Babbie, 2001).

Ryan (2006) looks at quantitative research as research that tries to link variables (features which vary from person to person); tries to test theories or hypotheses; tries to predict; and tries to isolate and define categories before research starts and then to determine the relationships between them. The quantitative data collected through this type of research can reveal generalisable information for a large group of people. However, quantitative research is criticized for its inability to look at individual cases in detail and also due to its highly structured nature, it prevents the researcher from following up on unexpected outcomes or information (Ryan, 2006). In addition, quantitative data often fail to provide specific answers, reasons, explanations or examples.

3.3.2 Qualitative approach

In contrast to the quantitative approach, qualitative research is an enquiry process of understanding where a researcher develops a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting (Creswell, 2007). Qualitative research gives a researcher the chance to visit respondents in their natural surroundings as well as gather information on their experiences.

In qualitative research a researcher often approaches reality from a constructivist position, which allows for multiple meanings of individual experiences (Denzin & Lincoln, 2005 cited in Ivankova, et al., 2007). According to Creswell (2005), the goal of qualitative research is to explore and understand a central phenomenon, which is the concept or process explored in a qualitative research study. The sample size is small and is purposefully selected from those individuals who have the most experience with the studied phenomenon (Patton,2002 cited in Ivankova, et al., 2007). Qualitative

inquiry employs different knowledge claims, strategies of inquiry, and methods of data collection and analysis (Cresswell,2007).

Ivankova, et, al., (2007) proclaim that the qualitative researcher collects words and images about the studied topic. The data was collected from people immersed in the setting of everyday life in which the study is framed. The researcher serves as an instrument of data collection and asks the respondents broad, open-ended questions to allow them to share their views about and experiences with the phenomenon.

Ryan (2006), gives the following characteristics of qualitative research: It seeks to provide an in-depth picture; it generally deals with smaller numbers than quantitative research; it tries to interpret historically or culturally significant phenomena; it can be used to flesh out quantitative data; it tries to isolate and define categories during the process of research; it is appropriate when questions posed by the researcher are difficult for a respondent to answer precisely; it tries to illuminate aspects of people's everyday lives; it values participants' perspectives on their worlds; and it often relies on people's words as its primary data.

According to Creswell (2003), qualitative research uses strategies of inquiry such as narratives, phenomenologies, ethnographies, grounded theory studies or case studies. In this type of research, the researcher collects open- ended emerging data with the primary intent of developing themes from the data. However, findings from a qualitative research are often not generalisable because of the small number and narrow range of participants used in the data collection process.

Qualitative research approaches have their own critics. Mays and Pope (1995: 1) summarise some of the criticisms against the qualitative approaches to research;

> The most commonly heard criticisms are, firstly, that qualitative research is merely an assembly anecdote and personal impressions, strongly subject to researcher bias; secondly it is argued that qualitative research is so personal to

the researcher that there is no guarantee that a different researcher would not come to radically different conclusions and, finally, qualitative research is criticized for lacking generalisability. It is qualitative methods that tend to generate large amounts of detailed information about a small number of settings.

The cited limitations have implications for a study like this one. Therefore, the researcher minimised these limitations by mixing the quantitative approach and the qualitative approach.

3.4 Research design

Trochim (2006) defines research design as the structure of research, that is, the "glue" that holds all of the elements in a research project together. A research approach or design can be qualitative, quantitative or a mixed method approach depending on responses by the researcher to the following questions as suggested by Creswell (2003:5):

- What knowledge claims are being made by the researcher (including theoretical perspective)?
- What strategies of inquiry will inform the procedures? and
- What methods of data collection and analysis will be used?

There is no single blueprint for planning research. Research is governed by the notion of 'fitness for purpose'. The purposes of the research determine the methodology and design of the research (Cohen, Manion & Manion, 2000). The research design is the blue print for conducting the study (Denzin & Lincoln 2005). Research designs are constructed plans and strategies developed to seek, explore and discover answers to research questions. These strategies are flexible and act as guidelines that connect theoretical paradigms to strategies of enquiry and methods of collecting empirical materials (Taylor, 2000; Denzin & Lincoln, 1994).

The strategies can be experiments, quasi experiments, or surveys in the case of quantitative studies; or they can be ethnographies, case studies, or phenomenological

research if it is a qualitative study. Mixed method approach includes strategies from both qualitative and quantitative approaches. The methods of data collection imply the instruments used or to be used in the data collection process and may include interviews, questionnaires, focus group discussions, observations and others depending on whether the study is qualitative, quantitative or a mixed method study.

Maree (2007) views a research design as a plan or strategy which moves from the underlying philosophical assumptions to specifying the selection of respondents, the data gathering techniques to be used and the data analysis to be done. Taylor (2000) has a similar view to that of Maree (2007) as he describes research designs as constructed plans and strategies that are developed to seek and discover answers to the research questions. Research design is therefore, an arrangement of procedures and methods of the research project that include sampling, data collection and data analysis and interpretation of the results. [illegible]esearch design provides guidelines and structure to the research process in order to prevent haphazard procedures. Hence it is held in high esteem as the entire plan of the study and each research design is discussed in detail below.

3.4.1 Mixed methods

Creswell (2005) defines mixed methods as a procedure for collecting, analysing and "mixing" both quantitative and qualitative data at some stage of the research process within a single study to understand a research problem more completely. Ivankova, Creswell and Clark (2007) assert that in this approach, a researcher collects both numeric information (e.g. scores on the survey instrument or ratings) and the text information (e.g. open-ended interviews or observation) to answer the study research questions. The term "mixing" implies that the data or the findings are integrated or connected at one or several points within the study. Mixed methods approach is relatively new and builds on both quantitative and qualitative approaches. It is supported by post-positivistic as well as pragmatic and realism ideals as they advocate the use of multiple measures and observations, each of which may possess different types of

error, and therefore need to use triangulation across these multiple errorful sources to try to get a better lead on what is happening in reality (Trochim, 2006).

The strength of this approach is that, findings from one method can be checked against findings from another and allow for a more complete analysis of the research problem through comparing data produced by different methods (Colin, 1995; Creswell, 2007; Denscombe, 2001; Maree, 2007; Robson, 2005). It can use both qualitative and quantitative methods to answer research questions in a single study (Mertens, 2005).

According to Creswell (2003), there are six mixed methods designs: sequential exploratory design, sequential exploratory model, sequential transformative design, concurrent triangulation design, concurrent nested design and concurrent transformative design. Ivankova et al. (2007) concede that the most commonly used designs are: the explanatory design, the [illegible] design, the triangulation design and the embedded design. Maree (2007) noted that the concurrent triangulation design is probably the most familiar of the six major mixed method designs. It can be selected as the design to confirm, cross-validate, or corroborate findings within a single study.

Therefore, collection of data in a mixed method approach can either be sequential or concurrent. Sequential procedures imply that the researcher collects both the quantitative and qualitative data in phases (sequentially) while concurrent procedures mean that the researcher will collect both quantitative and qualitative data at the same time (concurrently). When the data are collected in phases, either the qualitative or quantitative data can come first depending on the initial intent of researcher. However, concurrent procedures are less time-consuming than the sequential procedures. Integration of the two types of data can occur at several stages in the process of research, that is, the data collection (combining open ended questions in a survey with closed ended questions); the data analysis and interpretation (transforming qualitative themes or codes into quantitative numbers and comparing that information with quantitative results); or some combination of places (both during data collection and analysis).

It is therefore, noteworthy that researchers interested in the use of mixed methods approach are cautioned to be mindful that the approach calls for extensive data collection; it is time intensive in terms of analyzing both text and numerical data; and the researcher needs to be familiar with both quantitative and qualitative forms of research (Creswell, 2003).

3.4.2 Research design that guided the study

This study employed a triangulation *mixed method* design to collect data that gave useful information about the implementation of technical vocational education in Khami District. The strategy that was used was the concurrent triangulation strategy which uses both quantitative and qualitative methods of data collection concurrently in order to best understand the phenomenon of interest (Creswell et al., 2003 captured in Maree, 2007). In this strategy, the researcher uses two different methods in an attempt to confirm, cross validate or corroborate findings within a single study. Concurrent procedures entail collecting both quantitative and qualitative data at the same time during the study and then integrating the information in the interpretation of the overall results (Creswell, 2003).

The purpose of the concurrent triangulation design was to validate and cross- check data from different sources. Mixing of data occurred at the data analysis stage by transforming, by clustering the quantitative results and assigning them themes to compare with other themes that emerge from the qualitative analysis. The purpose of the qualitative phase was to assess the support mechanisms that are provided by the schools, parents and district education officers in the implementation of technical vocational education as well as the availability of both human and material resources. Also assessed was the capacity of teachers. Qualitative data instruments consisted of unstructured interviews, focus group interviews and document analysis.

The purpose of the quantitative data was to assess: the qualifications and experiences of technical subject teachers, the methods and strategies that are used by these

professionals and the facilities and equipment available in the schools. The concurrent triangulation design was particularly appropriate to assess the implementation of technical vocational education by gathering both forms of data to contribute to a comprehensive and complete understanding of the research questions. It was facilitated by the "use of variety of methods" (Gorard, 2004:7).

By using the mixed methods approach, the researcher attempted to legitimise the use of multiple approaches in answering issues in implementation of technical vocational education, rather than restricting or constraining the researcher's choices (that is, being dogmatic). Denscombe (2001) and Robson (2005) concede that seeing things from different perspectives with the opportunity to corroborate findings, enhances the validity of data and helps provide the best understanding of a research problem. Above all, the results from one method can help to develop or inform the other method. This stance is supported by Tashakkori & Teddlie, (19[illegible] in Creswell (2003) when they posited that one method can be nested within another method to provide insight into different levels or units of analysis.

The mixed method approach fitted well with this study as the main goal of the study was to get a deeper understanding of how technical vocational education was implemented in Khami District secondary schools, because according to the researcher, not one method could have provided deeper insights. Finally, the concurrent mixed methods approach assisted the researcher in the reduction of time for data collection (Creswell 2003). It also enabled the researcher to complete the study within the required period.

3.5 Population and sampling procedures

3.5.1 Population

Population is the theoretically specified aggregation of study elements and it is from this which the sample is actually selected (Babbie & Mouton, 2005). Best and Khan (1993) and Tuckman (1994) have a slightly different view on population from that of the former. They describe population in a research context as any target group of individuals that

has one or more characteristics in common that is of interest to the researcher for the purposes of gaining information and drawing conclusions.

The target population from all the 8 secondary schools comprised 500 technical vocational education Form 4 students, 62 technical vocational education teachers, 16 heads of departments in technical vocational education section, 3 district education officers, and 32 SDC/SDA members. It was from this population that a sample was drawn.

3.5.2 Sample and sampling techniques

The researcher purposely chose Khami District from the four districts in the Bulawayo Metropolitan Province because of the diversity of its schools which may be a true reflection of what transpires in all schools in the province. All schools in Khami District were included in the study. In purposive sampling, researchers handpick the cases to be included on the basis of their judgement of their typicality (Cohen et al., (2000). Tashakkori & Teddlie (2003) acknowledge the importance of purposive sampling in research when they proclaim that, a researcher purposely selects certain groups of people or individuals for their relevance to the issue being studied.

All the 8 school heads were purposely sampled because of their positions in administration as they were responsible for monitoring the implementation of technical vocational education. The technical vocational education teachers were also selected because they were the implementers of the curriculum. Five hundred Form 4 students were purposely sampled because they have been doing technical vocational subjects for the past four years. The researcher also purposely selected the former District Education Officer for Khami District because of his service in the district and in his capacity as technical vocational specialist and the current Khami District Education Officer was purposely selected as a senior manager of the district.

The researcher had to further use random sampling technique to select the needed respondents. All the 16 HODs, 62 technical vocational education teachers and the 500

Form 4 students were all numbered and placed corresponding numbers on slips of paper to choose the needed respondents. These pieces of paper were put in a hat. It was from this hat that 10 HODs, 24 technical vocational education teachers, 80 students for both focus group discussion and questionnaires were randomly selected. Ten SDC/SDA members were also randomly selected. If a number of each category which had been picked out was picked for the second time, it was returned. This means all the HODs, teachers, students and SDC/SDA members had an equal chance of being selected.

To justify sampling, Best and Khan (1993:17) observe, "At times, it is advisable to sub-divide the population into smaller homogeneous groups to get more accurate presentation". It is under such circumstances that the researcher selected the teachers and students because they had similarities and belonged to the same environment. They shared a lot in common. It would have been difficult for the researcher to study all the people from which to draw conclusions.

The researcher found it difficult to send questionnaires, observe or interview every member of the population, hence, he selected a sample. However, researchers say there is no clear- cut answer for the correct sample size, it depends on the purpose of the study and the nature of the population under scrutiny. Cohen et al. (2000:93) observes that "too large a sample might become unwieldy and too small a sample might be unrepresentative". The sample was a representative of the studied area as the percentage of respondents all respondents was above 10% of the population..

A well-designed sampling plan always contributes to both the reliability and validity of research findings. If sampling is done in accordance with the standard of sampling plans, it should be possible for another researcher to replicate the findings which is an important aspect of reliability (Cohen et al., 2000).

3.6 Data collection procedures

An introductory letter was provided to the researcher by the University of Fort Hare. The researcher then posted it to the Education Director of Bulawayo Metropolitan Province to seek permission to carry out the study. Permission was granted. The researcher also sought permission from all heads of schools where the study was to be conducted and made appointments for interviews. The researcher also explained verbally to school heads the purpose of the research and appealed to all school heads to ensure that the questionnaires were completed in the spirit envisaged. Questionnaires were hand-delivered to the school heads in closed envelopes.

A letter explaining the purpose of the study and the aspects of confidentiality and anonymity of respondents was also enclosed in the envelopes with questionnaires. The respondents were given two weeks to respond in self addressed stamped envelopes. For the observations and interviews, appointments were made with the relevant authorities and respondents. The interviews were conducted with different respondents from those which were issued questionnaires except for 3 school heads from the three categories of schools. These heads were asked to elaborate on various issues.

3.6.1 Data collection Instruments

In this study, the researcher solicited data through the use of questionnaires, interviews, observations and document analysis. The adoption of the post-positivist paradigm/mixed methods research approaches entailed selecting data collection techniques that are germane to the philosophy of both the research methodology and the design. Also taken into consideration was the nature of the research problem under investigation, the research objectives, the size and geographical location of the study elements, and the availability of finances, human resources and time.

3.6.2 Questionnaires

Questionnaires are one of the most widely used methods of gathering information from people. Questionnaires can be used to collect both quantitative and qualitative data

from large samples of people in survey designs. This study used both closed and open ended questionnaires to solicit information. On the closed ended questionnaires respondents selected responses which were in line with their views on issues such as: teacher capacity, availability of resources, selection of students to technical vocational education and on monitoring of the implementation of technical education in their schools. Some questionnaires needed respondents to tick statements which they agreed or disagreed with while in others they ticked yes or no. Nonetheless, respondents had to elaborate in some instances to support their views.

The study adopted the postal method of administering the questionnaires. Questionnaires for each school were sealed in an envelope with a stamped self addressed envelope with a stamp. These envelopes were left with school heads for distribution within their institutions. The school heads distributed the questionnaires to HODs in the technical vocational education section, teachers in technical vocational education section, Form 4 students doing technical vocational education and to SDC/SDA chairpersons and their secretaries. The researcher used a transmission letter to accompany the questionnaires as a way of presenting the respondents with the questionnaire motivating, them to respond. The letter briefly explained the purpose of the study, assured and conveyed its importance as well as thanked the respondents. This was in line with what Cohen, et al. (2000) advise. Respondents completed the questionnaires and gave them to their school heads who posted them to the researcher.

All school heads returned the questionnaires. The rate of returned questionnaires was 83.3% for HODs, 95.8% for teachers, 82.5% for students and 62.5% for SDA/SDC members. The lower rate on the returned questionnaires from SDA/SDC was due to the fact that two private schools did not return the questionnaires. They did not have functioning SDCs and school governance issues were administered by Board of Directors.

Questionnaires had the advantage of obtaining views on implementation of technical vocational education from so many respondents. This gave a wider view on

implementation of the technical vocational education programmes, their impact, challenges, as well as suggestions on how it should be implemented so as to result in developing students' technical skills and increasing their chances of employability. The researcher made frequent follow-ups with the school heads where possible to ensure that most of the questionnaires were returned. This overcame the problem that usually arises with the use of questionnaires where a large number of questionnaires might not be returned by respondents (Maree 2007).

The questionnaire allowed for anonymity and privacy, which encouraged "more candid responses on the sensitive issues". The questionnaire has an advantage of being administered to many respondents in a large geographical area, making it possible to save time and finance and generally, it provides a higher percentage of usable responses (Best & Khan, 1993; Cohen, et al., 2000; Tuckman, 1978). It has the disadvantage that due to its impersonal [illegible] and openness to abuse by the respondents, they might not attach as much importance and relevance to some of the questions or decide to withdraw vital information. Hence, Tuckman (1978:196) observes "Some respondents may just withhold information because they do not wish to give it for some reason". This was taken care of through a letter which explained the purpose of the research as earlier indicates in paragraph one of this section.

Nachmias and Nachmias (1989), cite the limitation of questionnaires as that of not giving the researcher an opportunity to probe, a view shared by Neuman (2000). The answers have to be accepted as final; there is no opportunity to probe beyond the given answer, to clarify ambiguous answers, or to appraise the nonverbal behaviour of respondents. Low response rate is one of the limitations of using mailed questionnaires, since most people usually do not always complete and return questionnaires and above all, there is no control over who fills out the questionnaire (Neuman, 1997, Nachmias, 1989). In this study, this was taken care of through the use of interviews.

However, the researcher had to guard against the following weaknesses: its impersonal nature and openness to abuse by the respondents, as some respondents might not

attach much importance and relevance to some of the questions because of the 'halo effect'. These respondents would just answer positively to please the researcher or say what the researcher wants but this was taken care of through emphasising the importance of the research. Where respondents did not respond in time, a reminder was sent.

3.6.3 Interviews

The face- to- face interview was ideal for this study as it sought to go deeper and find out how technical vocational education was being implemented in Khami secondary schools. Information was solicited from two district education officers, 2 school heads and 3 heads of technical vocational education department, 12 technical vocational education teachers, and 2 SDC/SDA chairpersons on attitudes, experiences, views and perceptions on the implementation of technical vocational education in secondary schools. The views of respondents were tape-recorded and the researcher also used note taking as backup.

An interview is a face to face confrontation between the interviewer and the participant or a group of respondents (Leedy, 1980). The researcher used interviews because they afforded him a chance to pursue the responses of respondents to clarify some obscure points. The researcher was able to ask for elaboration or redefinition if a response on implementation of technical vocational education implementation appeared to be incomplete or ambiguous. More information was solicited through the personal contact between the researcher and the respondents as that minimized the vulnerability of questionnaires that arises from its impersonal nature.

The researcher used semi-structured interviews to solicit data from the respondents as they allowed respondents to express themselves at some length, but offered enough shape to prevent aimless movement (Yin, 2003). Cohen et al., (2000: 268) concede that semi-structured interviews provide access to what is "inside a person's head", [it] makes it possible to measure what a person knows (knowledge or information), what a person likes or dislikes (values and, perceptions), and what a person thinks (attitudes and

beliefs). In semi-structured interviews, the participant is required to answer a set of predetermined questions that define the line of inquiry. Probing and clarification of answers are allowed. In this type of interview, the researcher needs to be very attentive to the responses given by the interviewee so as to identify new emerging lines of inquiry that are directly related to the phenomenon being studied. In structured interviews, the questions are detailed and developed in advance just like in survey research (Maree, 2007).

The views, perceptions and attitudes of respondents were important to the researcher as he gained insight on issues which affected the implementation of technical vocational education. Views of participants on availability of both financial and material resources were sought from all the respondents. Teachers also had to shed light on how Continuous Professional Development programmes were being conducted in their schools to improve their capacity.

However, although the interview afforded the researcher personal contact, the technique had small coverage because of financial and time limitations, especially in a district like Khami where schools are sparsely located. This aspect is also pointed out by Neuman (2000) and Nachmias and Nachmias (1989) when they concede that, the training, travel, supervision, and personnel costs for interviews can be high. Interviewer bias is also greatest in face to face interviews (Nachmias & Nachmias, 1989; Neuman, 1989). To reduce bias on the part of the interviewer, the researcher adhered to research ethics and data were also collected among many informants. Despite these flaws, the researcher opted for the use of interviews; since an interview, "is a two person verbal conversation initiated by the interviewer for the specific purpose of obtaining research relevant data focused on content specified by the research objectives" (Nkapa, 1997:82; Robson, 2002:18)

3.6.4 Focus group discussions (Fgds)

In this study 40 students participated in four focus group discussions. Two focus groups discussions were conducted in one government school, one farm school and one

private school. Each focus group comprised ten students both male and female students. These students were mainly Form 4s who had been doing technical vocational education for four years. However, there were some Form threes who were included because there were no Form 4s doing that particular subject. The students shared their views and perceptions on the implementation of technical vocational education.

Focus group discussions with students was an essential data gathering tool for this study. The responses from students provided in depth views about implementation of technical vocational education which would otherwise not have been obtained through individual interviews or any other data gathering instrument. Focus groups can be viewed as group interviews, only that focus groups do not rely on question and answer format as is the case with group interviews, rather they rely on the interaction within the group. In this case then, the researcher had to create an environment that is conducive to participation of members involved in the group discussion so as to solicit enough views on the subject under discussion. This is also alluded to by Krueger & Casey (2009) who write that focus group interviewing is about:

Paying attention to what people have to say and being non-judgmental. It is about creating a comfortable environment for people to share. It is about being careful and systematic with the things people tell you. And people go away feeling good about having been heard.

Hence, Krueger and Casey (2009:2) define a focus group discussion as a carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive and non threatening environment.

Focus groups in research are known to be especially effective in studying professional practices (Barbour, 2008). This explains why the researcher in this study opted for focus group discussions as one of the data gathering instruments because the study at hand concerns how technical vocational education is implemented in Khami District

secondary schools. The group interactions during the focus group discussions were productive in widening the range of responses, activating forgotten details of experience and releasing inhibitions that may otherwise discourage participants from disclosing information about how technical vocational education is implemented in Khami District. This yielded data that gave insights into the implementation process of technical vocational education in terms of time allocation; how the teachers implement it; the challenges they face; teaching methods that are used during lessons; as well as suggestions on how to implement technical vocational education curriculum so as to result in skills development of students.

However, the technique in using focus groups has the limitation of getting biased information as some members dominate the discussions (Maree 2007). The researcher overcame this by encouraging contribution from every member and maintaining focus of topic under discussion.

3.6.5 Observations

The researcher in this study adopted participant observation where he observed the school climate, environment and school infra-structure. Using this instrument, the researcher was able to observe the students' seating arrangement in their classrooms as well as class management by technical vocational education teachers and their teaching strategies. Teachers were observed by the researcher as they conducted their lessons. This instrument allowed the researcher to observe students' participation in class and teacher –to- pupil interaction as well as the use of tools and equipment by them. The researcher observed the state of equipment and facilities used by students as well as safety measures in place.

The researcher had a chance to see some samples of the articles made by current and former students in line with their skills empowerment. This gave the researcher a chance to compare the students' work. It is also of great importance to note that it gave the researcher a chance to have an informal interview with both students and teachers as he moved around within the school premises. By so doing, he gained a deeper

understanding of the implementation of technical vocational education in Khami secondary schools. The researcher was able to visit some sites such as school gardens, fowl runs, computer laboratories, libraries and specialist rooms.

Observation is the systematic process of recording the behavioural patterns of participants, objects and occurrences without necessarily questioning or communicating with them (Nieuwenhuis, 2007). As a qualitative data gathering technique, observation enabled the researcher to gain a deeper insight and understanding of implementation of technical vocational education in Khami District secondary schools. According to Nieuwenhuis (2007), the researcher gets into the situation, but focuses mainly on his/her role as observer in the situation.

This study used observation because observational data are attractive as they afford the researcher an opportunity to gather 'live' data in 'live' situations. The researcher was given the opportunity to look at what was taking place in secondary schools rather than having second hand information. This enabled the researcher to understand the context in which technical vocational education is being implemented in schools, to be open-ended and inductive, to see things that might otherwise be unconsciously missed, to discover things that participants may not freely talk about in interview situations, to move beyond perception-based data (e.g. opinions in interviews) and to access personal knowledge (Cohen et al., 2000).

Yin (2003:92) posits: "Assuming that the phenomena of interest have been purely historical, some relevant behaviours or environmental conditions will be available for observation. Such observations serve as yet another source of evidence in the case study". Observational information is often useful in providing additional information about the area of study. Yin (2003) argues that observation may be so valuable that one may even consider taking photographs at the case study site. At a minimum these photographs will help to convey important case characteristics to outside observers.

The advantage of observation is that the behaviour is recorded as it occurs and that the observer being an outsider can see phenomena about the situation in which those people involved, may take for granted (Leedy & Ormrod, 2005; Tuckman, 1978). The other advantage of the observer as participant is that the researcher is uninvolved and does not influence the dynamic of the setting (Nieuwenhuis, 2007).

Finally, the researcher used observation in this study because it gave him an insight into what was transpiring in schools in the way technical vocational education is being implemented. It also gave the researcher a chance to be a participant observer, which gave him a chance to record the views of people as they occurred as well as some salient features and some facial expressions. The facilities and equipment were also observed as well as the infra-structure within the schools. This instrument further gave the researcher a chance to solicit data without being involved and did not influence the dynamics of the setting.

However, the observation technique, like any other techniques, has its own limitations. A central problem of observation is that individuals who are conscious of being under scrutiny are likely to behave differently, usually in the direction of what they perceive to be more socially approved or in accordance with the observer's expectations. Another limitation is that the researcher will miss out on observation because he/she is writing about the last thing he/she noticed. Furthermore, the researcher may find his/her attention focusing on a particular event or feature because it appears particularly interesting or relevant and miss things which are equally or more important, but their importance is not recognised or acknowledged at the time (Hancok, 1988). The researcher used observation schedules to minimize these limitations. These assisted the researcher to concentrate on the core business as stipulated in the study.

3.6.6 Document analysis

This study used document analysis as an instrument for collecting data because document analysis focuses on all types of written communications that may shed light on the implementation of technical vocational education. The researcher solicited

information from documents such as students' daily attendance registers, teachers' scheme books and plan books. On students' daily attendance registers, the researcher wanted to find out if students attended school regularly. The researcher analysed the teachers' scheme books to find out the strategies used by teachers. The researcher also asked for technical vocational education syllabus to confirm whether teachers used old or new recommended technical vocational syllabuses which incorporated designing. Documents such as teachers' clock in registers were analysed to check on punctuality and regularity of attendance.

The other documents which were analysed were students' exercise books to solicit information on frequency of written work and the amount of work allocated by teachers to students as well as regularity. In these documents, data were also sought on consistent marking of the work by teachers. School log books were also analysed to check on school inspections made by District Education Officers to the schools and their recommendations. Regularity of staff meetings by the schools as well as the nature of the staff development workshops conducted were checked in school log books. Teachers' qualifications as well as staff returns were analysed from school log books. Staff meeting minutes books were analysed to find information concerning implementation of technical vocational education and SDC minutes as well as records to check on issues concerning resources and funding on technical vocational education.

Inventories on tools and equipment were also analysed to find information on their availability, state, when they were bought as well as their usability. Records on national examinations pass rate at Form 4 ('O' Level) and Form 6 (Upper 6th or 'A' Level) were also analysed although in some schools there were poor record keeping systems. These documents gave the researcher an insight in what took place in schools since most of the data are primary data.

According to Maree (2007), document analysis means focusing on all types of written material that could shed light on the studied phenomenon. Borg, Gall, and Gall (2003) posit that qualitative researchers often study written communication found in natural

settings as data sources. Document analysis is unobtrusive and non-reactive and can yield a lot of data about the values and beliefs of participants in their natural surrounding (Maree, 2007). Analysis of documents in this study complemented interviews and questionnaires in the data collection process. The analysis of documents helped to address questions which interviews and questionnaires could not answer and enlightened the researcher on some areas which needed clarification. For example, the type of equipment used by students, their durability and those lost through pilferation as well as those which were obsolete.

Cohen et al., (2000) describe documents in four categories; as public records, personal documents, physical materials and research-generated documents. Research needs to consider either primary or secondary sources or both should there be a need. The sources of document analysis can be primary or secondary. Primary sources are those collected when particular events happen[illegible]te books, clocking registers and students' exercise books. It is an original source. Secondary sources refer to any materials (books, articles) or second hand information (Cohen, et al., 2000; Creswell et al., 2007; Merrian, 1998).

Maree (2007, point to the usefulness of documents for theory building. Documents of this nature can assist to uncover meaning, develop understanding and discover insights. However, the researcher was observant as some of these documents could be counter feit, as they may not be original documents but only be produced for that moment to serve a certain purpose. Nevertheless, documents reveal what people do or did and what they value. In addition, the behaviour occurred in a natural setting, so the data is of strong validity. Congruence between documents and the research problem depends on the researcher's flexibility in constructing the problem and the related questions (Merriam, 1998).

Document analysis has its own critics. Creswell (2002) concedes that, given its social context and identity, the researcher gives a selective and biased understanding of a document and may even deliberately choose and select particular documents.

Documents therefore need to be carefully used and should not be accepted as literal recordings of events that have taken place. Yin (2003:87) advises:

You need to remember that every document was written for some specific purpose and some specific audience other than those of the case study being done. In this sense the case study researcher is a vicarious observer and the documentary evidence reflects a communication by other parties attempting to achieve some other objectives.

There is, therefore, a need to be careful as a researcher when using document analysis. The researcher should approach a document with a critical mind in terms of both the meanings that the author intended to produce and the received meaning as constructed by the audience in differing social situations.

3.7 Validity and reliability

3.7.1 Validity

The concept of validity and reliability are multi-faceted; there are many different types of validity and different types of reliability. Validity is an important component of research which tenders the result to be valid or invalid and as such, if the results are invalid, the purpose of research becomes useless. Cohen et al. (2000:105) concede that "validity is thus a requirement for both quantitative and qualitative/naturalistic research." Whilst earlier versions of validity were based on the view that it was essentially a demonstration that a particular instrument measured what it intended to measure, more recently validity has taken many forms. Cohen et al. (2000) postulate that, in qualitative data, validity might be addressed through the honesty, depth, richness and scope of the data achieved, the participants approached, the extent of triangulation and the disinterestedness or objectivity of the researcher. Validity in quantitative data is a critical issue and might be improved through careful sampling, appropriate instrumentation and appropriate statistical treatment of the data.

The researcher considered the length of questionnaires, language use and the level of respondents where the instruments would be administered. The questionnaires for students were interpreted in their mother language (Ndebele) for ease understanding and expression of views in areas where elaboration was needed. The respondents were advised not to write their names on the questionnaires to give them confidence and security to respond honestly.

Questionnaires and interviews were administered to the population frame excluding the sample. The teachers, HODs and school heads who were not sampled were given questionnaires as well as interviewed. This was to ensure that the language used was understandable and that the categories used were not confusing. The researcher also conducted a focus group discussion with Form 4 students. The feedback from the respondents in the pilot study led to some adjustments to the questionnaires and interview schedules.

3.7.2 Reliability

Cohen et al (2000:117) posit that reliability is "essentially a synonym for consistency and replicability over time, over instruments and over groups of respondents. It is concerned with precision and accuracy." Reliability can therefore, be viewed as a measure of consistency over time and over similar samples. A reliable instrument for a piece of research will yield similar data from similar respondents over time if the same methods and instruments were to be used.

For the instruments to be reliable, they had to be edited by the supervisor and a team of critical friends, which included PhD students. Their main aim was to edit or eliminate irrelevant items and ensure that there was adequate coverage of the topic. This team reviewed the items with respect to readability, clarity, format, ease and adequacy of items and responses. The number of questions were also considered, too many questions could have demotivate respondents. The concentration spun of students was considered for both questionnaires and focus group discussions.

The focus group discussions were conducted in mother tongue (Ndebele) to allow full-participation and free expression of views by students. Time fact was the other aspect which was put into consideration: how long interviews lasted and when they were to be conducted? Nonetheless, the instruments were pilot tested for ease of administration and language clarity. The researcher also judged the reliability of instruments by the way participants responded, had to adjust question item where he felt the respondents had misunderstood it. The responses were also ready for the respondents to ascertain whether correct responses were recorded.

In qualitative research, reliability can be regarded as a fit between what researchers record and what actually occurs in the natural setting that is being researched, that is, a degree of accuracy and comprehensiveness of coverage (Cohen et al., 2000). The researcher, for purposes of reliability, recorded the responses as they occurred using a tape recorder and made back up by not[illegible] On observations the researcher recorded the occurrences as they took place to avoid losing information due to the time factor. The triangulation of the different forms of data that was collected also added to the reliability and validity of the research process and the findings as the researcher used more than three sources of data collection methods and large samples of respondents. Smith (1979) advocates using at least three different sources.

3.7.3 Member checking

Member checking is the process of going back to the participants to find out if the analysis or interpretation makes sense to the respondents and reflect on their experiences (Creswell, 2003). The researcher returned to some respondents who participated in the study to comment on whether or not they felt that the data were interpreted in a manner congruent with their own experiences. It also helps in the establishing confidence in the findings (Lincoln & Guba, 1994).

The other way of doing it was to allow the research respondents to review the findings from data in order to confirm or challenge the accuracy of the work (Creswell, 2003). However, a few typing errors were detected and corrected by some of the participants.

3.7.4 Pilot study

Pilot testing is necessary to determine if the ways in which respondents understand questions are relatively similar across the group and whether the information is easily accessible to respondents. It is necessary to ensure that the items are such that responses correlate to what the study intends to measure. De Vaus (1991) points out that once a questionnaire has been developed, each question and the questionnaire in its entirety must be evaluated rigorously before final administration. This process is called pilot testing or pre-testing. A pilot study was conducted to check the validity of the questionnaires. Some three neighbouring secondary schools which were not in the sample were chosen to conduct the study.

The researcher served the schools with a introductory letter from both the University and Bulawayo Provincial Director. The purpose and benefits of research were explained to the respondents. The researcher emphasised the need of answering the questions honestly. Respondents were also asked to indicate on a separate paper the questions which needed clarification.

The data from pilot study were analysed and some modifications made especially on some areas where the respondents had suggested that it lacked clarity. On the aspect of interviews the researcher observed that sometimes the time taken was too long. This gave the researcher a chance to adjust with the sampled respondents. the students had a problem of some terms. The researcher also realised the need to keep the volume of the tape recorder low during interviews. After the pilot study, some amendments were made to the questionnaires and interview guides.

3.8 Ethical considerations

The consideration of ethics in research is important especially in education because the participants in any study should be protected from harm. Heppner et al. (1992:93), postulate that harm can be, "embarrassment, anger, irritation, physical and emotional

stress, loss of self-esteem, exacerbation of stress...loss of respect from others, negative labeling, invasion of privacy and damage to personal dignity...". According to Heppner, Kalighan and Wampold (1992: 78), 'ethics are expressions of our values and a guide to achieving them'. They further proclaim that ethics are central to research.

In conducting the study, the researcher observed the right of informed consent for both adult participants and children. For student respondents who were minors the researcher sought permission from their parents. Also to be observed was the right of autonomy. According to Makore-Rukuni (2001), in conducting research, the ethical principle of autonomy is contained in the idea of informed consent where the client should be allowed to choose to participate, or not to participate in research, after receiving all relevant information about the risk or harm that could arise if they participate in the research. 'Informed' means that the respondent is made aware by the researcher of the pros and cons of participation, benefits and the risks. There was no coercion to participate in the study of vocational education. The researcher advised the respondents that they had the right not to respond to any questions if they did not feel like. The purpose of the study was clearly explained to respondents.

For Form 4 students participating, consent was sought from their parents or guardians. The researcher issued the participants with the form of consent which included among other things, a statement that the study involved research, along with the title, purpose, the statement that participation is voluntary and general description of the study. Heppner et al. (1992:98) suggest the following to be included in a consent form: a statement describing the extent to which confidentiality is maintained, and that participation is voluntary, and that the subject may discontinue participation without any penalty. The researcher adhered to the ethics of confidentiality, anonymity and the right to privacy. Neumann(2000), concede that the researcher has to protect the anonymity of the respondents and the confidentiality of their disclosures unless they consent to the release of personal information.

The researcher explained to the participants the limits of confidentiality, as the information could be used only for research purposes. The researcher adhered to the right of privacy by using pseudonyms during interviews and numbers and letters of the alphabet for names of the schools. This view is shared by Frankfort-Nachmias and Nachmias (1992) who state that participants may be asked to use an alias of their own creation. They further argue that anonymity may be enhanced if names and other identifiers are linked to the information by a code number.

Finally, in reporting results, the researcher observed the findings as they are reflected. The ethical codes state clearly that it is the responsibility of the researcher to accurately report and prevent misuse of results (Makore-Rukuni, 2001).

3.9 Data analysis procedures

Data analysis in mixed methods research occurs within both the quantitative and qualitative approaches. Within the concurrent strategy the researcher analysed the quantitative data first and then the qualitative data. Both quantitative and qualitative data were interpreted together (triangulation) once all data had been collected, captured, processed and then results were condensed. The quantitative data were analysed using frequency tables, percentages, pie charts and graphs. Qualitative data was analysed using themes. Categories were identified that helped cluster the data into meaningful groups. Observation and specific documents and other bits of data were examined for specific meanings they might have in relation to the study. Data analysis in qualitative research typically involves the following steps (Creswell, 1998; Stake cited in Leedy & Ormrod, 20005).

- Organisational details about the case.
- Categorization of data.
- Interpretation of single instances.
- Identification of patterns.
- Synthesis and generalization.

Nieuwenhuis (2007:99), posits that qualitative data analysis tends to be an ongoing and iterative (non-linear) process, implying that data collection, processing, analysing and reporting are intertwined, not merely a number of successive steps.

However, there is no one way of analysing data, therefore the researcher was as creative as he could be, and combined a number of techniques. The researcher tried to be as consistent, systematic, rigorous and honest as possible. The researcher critically challenged all assumptions, his own as well as those of the participants and in the literature. The researcher was not content with his first concepts, categorisations and interpretations: he constantly went back to his data and re-tested his concepts, categorisations and interpretations against them.

3.10 Summary

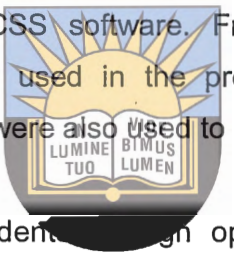
Chapter 3 covered methodology, a number of research paradigms, research design, population, sample and sampling procedures. The research instruments, data collection and data analysis procedures were discussed. Quantitative and qualitative methodology were adopted in this study. The adopted mixed-methods approach enabled the researcher to collect different types of data from respondents. Data solicited using questionnaires, interviews, observations and document analysis assisted the researcher to have good knowledge on implementation of technical vocational education in secondary schools in Khami District. Data analysis procedures were discussed. Ethical considerations were also discussed. The sample used was thought to be a good representation of the population in the implementation of technical vocational education in Khami District to produce acceptable findings. The following chapter deals with data presentation and analysis.

4 CHAPTER 4

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter focuses on data presentation and analysis as discussed in chapter 3. The data were collected through questionnaires, interviews, focus group interviews, observations and document analysis. Two main procedures were applied in the analysis of these data. Quantitative data from the questionnaires were subjected to statistical methods using the MINITAB and NCSS software. Frequency distribution tables, percentages and graphs are basically used in the presentation of the data from respondents. In some cases, pie charts were also used to present quantitative data.



Qualitative data solicited from respondents through open ended questions, semi-structured interviews and focus group discussions were collected in both note form and the tape recorder. The recorded data was played back to the respondents, so as to confirm its correctness. The recorded information was then transcribed into written text.

It emerged that in two private schools, the SDC/SDA committee was non-existent and the school affairs were run by the board of directors. The only private school with an SDC committee was a church school. The respondents are indentified as follows:

DEO1= current District Education Officer for Khami District

DEO2= former DEO for Khami District

HM1= School Head in government/public school

HM2 = School Head in private farm school

HOD1= Head of department of a government/public school

HOD2= Head of department private school

Fgrp1 = Focus group interview for group one in government/public school

Fgvt2 = Focus group interview for group two government/public school

Fgrp3 = Focus group interview for private farm school

Fgrp4 = Focus group interview for private school

Tgvt = Teacher interviewed from government/public school

Tpvt = Teacher interviewed from private school

The first section of this chapter presents the location and type of school. This is important as a school's funding is determined by its location or type. Hence one has to understand this background. The second section presents the data of respondents' views on the question of students' selection to technical vocational education. The way students are selected can affect the implementation process as students without aptitudes can be selected. Type or characteristics of students selected to technical vocational education can also influence its outcomes. The third section presents data on teacher capacity which incorporates issues like academic and professional qualifications of teachers as well as their experience in teaching. The methods and strategies used in curriculum delivery as well as syllabus choice and content are presented in this section.

Data on equipment and other resources are presented under the resources section as their availability combined with teaching methods could determine the way curriculum is implemented. Information on funding and facilities in schools were presented under this section too. Funding plays an important role in the implementation of any programme as each aspect of the programme is dependent on the availability of finance. Finally, data on monitoring and support systems as well as student performance were presented in chronological order in their various sections.

4.2 Information on schools

The provision of education in Zimbabwe is a joint responsibility of the state and private enterprises or school responsible authorities. Responsible authority refers to the owners of the school. The construction and maintenance of schools and provision of furniture is handled by the responsible authority. Parents contribute towards the education of their children through labour, payment of school levies, purchase of books and uniforms (MoEHE, 1996). In addition, government is supposed to pay per capita grants to all registered schools; building grants-in-aid to all approved non-government schools, and teachers' salaries (MoEHE, 1996). It should be noted that schools in urban areas pay

more fees than peri-urban schools and private schools are the most expensive. Implementation of technical vocational education can be affected by these schools' different environmental settings.

According to data solicited, schools implement different technical vocational subjects depending on school environment, background and availability of both material and human resources. Table 4.1 shows the location of school and technical vocational education subjects offered by schools. The table also shows the number of teachers in the school per subject by gender.

Table 4.1: Location of school and technical vocational subjects offered and staffing

Name of school	Location	Tech/voc subject taught	Teachers		
			Male	Female	Total
A	Farm school Pvt	Agriculture	1	0	1
B	Private	Computers, F&N, Art, T.G	4	1	5
C	Private	Agriculture, F&F, T&G	3	4	7
D	Private	Computers, F&N, Woodwork	2	1	3
E	Public	Agriculture, T.G, F&N, F&F, Metal work, Art	4	7	11
F	Public	Agriculture, F&F, Building	5	8	13
G	Public	Agriculture, F&F, Computer	6	2	8
H	Public	Agriculture, F&N, F&F, Metalwork, Woodwork, Computers	6	7	13
Total			31	30	61

Key: F&F = Fashion and Fabrics F & N = Food and Nutrition T.G = Technical Graphics

Table 4.1 indicates that there were 61 technical vocational education teachers in Khami District. Thirty-one of these teachers were male and 30 were female. It emerged from the data that the majority of teachers were male. All four government schools offer Agriculture. It was established that one private school (School C) and the farm school

(school A) offered Agriculture. According to school records, the majority of students taking technical vocational education were doing Agriculture as a subject. Information from table 4.1 further indicates that Fashion and Fabrics was offered by all four government schools and one private school (School C). Information from table 4.1 above also indicates that four schools offered Food and Nutrition (Schools B, D, E & H). Two schools (schools E & H) were government schools and the other two (Schools B & D) were private schools. It further emerged from the data that Woodwork and Metal Work is offered by two government schools (Schools E & H), while Art is offered by one government school (School E) and one private school (School B).

The researcher established from the school records that Metal Work and Agriculture were the only previously male dominated subjects that were taught by female teachers. Schools need both teachers and management to run affairs, hence, the need to understand the school composition of these professionals as some are managers and others are implementers of technical vocational education. It also emerged from informal interviews that none of the government schools offered technical vocational subjects at Advanced Level, except two private schools (Schools B & D) which offered computers and food science.

According to the respondents, both government and private schools offered Agriculture because it is assumed to be less costly as compared to other subjects and it uses equipment which does not need electricity. Due to this it is the only technical vocational education subject offered by a farm school where there is no electricity. However, most private schools did not offer this subject as indicated in table 4.1. Teachers, in an informal interview, indicated that the Agriculture implements and equipment could be easily improvised as they could ask students to bring some from their homes. Most schools offered it because Zimbabwe is a farming country. Data revealed that all government schools offered Fashion and Fabrics as a subject.

All the government secondary schools in Khami District were headed by females, two private schools (Schools A & D) were also headed by females and the other two private

schools (Schools E & B) were had by male heads. Three schools (Schools A, B & G,) had acting school heads and all were females. The former substantive heads had moved to seek employment elsewhere. The age of these educationists was also sought so as to determine their maturity.

4.3 Student placement in technical vocational education stream

Selection of students is an important factor in the implementation of technical vocational education because students with the correct aptitude, ability, interest and talent should be selected. If this is not considered, students could be wrongfully placed and this could hinder the successful implementation of the program. There is also a need for students to be given guidance and counseling before they are selected to any program so that they can make an informed decision. Hence, information was sought from respondents on factors considered on the selection of students. It was established that there was gender equity in Khami District as most schools were headed by women.

4.3.1 Guidance and counselling as a condition for students' selection

Guidance and counselling programmes should assist students to make informed decisions in their choice of subjects which suit their career path. For students to make informed decisions they need to be guided and given proper information; hence, the need for guidance and counselling the students before placing them in technical vocational education. This also assists them to explore some avenues which need exploration or where one's ability and interest may lie. It is one of those prerequisites for good implementation of the programme by the Ministry of Education (MoEHE, 1996). Students should be guided and counseled before they choose technical vocational education classes.

4. 3. 1. 1 Responses of school heads and heads of departments on guidance and counselling of students

The researcher investigated if the school heads and departmental heads conducted guidance and counseling to students before they were located to technical vocational

classes. Information reveals that private schools conducted guidance and counseling while it was a different case with government schools and the farm school.

All school heads and HODs (management), from private schools indicated that they conducted guidance and counselling to students before they place them in the technical vocational education stream. Information solicited from these heads and HODs through questionnaires revealed that guidance and counselling was conducted by teachers.

However, different responses were received from school heads and HODs from government schools. Sixty-seven percent (12) school heads and HODs indicated that students in their schools were not given guidance and counseling before they were placed in technical vocational education stream. Thirty-three percent (6) of management team indicated that they conducted guidance and counseling to students in their schools. They indicated that it was done by [illegible] and HODs. This was confirmed by HMgvt1 in an interview when she said, "*We give students guidance and counselling. It is done by the senior mistress and senior master*". These are senior teachers in the school administration who are ready for promotion to the deputy head post. It emerged from the interviews that teachers and HODs conducted guidance and counseling in the schools which implemented it.

The respondents who indicated that guidance and counselling was not conducted cited a number of reasons, namely; a) they said that the head knows better the subjects suitable for the students in the school and some indicated that it was not compulsory for schools to do it. b) Since selection is done according to results there is no need to give students guidance and counselling. c) Selection is done to suit the time table and there is no need for guidance and counselling.

However such views show lack of understanding of educational dynamics pertaining to the implementation of technical vocational education as well as policy matters. The policy from the Ministry clearly states that students should be given guidance and counseling (MoESC, 1996).

4.3.1.2 Responses of students on guidance and counselling

Information on guidance and counselling before placement was sought from the students themselves as they are the consumers of the curriculum. Their views were important because guidance and counselling could assist them to make informed decisions in their choice of subjects. Information reveals that guidance and counselling was not conducted in government schools before students were selected to technical vocational education classes. This is confirmed by the majority of student respondents, 83,3 % from government schools. On the other hand, private schools conduct it before students are placed in technical vocational education classes.

One student from a focus group discussion (Fgvt2) confirmed the lack of guidance and counseling before students were placed in technical vocational classes as she said: *"We had no guidance and counselling at the [illegible]g of the year. It was conducted in third term when we had chosen the subjects"*. These students were given guidance and counseling late in the third term instead of in the first term in January so it deprived these students of a chance to make an informed decision. There was correlation between students' responses and school heads and HODs' from government schools as they earlier indicated that there was no guidance and counseling before students were placed in technical vocational education classes.

All the farm school students indicated that they were not given guidance and counseling as their school only offered one technical vocational education subject which is Agriculture. A different situation existed in private schools where the majority 63,6% students indicated that they were given guidance and counseling before placement into technical vocational classes.

Furthermore, students' responses from private schools concurred with what was said by their school heads and HODs when they indicated that their schools provided guidance and counseling facilities to their students. Out of the seven student respondents who indicated that guidance and counselling was conducted, 42,9% (3) stated that it was

conducted by teachers and the headmistress. An interesting point emerged from the data where one student indicated that it was done by parents and the school and the other one said it was facilitated by a brother and the school. This confirms the sentiments aired by the head of private secondary school (School B) who said they consult parents because they advise their children on the subjects to choose.

4.3.1.3 Responses of DEOs on guidance and counselling of students before placement

Responses of DEOs were sought on the issue of students' guidance and counselling before they are placed in technical vocational education classes. Information reveals that guidance and counseling is not conducted in schools by the Provincial team due to lack of transport. This is confirmed by DEO1 who commented, *"There is career guidance and counselling and it should be conducted by the school and Provincial counsellor. It is done during third term. However, the Provincial counsellor is faced with transport problems and lack of availability of [illegible]s"*. The information solicited from the DEO revealed that there was no guidance and counseling conducted by the Provincial personnel.

It emerged from responses that students are not given guidance and counselling in most of government schools before they are selected to the technical vocational education stream. The scenario seems to be different in private schools where students are offered guidance and counselling. However, in all those schools where it was conducted, the respondents indicated that it was mainly done by teachers and heads of departments. In schools, guidance and counselling is mainly the responsibility of teachers and heads of department. The Provincial Psychological Services also have a duty to conduct guidance and counselling in schools.

From the above information one could say that Implementation of technical vocational education in government schools is faced with challenges which can affect its implementation. Students could be allocated to wrong classes due to lack of information to make good and informed decisions because they were not assisted through guidance and counselling.

4.3.2 How students are selected to the technical vocational education stream

According to the MoESC (2001), all students in Form 1 have to do one or two technical vocational education subjects of their choice and one subject at Form 3 level. The study sought to establish how students were selected to the technical vocational education stream. This information was considered to be vital because students' characteristics such as ability, aptitude and interest could determine the way the technical vocational education curriculum is implemented.

4.3.2.1 Responses of teachers on how students are selected to the technical vocational education classes stream

The researcher investigated how students were allocated to technical vocational education subjects in both Form 1 and Form 3 classes. This was important as the researcher wanted to find out whether schools adhered to policy-circulars. The researcher wanted to establish whether students' needs were considered. See the responses of teachers in the table below.

Table 4.2: Views of teachers on students' selected to technical vocational classes

How do you select students to TVET classes?	Government		Private		Farm	
	freq	%	Freq	%	Freq	%
Grade 7 results at Form 1 & Form 2 results at Form 3	10	76.9				
There is no standard criteria used	3	21.1				
Interest & Grade 7 at Form 1 & Form 2 results at Form 3			7	77.8		
Not aware			2	22.2		
No selection					1	100
Total	13	100	9	100	1	100

as well as It was established from teacher respondents that students in government schools were allocated to technical vocational education classes in Form 1 using national examination results for Grade 7 and in Form 3 they used school internal examination results at Form 2. This was shown by the majority of teachers, 76,9% (10) from government schools and 23.1% (3) indicated that there was no standard criteria used for selecting students, especially in Form 1 where they just allocated them to classes randomly except in Form 3 where school results were used. This was indicated in open ended questionnaires.

The use of examinations in allocating classes at Form 1 and Form 3 was further confirmed by a teacher respondent in a government school in an interview. Tgvt6 remarked:

There is selection of students at Form 1 using Grade 7 national examination results and this is done by the administration, and mostly, those who are dull are put in tech/vocational subjects. The other selection is done at Form 3 using Form 2 end of year school results. Those who are viewed as intelligent or who have passed well at Form 2 are put in science classes or mainly academic classes. Mostly those who are dull and have poor marks are selected at Form 3 to do technical vocational education subjects.

The views of the teacher respondent, Tgvt8, confirmed what happens in most Khami government schools when he posited that:

> *Students are screened from Form 1 using Grade 7 results by the school administration. In Form 3, students are screened using Form 2 school reports. Students from first stream classes A and B do sciences and the last classes in C to F do technical vocational subjects as it is claimed that they are not capable of doing science subjects.*

Responses from private school teachers as shown in table 4,2 reveal a different situation. It was established that students in private schools were allocated to classes in Form 1 using Grade 7 results and interest and it was the same for Form 3 students. This was indicated by the majority of teacher respondents, 77.8% (7). There were 22,2% (2) new teacher respondents in private schools who said that they were not aware of how schools selected students. These were mainly temporary teachers. However, information from the farm school reveals that there was no selection as students did only Agriculture as a technical vocational subject and they had only one stream.

4.3.2.2 Responses of students on how they are selected to technical vocational classes

Views of students were sought on the issue of students' placement to the technical vocational education stream. Of great interest, a different scenario emerged from the farm school where students said there was no selection as there was no option. The school offered Agriculture to all students from Form 1 to Form 4. However, students from Fgrp3 wished that the school should have introduced Fashion and Fabrics as one of the options because they wanted to learn how to sew some garments for themselves.

On the issue of placement of students to the technical vocational education stream, students from government schools indicated that at Form 1, Grade 7 results were used. This view was backed up by responses from Fgrp2 who said Grade 7 results were used while others postulated that, they were just put in a straight line and told to go into different classes. Others said, they were put in classes and told which subjects to do. They further indicated that at Form 3 level those with good results were placed in academic classes.

However, a different view emerged from student respondents in private schools as they indicated that interest and ability were considered together with results. One of the students from Fgrp4 commented, *"They asked us which technical vocational subjects we wanted to do when we were placed in Form 1 and at Form 3, they further asked us*

the subjects we liked". Student respondents from private schools further elaborated that their parents' views were sought although the selection process was mainly done by the administration.

Developing a criterion before selection is very important as it can avoid issues of unfairness. This assists the person who is doing selection to be consistent. Information was sought from school heads and HODs on criteria used in the selection of students to vocational education path-way and on the need for consulting students on the choice of subjects.

4.3.2.3 Responses of school heads and HODs on consultation of students before placing them in TVE stream.

Information was solicited from government, private and farm school heads and HODs to find out if students were consulted and on [illegible]ed when they were placed in the technical vocational education stream. All school heads and heads of departments100% from government schools indicated that they did not consult because they used students' abilities in allocating students to classes. However, a different view was postulated by the school head from a farm school who indicated that there was no consultation of students since Agriculture was the only technical subject offered in her school.

One head from a government school cited some reasons for non consultation when she said " *Students are not consulted sometimes because they may run away from other classes and there may be either more students in one class than in others or some classes can go without students".* This shows that technical vocational education is not implemented according to the stipulated policy.

A different scenario was observed in private schools where all 100% school heads and HOD respondents indicated that students were given a chance to choose subjects. They further indicated that they considered students' ability, aptitude and interest. One

of the HODs from a private school said, "Their talent is identified and the teacher encourages them to do the subject".

4.3.2.4 Responses of teachers on consultation of students before placement in technical vocational education classes.

Information on consultation of students was also sought from the teachers. It was revealed that all 100% (13) teachers from government schools said students were not consulted when they were allocated to classes. One of the teachers (Tgvt9) said, "Students are not consulted as the school administration uses academic results. Students with good results do academic subjects and go to 'A1 up to B1 which are science classes and those with poor results go to A6 and B6 classes."

Tgvt1 confirmed that schools did not use ability or aptitude on selection of students, when she remarked that:

> *Students are not selected according to ability or aptitude. The school administration just allocates classes in Form 1 and all students at this level do one subject. Half the class may do Technical Graphics while the other half may do Fashion and Fabrics. At form 3 students are again screened using Form 2 school results. Students with good results are given sciences and put into 'A' class and do not do technical vocational education subjects. The dull ones are given to us.*

Tgvt2 from a different government school confirmed the views of her counterpart (Tgvt1) when she postulated that:

> *Selection of students in this school is done by administration mainly at Form 1 here there is no criterion used in this school; half the class may do Agriculture and the other half Fashion and Fabrics. At Form 3 there is screening using internal school examination results for Form 2. Those with good results do sciences and other academic subjects.*

On the issue of consultation, Tgvt6 said, "*Students have no say in the choice of subjects".* Views of Tgvt8 confirmed what happens in most government schools. *"Parents and students are not consulted".*

Information solicited from private school teacher respondents revealed that students are consulted before they are placed into technical vocational education classes. All teacher respondents from private schools indicated that students were consulted. This was confirmed by a teacher in an interview with the researcher. Tpvt2 commented, " *We always consult our students to find their interest and their plans for the future. These students are our customers so their interest and that of their parents should be considered so that we can advise them correctly".* It emerged that teacher respondents from private schools consulted their students before placing them to technical vocational education.

4.3.2.5 Responses of students on whether they were consulted

Students are the evaluators of the curriculum, hence, there was a need to solicit their views on the need of them being consulted in class placement. This was important as it is government policy that students interest should also be considered when they are placed in technical vocational classes. See the table below for their views.

Table 4.3: Responses of students on whether they were consulted when placed to TVE classes.

Were you consulted when you were teachers placed in TVE	Freq	%
No response	-	-
No	9	27.3
Yes	23	69.7
Total	33	100

Table 4.3: shows that the majority (69.7%) students were not consulted and few students (27.3%)said that they were consulted.

This was confirmed by one student from Fgrp1 who commented, *"I was put in a class for metal work but I wanted to do woodwork because I am good at woodwork. I did it at Primary School".* Another student from Fgrp2 echoed the same sentiment, *"I came late and I was not consulted. I was just put in a class for metal work".*

On the issue of consultation of students before placement into the technical vocational education stream, most of those from private schools indicated that they were consulted. This was confirmed by a student from Fgrp4 who said, "*The senior teacher gave me a list of technical vocational education subjects offered by the school and asked me which one I wanted to do".* His colleague concurred with this view. Fgrp4 commented, *" I was asked by the senior teacher the subject I wanted to do in Form 3 after he had looked at my results".*

The researcher further investigated the vie[illegible]dents on their feelings about not being consulted. Their views were important because forcing someone to do a programme he/she does not like may bring about negative attitude or resentment. See the results in the table below.

Table 4.4: Views of students on their feelings about consultation

Do you feel you should be consulted?	Freq	%
No response	1	3.0
No	8	24.2
Yes	24	72,7
Total	33	100

It was established that the majority of students felt that they should be consulted as it was their right. Table 4.4 shows that the majority of students 72, 7% (24) said they should be consulted in the selection of technical vocational education subjects. Students indicated in the questionnaire that it was their right to be consulted because they know what they wanted. It further emerged that students felt they should be

consulted because they knew their capabilities and which career path they wanted to take as they had different careers to pursue.

It was further revealed that eight student respondents (24, 2%) indicated that students must not be consulted because they cannot make correct decisions and are not responsible enough. The bottom line is that students need consultation and that does not mean the decision lies with them. They can be consulted and advised, then a final decision taken after their contribution has been heard. It is from the consultation that one can make an informed decision.

Some students expressed their concern over being forced to do subjects they disliked. One respondent from Fgrp2 said, *"Teachers should not force us into doing subjects which we do not want but they should first tell us the advantages and disadvantages of doing these subjects and then let us make [illegible]"*.

This is a clear indication that students are unhappy with what transpires in the school. It reflects that some students are forced by teachers to do subjects they do not like and this is contrary to what the policy on technical vocational education says. It advocates consultation and student's interest. Her counterpart in the same group had this to say, *"We should have a word in the choice of subjects"*. One of the focus group students emphasised the need for student's consultation when she said, *"I was put in Agriculture but I wanted to do Food and Nutrition"*.

One student from Fgrp2 said, *"I chose Agriculture. They only asked those who wanted to go to Agriculture"*. Information from one of Fgrp2 respondents indicates that there is selection in the application of rules or policy as those students who wanted to join Agriculture were asked to make a choice.

It was established that students from government schools are not consulted as revealed by school heads and HODs, teachers and students' responses. There was correlation between the responses of these respondents. They all agreed that students were not

consulted in government schools. However, a different situation was portrayed in private schools where students were consulted, as revealed by all private school respondents.

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4.2.3.6 Stakeholders who selected students

The study also solicited information from students on stakeholders who were involved in their selection. This information was solicited from those students who indicated that there was selection in their schools. This information was found to be useful as it would indicate who were the people involved in the selection of students to technical vocational education. This would shed light whether these were the rightful people. Table 4.5 below shows the stakeholders who selected students.

Table 4.5: Views of students on stakeholders involved in selecting students

Who were involved in the selection of students	Freq	%
School administration	9	60
School head	2	13.3
Teachers	3	20
Parents	1	6.7
Total	15	100

It emerged that there were various stakeholders who had a say on students' placement to technical vocational education classes. Table 4.5 shows that the majority of student respondents 60% (9) said school administration was involved in the selection of students to technical vocational path-way, 20% (3) student respondents said that class teachers were involved, 13.3% (2) student respondents said school heads were involved in the selection process 6, 7% (1) said parents were involved. Parental involvement in selection was mainly done in private schools. In this case it shows that parents were given a chance to make requests on their children's placement.

4.3.3 Consultation of parents

The study sought the views of students, SDA members, teachers and DEOs on whether parents were consulted on students' selection. The technical vocational education students pay a number of levies such as practical levy and the examination fee for these subjects is more expensive than academic subjects, hence, there was a need for the researcher to find out whether parents were consulted on the choice of subjects by their children. The views of parents were important as the sponsors of children and may even know the ability of their children, Table 4.6 presents views of teachers on whether parents were consulted on students' selection to technical vocational education classes.

Table 4.6 : Views of teachers on consultation of parents on students' selection

Were parents consulted on students' choice of subjects	Freq	%
Yes	6	26.1
No	13	56.5
Not aware	-	-
No responses	4	17.4
Total	23	100

Table 4.6 above shows that majority of teacher respondents 56.5% (13), indicated that parents were not consulted. The majority of these teachers were from government schools. Twenty-six comma one percent (6) of teacher respondents indicated that parents were consulted and these teachers were from private schools. Four teachers (17, 39%) did not indicate their views and these were mainly temporary teachers who had been newly employed. These teachers were not aware of what transpired in their schools hence opted not to indicate.

The majority of SDC/SDA members 60% (6) indicated that parents were not consulted while 40% (4) SDC/SDA respondents indicated that parents were consulted. The researcher further sought to establish the feelings of parents on their not being consulted on their children's selection process to technical vocational education

classes. The majority, 80% (8) of SDC/SDA members revealed that parents did not care even if they were not consulted while 20% (2) of the SDC/SDA members said the parents were not happy for not being consulted. They indicated that parents had a right to be consulted since it concerned their children.

The study also sought the views of students on whether their parents should be consulted on their selection. The majority of students 54.6% (18) said parents should not be consulted because the students themselves knew what they wanted. However, 45.4% (15) students said parents should be consulted so that they could advise their children on which subjects to choose. The students reiterated during focus group interviews that parents should not be consulted as some parents would force students to do subjects which they did not like; hence, it was better when they were not consulted.

The students who were interviewed had divided views on whether parents should be consulted or not. One student from Fgrp1 said, *"Our parents should be consulted because they can advise us on the subjects to choose and they know our interest and abilities"*. The view of parents giving advice is stressed by one of the students in Fgrp2 when she said, *"My parents wanted me to go to Fashion and Fabrics and I was fortunate to be placed in a class which offers Fashion and Fabrics"*. This is a clear indication that if this parent was consulted, he/she would have advised his/her child accordingly.

The view of parents' consultation was echoed by another student in Fgrp2 when he posited that, *"They should be consulted because they are the ones who pay the money for these technical subjects so that they can say whether they will be able to pay the money or not"*. Another member of Fgrp2 emphasised the need for parents' consultation when she said that, *"Our parents were not consulted but they complain about buying practical materials and tools for us who do practical subjects like Fashion and Fabrics and Food and Nutrition"*. The data reveal the need for parents' consultation on implementation of technical vocational education as they are the major stakeholders.

Issues on views on consultation of parents on selection of students were also sought from DEO2 who said;

> *Parents are generally not consulted, unless they go to school themselves to make a request. Each pupil at Form 1 and Form 2 level does two TVE subjects, while at Form 3 and 4 levels, one subject is done. At Form 3 level students are supposed to choose one subject, but in some cases teachers choose subjects for students. A few schools have extended TVE subjects to 'A' level. Also National Foundation Certificate NFC) courses are offered by few schools.*

The view of DEO2 confirmed the non consultation of parents on students' selection for technical vocational education. However, non-consultation can sometimes have a negative impact on the implementation of th[illegible]me as parents may think they are being marginalised as stakeholders and end up not participating in the affairs of the school.

It was established from all respondents that students are streamed at Form1 and Form 3 levels mainly using results. The selection is done mainly by administration using Grade 7 and Form 2 results in both government and private schools. Information also shows that abilities, aptitude and interest of students are used in the selection process; especially in private schools while it is not the case with government schools. Another interesting aspect unraveled by this data is that administration in government schools have not changed as they still followed the selection system used during the pre-independence era which placed students with poor marks in technical vocational classes.

It emerged from information solicited that the situation is slightly different in private schools where students and parents are given a chance to select the subjects of their choice with the assistance of administration. Data further revealed a different situation in the farm school where students have no choice because of limited subject choice.

It emerged that the Ministry of Education Secretary's Circular (2006&2007) is being flouted as students are not being consulted, mainly in government schools. It was further revealed that there was no continuous assessment in the schools as the researcher never found any portfolios for students in schools. This was noticed in the four government schools, two private and one farm school he visited. Information shows that in some instances students are not allowed to choose subjects for fear that some classes may end up without students. However, it was revealed that in private schools, students were given a chance to select subjects of their own choice.

Finally, the data revealed that there is a difference between written policies and implemented policies as shown by the differences in the placement of students into technical vocational education stream among government, private and farm schools. This view is shared by Ornstein and Hu[illegible]4) who argue that the planned curriculum is different from the implemented one.

4.4 Teacher Capacity

Teacher capacity involves knowledge and dispositions that are required from teachers to teach in the classroom. It is the core knowledge, skills, and dispositions that teachers should possess to teach in today's classrooms. To be more specific, we can define these knowledge and skills as the command of subject matter and pedagogical content knowledge. Teacher capacity, however, is contingent upon a number of factors such as technology, policy and changing demographics; hence, this study considered it as a major variable in the implementation of technical vocational education.

Capacity of teachers includes variables such as one's academic qualification, specialization and experience in the job or position as well as teaching strategies used by that individual. Experience enables one to execute duties in a prolific manner. In implementation of technical vocational education, an instructional leader is able to use his/her experience to develop students' technical skills as well as groom the young and upcoming teachers. Above all, the experience is an obligation for both teachers and

administrators as they are to build the capacity of their students, peers and juniors. One has to use a variety of strategies and teaching methods and techniques as an instructional leader. Hence, there was a need to solicit information on professional qualifications of teachers.

4.4.1 Professional qualifications

According to the requirement of MoESC & MoHET (2001), to be considered as a professional qualified teacher in Zimbabwe you should either possess a Certificate in Education (CE) or a Diploma in Education (Dip. Ed). This is attained after four years of training after 'O' Level or two years of training after 'A' Level or any other relevant teaching degree. Those who intended to train as teachers with effect from 2002 generally had a minimum of 5 O-Level passes at Grade C or better including English, Science and Mathematics (MoESC & MoHET, 2001). There are colleges now taking only those with A-Level qualifications. The main thrust is to train people with a good general academic background in order to improve the quality of teacher and technical vocational education. It is this calibre of teachers that can meet the challenges of the education system and socio-economic dynamics of the 21st century (MoESC& MoHET, 2001).

The researcher wanted to establish the professional qualifications of teachers as they have an effect on the implementation of technical vocational education. However, one teacher did not indicate her qualifications, hence there are twenty-two teachers. The table below shows the qualifications of teachers.

Table 4.7: Professional qualifications of teachers by school type

Type	Government		Private		Farm	
Qualification	freq	%	Freq	%	Freq	%
Certificate in Education	1	8,3				
Diploma in Education	4	33,3	3	33,3		
Graduate Certificate in Education						
BEd	2	16,7	2	22,2		
Honours			1	11,1		
MEd						
No professional	5	41,7	3	33,3	1	100
Total	12	100	9	100	1	100

The researcher investigated teachers' professional qualifications. It emerged that schools had inadequate professionally qualified teachers. Table 4.7 shows information on professional qualifications of teachers from government, private and farm schools. The information on government schools is being presented first followed by information from private schools then finally the farm school.

It emerged from information that government schools had 41,7% (5) teacher respondents that were not professionally qualified and 33,3% (4) were professionally qualified as they had Diploma in Education (Dip. Ed.). Only 2 (16,7%) teacher respondents from government schools had a Bachelor of Education degree. It was revealed that the total number of professionally qualified teacher respondents in government schools was 68, 4% (7) and 41, 7% (5) were not professionally qualified. From this information, in can be inferred that technical vocational education in government schools has inadequate professionally qualified teachers. Some technical

vocational education classes are taught by temporary teachers or under qualified teachers. This was also confirmed during interviews.

Students in technical vocational education in private schools are taught by some unqualified teachers although the table shows that there are more professionally qualified teachers than unqualified. Information from private schools on professional qualifications of teachers in table 4.7 indicates that 33, 3% (3) teacher respondents in private schools had no professional qualifications and the other33.3% (3) had Diploma in Education. Two (22, 2%) possessed a Bachelor of Education Degree and only one (11, 1%) teacher respondent had an Honours degree.

Information from Table 4.7 shows that the only one teacher respondent in the farm school was not professionally qualified. It was discovered from the school documents that he possessed an Advanced General [illegible]rtificate. This teacher respondent was fresh from school.

All schools, whether government, private or farm have a shortage of professionally qualified technical vocational education teachers but the shortage is higher in government schools than in private schools. It was also revealed that in private schools, there were more teachers with degrees 33,3% (3) than in government schools. It emerged that the farm school had a critical shortage of professionally qualified teachers. The critical shortages of professionally qualified personnel in technical vocational education were confirmed by the district education officers.

DEO 1 commented:

> *The district has a complement staff of twelve qualified technical vocational subject teachers. This is a quarter of the whole staff needed in the district. Most teachers are under qualified. The qualification for one to teach technical vocational education is that; he/she should have trained as a teacher and has a diploma in education in the relevant subject or have a degree in the taught subject plus a teaching certificate.*

The following are also comments from one of the education officers on shortages of technical vocational education professional qualified teachers. DEO 2 had this to say:

The secondary sector is under-staffed. Out of 650 posts, only 230 are full. However, the worst affected are the technical vocational education subjects, sciences, mathematics, and commercials. For one to be said to be qualified to teach technical vocational education subjects, one should have passed a Diploma in Education and should have specialised in one technical subject or have a degree with a teaching qualification.

Information on adequacy of professionally qualified teachers was sought from the school heads and HODs as the school management team. All of them (100%) indicated that schools had inadequate professionally qualified technical vocational education teachers.

The shortage of professionally qualified teachers was confirmed by government, farm and private school students' interviews. The following is a comment from student Fgrp1: Presently we have adequate teachers but last year Form 3 students doing Agriculture spent the whole year without a teacher and some of Form 2s last year had no teacher for metal work. They did not learn in 2008 because there were no teachers and some of them who were supposed to teach were on strike for two terms.

However, it has to be noted that when students talk of adequate teachers, they mean the number of teachers in the school inclusive of untrained teachers as observed by the researcher. The researcher observed that all schools had temporary teachers among their staff compliment. Fgrp2 said:

> *We had shortages of teachers last year and we spent a lot of time without learning as teachers were on strike. Most of the teachers came this year and most of them are unqualified. A number of teachers transferred and some of them we hear have gone to South Africa and Botswana. In*

Agriculture we had no teachers for the whole of second and third term when we were in Form 3 and they only came this year during first term, also in metal work they had no teachers. They only came this year during first term. Most of them are temporary teachers.

Most of those students who indicated that they had no teachers in Form 2 are now doing Form 3.

Responses by students from the farm school confirmed the shortages of professionally qualified teachers. On the same issue, they did not distinguish between qualified teachers and untrained teachers. The shortage of professionally qualified teachers still exists in this school as the teacher is untrained. Form 3 said:

We had shortage of teachers last year during second term, we went for the whole term without a teacher and this affected our learning. Most of our teachers are temporary teachers, but we are pleased about the way they teach as they assist us.

In an interview with the researcher, the SDA secretary and SDA chairperson echoed similar sentiments to those posited by students in a focus group discussion. They claimed that schools had a shortage of professionally qualified teachers. The following is the comment from SDA1:

We have shortage of teachers. Our teachers are inadequate. Most of them have moved to Botswana and South Africa because there are no salaries for teachers here. At the present moment we have eleven relief teachers, that is, temporary teachers.

It has been established that all schools, whether government or private, had a shortage of professionally qualified personnel. Most of these teachers have gone to countries like South Africa, Botswana and Britain. Technical vocational education is being

implemented by temporary teachers because the majority of qualified personnel had left the country.

4.4.1.1 Causes for shortages of professionally qualified teachers

The researcher investigated the shortage of professionally qualified teachers for technical vocational education in schools. Information was sought from DEOs, teacher respondents, school heads and HOD respondents. The following was the response from DEO1:

> *Most of the teachers have left teaching because of poor salaries, working conditions and on economic situation. There has been a high staff turnover, especially among the young, diligent, and hard working teachers. Most of them have left the country to South Africa and other countries like Britain. The old teachers have remained behind and those who are sometimes not diligent.*

DEO2 concurred with his counterpart when he remarked:

> *Most of the technical vocational education teachers have left the country for other countries due to poor working conditions. Roughly two thirds of the teachers have gone. Teachers are not receiving any salaries at the present moment. They are only paid allowances of US$100 and nothing else. There is no longer assistance in purchasing houses and vehicles. Communities are now requested to offer incentives to teachers to complement government efforts.*

The researcher also enquired from school heads and HODs on why there was a shortage of professionally qualified technical vocational education teachers. All the school heads from government, private and the farm school unanimously agreed that low salaries, demotivation, poor conditions of service as well as an unfavourable economic situation contributed to shortage of these professionals. One HOD went further to indicate that shortage of technical vocational education teacher training

colleges had an effect on the shortages of professionally qualified teachers. He indicated that there was only Mutare and Belvedere Teachers' Colleges.

However, the school head of the farm school indicated that poor infrastructure and shortage of accommodation, shortage of water, lack of electricity in her school as well as high transport costs had an impact on high staff turnover in her school. Teachers were to commute daily from town (Bulawayo) to the school which is twenty-seven kilometers from Bulawayo. Teachers had to hitch-hike(ask for lifts) twice or three times to school, that is, boarded lifts twice or three times before they reached school. It has to be noted that all schools in Zimbabwe which are in the farms or rural areas have teachers' cottages on the school premises.

Information was also solicited from the SDA respondents on issues pertaining to shortage of technical vocational education t[illegible]hey confirmed what was indicated by education officers that professionally qualified teachers left the teaching service because of low salaries and poor conditions of service. This was confirmed by the majority of teachers 78,26% (18) who cited poor salaries as a cause of lack of motivation among teachers, 2 teachers (8.70%) associated poor conditions of service and poor salaries as a cause for decline of standards. Three (13,04%) teachers indicated that low salaries contributed to lack of commitment by teachers in the performance of their duties as they spent some valuable time looking for menial jobs to supplement their magre salaries.

It has been established that generally all schools whether government, private or farm were manned by temporary teachers as the majority of qualified personnel had left the country. Most of the respondents indicated that the causes of the brain drain among professional teachers was poor salaries, poor conditions of service as well as poor motivation factors for professional technical vocational education teachers. The other factor cited was the poor economic situation in the country. However, in the farm school poor and lack of accommodation, shortage of water and lack of electricity were cited as

causes of shortage of professionally qualified teachers. High transport costs were also cited.

4.4.2 Professional qualifications of heads and HODs

In Zimbabwe for one to be a school head one should possess a minimum qualification of an 'O' Level Certificate, Certificate in Education and a degree. However, for one to be HOD, one should possess a teaching certificate or degree in that particular subject. The HODs are the experts or "fundis" in their areas. They are mainly responsible for supervising and administering the affairs of their departments. The school head relies on their expertise.

The researcher sought information to establish if HODs and heads of schools were professionally qualified to execute their respective duties. It should be not that the number of management team from government schools is 10 instead of 11 because one member did not write his qualification. Table 4.8 below shows professional qualifications of HODs and school heads for government, private and farm schools.

Table 4.8: Professional qualifications of heads and heads of departments

Type	Government		Private		Farm	
Qualification	freq	%	freq	%	Freq	%
Certificate in Education	2	20	1	16,66	1	100
Diploma in Education	1	10	2	33,32		
Graduate Certificate in Education	2	20	1	16,66		
B. Ed.	4	40				
Honours			1	16,66		
M. Ed.	1	10	1	16.66		

Total	10	100	6	100	1	100

Information indicates that ten HODs and heads were from government schools. There were six heads and HODs from private schools and one head from the farm school. In the farm school, the researcher observed that there was no HOD because there was only one technical vocational subject and it was a small school.

It emerged that all heads of schools and HODs were professionally qualified. According to information from table 4.8, the majority of the heads and HOD, 40% (4) from government schools had a Bachelor of Education degree. Management from government schools with Certificate in Education and Graduate Certificate were two (20%) respectively. The Graduate Certificate is a professional educational certificate awarded by the University of Zimbabwe to [illegible]chers [illegible] first acquire academic degrees before qualifying as teachers. Only one HOD possessed Certificate in Education and Diploma in Education.

Information reveals that the majority (33,32%) of management, from private schools had a Diploma in Education and according to records, these were mainly heads of departments. Table 4.8 indicates that there was one management (16,66%) with Masters in Education. All management from private schools were professionally qualified. The only head from the farm school was professionally qualified. However, administratively, she was not adequately qualified as all school heads should possess a degree. The researcher found that she was an acting head and was the only one together with her deputy who were professionally qualified in the school.

It emerged that school heads in government and private schools had relevant professional qualifications. They all had degrees. The heads of departments were also professionally qualified. Therefore, technical vocational education in all the schools is being managed by suitably and professionally qualified personnel.

4.4.3 Teachers' specialisation

The study sought to establish the specialization areas of teachers since it had a direct bearing on the implementation of technical vocational education. The way one conducts lessons is dependent on the knowledge one possesses in that field. It becomes easier for an individual to teach a subject where one is an expert, not where one lacks knowledge and the skills. The teacher may lack confidence in a subject where he/she lacks knowledge. It has to be noted that quite a number of teacher respondents had specialisation in industrial fields but they were still considered as temporary or unqualified teachers as they had no professional qualifications.

Hence the researcher sought to establish whether the teachers in the studied area had specialised in technical vocational education. The table below presents specialization of teachers. Nonetheless, it should be noted that there are twenty-two teachers who entered their specialisation and one respondent from a government school did not indicate her specialisation.

Table 4.9: Specialisation of teachers

School type	Government		Private		Farm	
Specialisation	Freq	%	Freq	%	Freq	%
Diploma in Agriculture	2	16.7	1	11.1		
Carpentry						
Clothing & Textiles	2	16.7	1	11.1		
computer			1	11.1		
Religious Studies & Clothing	1	8.3				
Fashion & Fabrics	1	8.3				
Geography & Agriculture			1	11.1		
Home Economics	2	16.7				
Metal work	1	8.3				
Art			2	22.2		
Woodwork	2	16.7	3	33.3		
Human Resources Management	1	8.3				
No specialisation					1	100
Total	12	100	9	100	1	100

It was established that the teachers had specialized in various fields except one teacher from a farm school. Table 4.9 indicates that 16, 7% (2) teachers from government schools teaching Agriculture had Diploma in Agriculture and they were all females. Clothing and Textile had16, 7% (2) and Home Economics also had16, 7% (2) teachers. All of the teachers that specialised in these subjects were women. It was further established that16, 7%) (2) teacher respondents specialised in Woodwork and according to school records, these males had relevant qualifications. Religious Studies and Human Resources Management had one person each as indicated by table 4.9 above. These teachers were teaching subjects which were different from their specialisation as revealed by teachers in interviews. The teacher with Human Resources Management specialisation was teaching Agriculture and the one who specialised in Religious Studies was teaching Fashion and Fabrics.

It can be observed that in government schools, some of the teachers, although they had specialised subjects were teaching subjects which were not their specialisation. Such teachers could lack both content and pedagogic skills. On the other hand, there were some technical vocational teachers who had specialised and taught subjects which they had specialised in.

Information on specialisation from private school teachers in table 4.9 indicates that Woodwork had the highest number of specialised personnel which is 33, 3% (3) and they were all male. According to the school records these teachers were teaching the right subjects in which they had specialised. Art and Design had 22,2% (2) teachers that specialised in it and they were both female. However, the other subjects had one each as indicated in table 4.9 above.

All the teachers in the private schools had specialisations. It could be assumed that these teachers had the subject content but some of them lacked the pedagogic skills as they were not professionally qualified. Teachers in private schools taught subjects that they had specialised in.

It was also established that the majority of teachers who were teaching Technical Graphics specialized mainly in Wood Work. These teachers had the know-how since Technical Graphics is part of designing. Interestingly, it was found that although schools had specialised teachers, some of the teachers taught subjects in which they had not specialised, especially in government schools. However, such a situation did not prevail in private schools. It was also revealed that schools used teachers who had subject content but lacked pedagogic skills.

4.4.4 Experience and age of teachers

The experience of teachers was sought because they had a direct bearing on the implementation of technical vocational education. Experienced teachers are conversant with the syllabus. They understand problems faced by students in their different

subjects and topics. They know topics which need more time and those topics which usually cause problems to students. The ages of teachers were also sought as it is assumed that young teachers are more mobile than old teachers. It is also assumed that old teachers are more mature and may be more experienced. However, one teacher did not indicate her age hence 22 respondents appear in the table. Table 4.10 presents ages and experiences of school teachers.

Table 4.10: Responses of teachers on their ages and years of teaching experience

		Government schools		Private schools	
age	exp	freq	%	freq	%
20-29	<1	2	15,4	2	22,2
30-39	1-5	5	38,5	2	22,2
30-39	6-10	4	15,4	1	11,1
40-49	11-15	1	7,7	3	33,3
50-59	>20	1	7,7	1	11,1
Total		13	100	9	100

Information revealed that most teachers in government schools had one to five years experience of teaching. There were more teachers that had between six and ten years of teaching experience. The most experienced teachers had more than twenty years teaching experience. This is shown in table 4.10 which indicates that most teacher 38,5% (5) in government schools were between the age of thirty and thirty-nine had between one and five years teaching experience and 15,4% (2) between the age of twenty to twenty-nine. Those with between six and ten years of teaching experience were only 30,8% (4) and were in the age range of thirty to thirty-nine. However, it was established that there were only two teachers (15,4%) with less than one year teaching experience in government schools and these teachers were in the age range of twenty to twenty-nine.

It can be observed that teachers in government schools were inexperienced as the majority of them had between one and five years of teaching experience and some had less than one year of teaching experience. Information also reveals that there are young teachers in government schools.

It was established that private schools had more experienced teachers who had been teaching for more than twenty years and they are more mature, old teachers in private schools than in government schools. Information on table 4.10 indicates that most teacher respondents 33,3% (3) in private schools had more than twenty years of teaching experience and were in the age range of forty to forty-nine. There was also one teacher with more than twenty years of experience and was in the age range of fifty to fifty-nine. Teachers with less than one year of teaching experience were 22,2% (2). Generally technical vocational education [illegible] in private schools were highly experienced and mature people.

The situation in the farm school was different from the rest as the only technical vocational teacher had less than one year teaching experience.

It emerged that government, private and farm schools have a small number of young and inexperienced teachers as compared to the old and experienced ones. Information further reveals that there are more old experienced teachers in private schools than in the government schools and farm school considering that four teachers had twenty years of experience and those were in the age range from forty-nine to fifty-nine. Information was also solicited on school heads and HODs to ascertain their ages and teaching experience. The information is indicated in table 4.11 below.

Table 4.11: Responses of school heads and HODs on their ages and years of experience in management

		Government schools		Private schools	
Age	exp	freq	%	freq	%
20-29	<1	1	8,3	1	16,7
30-39	<1	3	25,0	2	33,3
40-49	1-5	2	16,7	2	33,3
40-49	6-10	2	16,7		
40-49	>20	3	25,0		
50-59	>20	1	8,3	1	16,7
Total		12	100	6	100

Information solicited from management reveals that in government schools, there are more young and inexperienced members of management than in private schools as revealed by table 4.11. The majority of school management, 33% (4) from government schools had less than one year experience in a management position. These management respondents were in the age range of twenty to thirty-nine. It emerged from interviews that these were the majority of HODs. It was also established that there were some respondents with more than twenty years of experience in management. Table 4.11 shows that these were in the age range of forty to forty-nine. From interviews with the management respondents these were the heads of schools and HODs.

Information further revealed that in private schools, there were more young inexperienced members of the school management.

Table 4.11 indicates that half, that is, 50% (3) of the management team respondents from private school had less than one year experience in a management position. Two management respondents (33,3%) in this school category had one to five years experience in management positions and were aged between forty to forty-nine. The

only experienced management respondent had more than twenty years in a management position and fell in the age range of forty to forty-nine.

From interviews it was established that the school heads were in the age range of between forty to forty-nine and fifty to fifty-nine years. Only one head had one to five years and more than twenty years experience respectively. One can conclude that technical vocational education in Khami District private schools is being managed by inexperienced personnel. The same scenario was observed on the farm school where the only management respondent from this school has between one and five years of experience and is between the age of thirty and thirty-nine.

The district officials had vast experience having risen from the ranks of a teacher to deputy head, head and finally district education officer. The former Khami DEO had the relevant experience as a technical vocational education officer. He had five years experience as a subject specialist education officer for technical vocational education and also had 4 years experience in his new position. However, the current Khami DEO had only 4 years experience as an education officer and had no technical vocational education expertise. It can be observed that while the district education officer may have a wide range of experience in the supervisory and management position, he may lack technical vocational education expertise needed to advise staff.

4.5 Delivery of the curriculum

The training and qualification of a teacher may determine his/her instructional delivery strategies or teaching methods. These can also be determined by the calibre of students one has as well as the discipline one is teaching. However, in some situations the choice of methods may also depend on the experience of the teacher and on what he/she wants to achieve.

It is the task of the teacher to identify the particular technique which he/she considers as appropriate to the instructional situation and which will best contribute to the attainment of educational goals. Hence, the researcher sought to establish strategies and teaching

methods used by teachers since they are an important component of the implementation of technical vocational education. It is these methods which determine students' successful interaction with the taught curriculum. Table 4.12 below shows teaching methods/ strategies used by teachers in conducting their lessons in technical vocational classes.

Table 4.12: Responses of teachers on strategies/ teaching methods used by teachers in the classroom.

Teaching methods	Number of teachers
Demonstration, experiments and lecture	10
Theory and practical and seminar	3
Group work and discussion	8
Teacher to pupil/lecture	2
Total	23

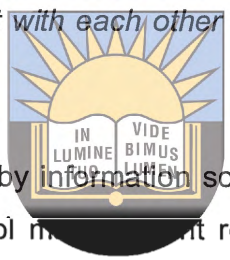
Generally, most teachers use demonstration, experiments and lecture during their lessons as well as group work and discussions. However, lecture method is the least used strategy by teachers. It emerged from data that majority of teachers 10 said they used the demonstration and experiments methods when conducting their lessons because they found those strategies or methods effective when teaching technical vocational education. Table 4.12 shows that three teachers used theory and practical method and seminar methods in conducting their lessons in technical vocational education. They indicated that these strategies were good as they assisted them to impart skills among learners. Respondents viewed seminars as child- centred and gave students a chance to explore to be creative.

Table 4.12 shows that the second largest group of 8 teachers indicated that they used group work and discussion because it encouraged higher participation among students. Two teachers used teacher to pupil/lecture method for pupils to understand and for note taking. Respondents said they found this method useful as there was a shortage of text books. The evidence from this study reveals that teachers used a number of active

learning strategies. Use of various strategies was confirmed by a temporary teacher of Agriculture with five years of experience who stated:

In my theory lessons, I use mostly group discussions. I sometimes use lecture methods when there is shortage of text books. Before that I explain fully what is to be done by students. In my practical lessons, I use demonstration and instruction. I also use practical tests to measure practical ability.

Tgvt10 commented, "*In teaching theory we use methods such as lecture, group support and group work where students interact with each other and demonstration is used for both theory and practicals*".



The views of teachers were confirmed by information solicited from school heads and HODs where the majority of the school management respondents 12, said teachers used child- centred methods such as group discussions, seminars and demonstrations. Three management members indicated from questionnaires that teachers used a combination of child centred, lecture, and project methods in their sessions. There were only two management respondents who indicated that they used the lecture method. Information from students and teachers confirmed that teachers used a combination of project work, group work, demonstrations and lecture methods.

Data reveals that teachers use active learning strategies in their teaching and learning sessions as they use child- centred methods. These are relevant to skills development. Students said teachers used the lecture method mainly for note taking and project method in Wood- work, Agriculture, Metal work and Fashion and Fabrics. Project method was mainly used where students had course work for their final examinations. It is observed that one of the basic goals of teaching is to promote learning through the use of good teaching strategies and methods. In this respect, teaching strategies or methods and the classroom activities involved are chosen for their capacity to bring about learning gains. However, these can be affected by class size.

4.5.1 Class size

According to the Ministry's requirement, class average for technical vocational education should be fifteen to twenty students as cited by DEO2. However, the researcher observed that in some government schools, classes had over- enrolled; with about twenty-five to thirty students. Some private schools as well as the farm school had less than fifteen students in a class. Low teacher student ratio was witnessed in one private school and in the farm school as indicated by school records. Documents from the district show that these two schools had less than two hundred students in the whole school.

Over- enrollment was also confirmed by the DEO for Mzilikazi District who stated that, " *government schools have over-enrolled students because of shortage of places; as such classes are overcrowded*". He also indicated that this affected class management by teachers.

Class size is an important factor in the implementation of technical vocational education as it determines the sharing of equipment and it has an effect on the teacher's management skills and teaching methods. The class size can have a bearing on the strategies used by teachers on instructional delivery as well as on teacher effectiveness. A big class can sometimes be difficult for the young and inexperienced teachers to manage. The majority of the teachers, (60.9%) indicated that the class size had an effect on instructional delivery and 34.8% of teachers said the class size had no effect on their teaching technical vocational education. The reason propagated by the teachers on the effect of class size in students' learning were is that: too many students are difficult to manage and resources become inadequate. On the other hand, some said class size is not a problem as students learn better if they are put in groups.

It emerged that all government schools and one urban private school had big class sizes. They had about thirty students for technical vocational education; a ratio of 1: 30 and about forty-five to fifty; a ratio of 1:50 in the academic classes. The two peri-urban private schools and farm school had small class sizes. In some cases the ratio was 1:7

or 1:12. These classes were manageable and students were able to share the meagre resources.

4.5.2 School syllabi

Syllabi are an important component in the implementation of technical vocational education as they guide teachers on what to teach and what not to teach. Syllabi provide the scope of the programme, hence, this study sought information on syllabi used by teachers. Information was sought from teachers regarding which syllabus they mainly used, the old syllabus or the new syllabus. The old one was used in practical subjects since pre-independence and has been used before the introduction of the two path-way system.

The new syllabus is more technical as students have to design the articles before they construct them. It has an advantage in that it allows specialization and is in line with the new technology and the demands of industry. The old syllabi were mainly for practical subjects and had no components for designing. In Metal Work, Fashion and Fabrics and Wood Work they have added the designing part which constitutes Paper 3 of which such elements are absent in the old syllabi. In Food and Nutrition they added Hotel Catering and House Management. The previous or old syllabus had only Food and Nutrition and Home Management. Table 4.13 presents responses of teachers on the syllabi they use.

Table 4.13: Views of teachers on syllabus used by schools

syllabus used	Government		Private		Farm	
	freq	%	Freq	%	Freq	%
New	11	71	4	50	1	100
Old	3	29	4	50	-	-
Old & new	-	-	-	-	-	-
Total	14	100	8	100	1	100

Information sought from the teachers in government schools revealed that most of them used new technical vocational education syllabus and only a few still used the old syllabus. Figure 4.13 shows that most of the teachers 71% (11) from government schools, used the new technical vocational education syllabus only 29% (3) indicated that they used the old syllabus. One school head from a government school confirmed the use of old technical vocational education syllabus when he said, *"To be frank with you we have not started to implement the new syllabus. This syllabus is demanding and it needs a lot of resources which we cannot afford".*

However, a different situation was observed in private schools where half, 50% (4) of teachers indicated that they used the old syllabus and the other half used the new syllabus. One school head from a private school confirmed that they still used the old school syllabus.

Information reveals that in the farm school teachers use the new technical vocational education syllabus. The teacher revealed that he was using the old syllabus till early May 2008. He found the new syllabus difficult to implement because of lack of understanding. It was after induction by district officers during school inspection that he started using the new syllabus.

Technical vocational education in Khami District is being implemented through the use of old and new syllabi. Those who used the old syllabus justified themselves by arguing that:

- the new syllabus was not available and it is difficult to obtain,
- it has not been revised for a long time now
- it is not different from the new one.
- Those who used the new syllabus argued that:
- it was because the examinations cover the new syllabus;
- it is relevant, more informative and has the latest information.

The researcher observed that although most schools claimed that they used the new syllabus, they did not implement technical vocational education as recommended by the Nziramasanga (1999) Commission as schools had only one technical vocational subject at Form 1 and all government schools did not have technical vocational path-way at 'A' Level. Teachers neglected the designing aspect as most of them were trained for the old practical syllabus .

4.6 Infra-structure and equipment

Apart from being the direct responsible authority for many schools in the country, the Ministry of Education, Sport and Culture is the ultimate national authority for education as it subsides all schools and maintains quality assurance. In its pursuit of skills development among all students it is therefore responsible for providing: per capita grants for every child enrolled in a registered school. It is also responsible for the purchase of tuition materials and payment of certain building grants for authorized and completed construction in secondary schools. However, of late the government has encouraged parental involvement in the implementation of technical vocational education. Parents are to build classrooms, specialist rooms and buy equipment.

Hence, the researcher investigated parents' contributions on infra-structure and equipment in the past five years. The table below shows SDC/SDA members views on parental contributions to school facilities and equipment in the past five years.

Table 4.14: Views of SDC/SDA members on parental contributions on School facilities and students' equipment

What were parents' contributions in the school in the past 5 years?	Freq	%
Building of classrooms	1	10
Sewing & Wood Work equipment	2	20
Everything needed by school	4	40
Nothing	2	20
No idea	1	10
Total	10	100

It is the responsibility of the SDC/SDA to provide school infrastructure and learning equipment for the students. Table 14. indicates that 20% (2) of the SDC/SDA members indicated that they bought sewing machines and Woodwork tools for the students, 40% (4) said they were able to provide the scho[illegible]e needed equipment for technical vocational education, 20% (2) said in the past five years they were not able to do anything for technical vocational education classes. All these members were from government schools. The only member from the farm school said that they were able to construct a classroom block in the past five years and there was an SDC/SDA from a government school who had no clue about what they did.

It was established that parents are trying to improve the learning conditions of their children and provide them with resources to assist in their skills development and prepare them for the world of work. It emerged from an interview with the SDA member that they had repaired school furniture and bought some sewing machines. Information was gathered on available specialist rooms for implementing technical vocational education (see table below).

Table 4.15: Specialist rooms in schools by type.

Name of school	School type	Number of specialist rooms	Comments
A	Peri-urban (farm)	0	No specialist room for Agriculture.
B	Private	1 for Computers	No specialist room for Agriculture, Food & Nutrition
C	Private	0	No specialist rooms for Agriculture & Fashion & Fabrics
D	Private	2	For Woodwork Computers. Rooms are adequate
E	Government	1for F&N, 1Metal work	All these short by 1, there is none for Agriculture
F	Government	1for [illegible]lding 1for.Computers	Not adequate even for F&F. Nothing for Agriculture. All 14 computers stolen
H	Government	1for computers 1&1for F&F	Not adequate & there is non for agriculture
G	Government	1 for F&N, 1F&F,1Woodwork& 1Metalwork &1computers	None for Agriculture. Not adequate for other subjects.

It emerged that there is a shortage of specialist rooms for technical vocational equipment. Table 4.15 reveals that Agriculture is the most affected subject in terms of specialist rooms. All schools have a problem with Agriculture specialist rooms. All government schools had some specialist rooms for Fashion and Fabrics but were inadequate because of high enrolments as revealed in interviews. However, the researcher found that one urban private school had no single specialist room for any of the technical vocational education subjects taught in their curriculum. The information from table 4.15 further indicates that there were three government schools with

computers and two in private schools and they all had specialist rooms. It was further revealed that schools face problems of theft as one government school lost all fourteen computers.

The researcher further solicited information on adequacy of specialist rooms from school management. Their views were important as they were the ones who were involved in the day to day running of the school. Figure 4.1 below indicates their responses.

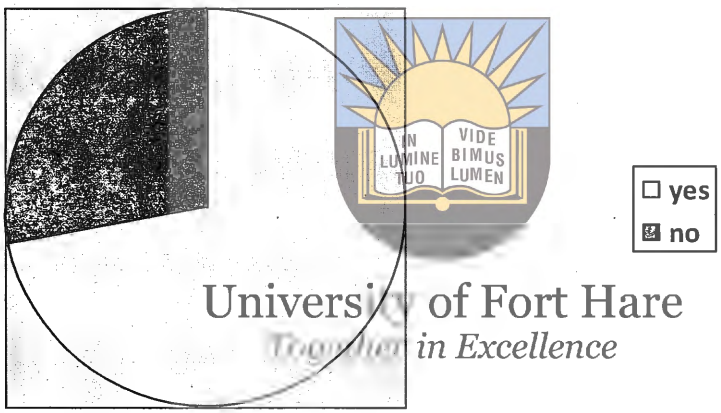


Figure 4.1: Responses of heads and HODs on the adequacy of specialist rooms

Figure 4.1 shows that the majority of the management team 72% (13) indicated that the schools had no adequate specialist rooms for an effective learning environment while a few 28% (5) were content with their school specialist rooms as indicated by Figure 4.1.

Data was solicited from the teachers on the same issue since as the shortage would affect them as classroom practitioners. Hence, there was a need to hear their views. The shortage of specialist rooms was echoed by the majority (76.9%) of teachers from government schools who indicated that specialist rooms were inadequate and the other 23.1% indicated that they were adequate.

Most of the private schools had adequate specialist rooms. The situation was reflected by the majority (66%) teachers and only (44%) of teachers from private schools indicated that the schools had inadequate specialist rooms.

The situation in the farm school was similar to that in government schools as the teacher indicated that there was a shortage of a specialist room. The magnitude of shortage specialist rooms varied from school to school and by the type of school. The shortage is higher in government schools than in private schools.

Shortage of specialist rooms was also confirmed in the interviews by a teacher from one private school. Tpvt1said, *"There are no workrooms and there is shortage of classrooms. Some students face the other side of the class while others face the other direction while doing two different subjects in one classroom".* This scenario was observed by the researcher as students doing [illegible]on and Fabrics were crowded in a storeroom. They had no furniture and as such, sat on the floor while sewing garments. This private school had no single specialist room.

A similar situation was observed in a government school where students were using a storeroom as a specialist room and they were also doing Fashion and Fabrics. The researcher also observed in two government schools that students were doing two different subjects using one classroom. One class was doing practical work while the other class was doing theory. The students were facing different directions. However, in the government schools, the difference was that the specialist rooms were there but were inadequate as compared to the number of students. The schools had over-enrolled.

Information was also sought from the DEOs on the availability of specialist rooms and other resources. The following were some of the comments made by the two senior officers in the education department.

DEO2: *The schools have specialist rooms but they are not adequate. This is so because schools tend to over- enroll students instead of 15-25; they enroll 30. This over stretches the resources.*

DEO1 aired the same sentiments as those of his counterpart when he said: "*The teachers have a problem of shortage of tools, materials, space and specialist rooms. This has affected their performance".*

The shortage of specialist rooms was echoed by all interviewed school heads and heads of departments. This was also confirmed in the interviews with teachers, students and SDC/SDA members. The majority of schools had a shortage of specialist rooms. The researcher observed that one private school in an urban area and one peri-urban school in the farming area had no single specialist room. They both used general classrooms for technical vocational subjects. This is not healthy for technical vocational education which needs specialist rooms for conducting practical lessons.

Most of the respondents from government schools indicated that to overcome these shortages they had hot seating (learn in shifts). That is, some students had classes in the morning while others had classes in the afternoon. In some case, two classes shared one classroom. This was a common feature in both government schools and private schools where there was a shortage of specialist rooms as observed by the researcher.

4.6.1 School equipment

Information was solicited from teachers on the adequacy of equipment and other learning materials. It was found that the majority of schools, both government and private, had shortages of equipment and other relevant school materials. The situation was the same in the farm school. This was revealed by DEO1 who said:

> *Schools have shortage of furniture, equipment, text books and other learning materials. The equipment shortages affect the performance of students as some equipment is old and unusable. They are in a bad state.*

The machinery does not match those used by industry. Equipment needs upgrading. Students find it difficult to use some of the equipment.

The problem of shortage or inadequacy of learning equipment was also confirmed by DEO2:

We have shortage of text books, desks, tables and chairs for use by our students. Most of them are in state of disrepair and some are broken or even worn out, while others are no longer in working order, e.g. machines. A lot of equipment, machinery and tools have been lost or stolen and there is no replacement efforts being made.

The responses from teachers concurred with those of DEOs, with the majority of them indicating that there was a shortage of equipment and materials in their schools. Eleven (63,6%) teachers from government schools [illegible] that there was a critical shortage of equipment and learning materials in their schools, while only two (15,2%) said that they had adequate equipment and learning materials. This situation was echoed by one teacher through an interview.

Tgvt2 remarked:

There is shortage of materials and resources in the school and this disturbs our teaching. Students have to bring some equipment and ingredients from their homes and as a result, this affects our teaching and the learning of students. Students sometimes have to practise preparing menu in groups because of shortage of ingredients.

One student confirmed what was said by the teacher. Fgrp1 said, "*In Agriculture we have shortage of tools, equipment and water. We sometimes borrow equipment from the SDA and sometimes bring some from our homes".*

The respondents from government schools indicated that while the equipment was inadequate some of it was too old or obsolete since it was bought long ago, some could

hardly be used as some parts were missing and some measuring tools' graduations could hardly be seen. Some equipment like the guillotine were usable but were not in line with modern technology and others like sewing machines, stoves and welding machines were usable.

Observation by the researcher revealed that the two government schools that were doing Metalwork had the shortages of equipment. The researcher observed that they had adequate benches and vices although they were old. They had only one gas welding plant and it had no tubes and tapes. They all had guillotines and drilling machines. They experienced the same problems of old equipment and none renewal of consumable tools. However, they had one arch welding machine which was adequate for use by the whole school. Generally metal work had no serious shortages as compared to other subjects like Agriculture and Food and Nutrition in all schools where it was implemented. The schools encounte[illegible]ems of water rationing as well as load shedding of electricity.

The shortage of equipment and learning materials was also observed in private schools as indicated by the majority, (66,7%) of teachers from private schools who said that they had inadequate equipment and learning materials. Only 3 (33,3%) of the teachers from private schools indicated that they had adequate equipment and learning materials.

Evidence from interviews with teachers from a private school confirmed these shortages. Tpvt2 said, "*We do not have ironing boards and irons. When we want to press our garments we use rulers or the edges of desks. Sometimes students take their garments to their homes for pressing".*

The inadequacy of equipment and learning materials in private schools was also confirmed by a student during group interviews. Fgrp4 said, "*We have shortage of sewing machines and materials. We sometimes share one sewing machine being seven".* This situation was observed by the researcher in one urban private school and

the students used hand sewing machines. They sew their garments sitting on the floor. However, the machines used were still new and usable. Generally, in private schools, while there was a shortage or inadequacy of equipment, teachers confirmed that the tools were usable.

The researcher confirmed the private school teachers views from the observations made in two private schools he visited. It was found that there was inadequate equipment and learning materials and all schools used hand sewing machines. The quality of equipment was better than in government schools as some of it was new and the old one was usable. However, Home Economics was faced with high cost of ingredients and unavailability due to the economic situation in the country. Agriculture also had water problems because of water rationing. The schools were faced with electricity load shedding like their counterparts in the government sector.

The situation in the farm school was not different from the rest of the school categories. They also had a critical shortage of equipment and learning materials as indicated by the teacher. In this school they did not even have a single tool as observed by the researcher. The students from the farm school echoed the same sentiments as their urban counterparts although in their own situation, they also had to buy seeds as well as bring some water from their homes. One student from a farm school focus group said:

> *We have shortage of Agricultural implements, tools and materials. We do not have even one tool. We sometimes bring hoes from our homes. There is also a problem of water, the borehole we have usually dries up. We also bring water from home for the teachers. So what we learn in theory we do not practise because of this water problem. This affects our learning. We once brought maize seeds from our homes and we tried to sow it during the rainy season but it did not do well as there was drought that year.*

The researcher was informed that the borehole used by the farm school did not produce adequate water for the teachers' consumption and for Agricultural purposes as it easily

dried up. The researcher established from interviews that teachers had to ask students to bring water from home. Sometimes they asked them to fetch it from the nearby farm which was a kilometre away.

These shortages varied from department to department. The hardest hit was the Agriculture Department and Food and Nutrition. The Art, Metalwork, Woodwork and Technical Graphics had lesser problems. In the Home Economics department no single school had fire extinguishers for emergency. The safety precautions were not taken into consideration.

Information was sought on how teachers managed to cope with shortages of equipment and learning materials. Teachers indicated that they asked students to bring some items from their homes. One Woodwork teacher expressed that sometimes teachers brought their personal tools from home. He further [illegible] that during examination periods, they also borrow some equipment or tools from neighbouring schools.

This was substantiated by one student in focus group discussions who stated, "*Those in Fashion and Fabrics and in Food and Nutrition sometimes buy or bring equipment and materials from their homes*". In the same discussions another student in Food and Nutrition said, *"We always buy or bring flour, salt, sugar and other ingredients from our homes because the school cannot afford to buy them for us".*

Teachers' capacity in the implementation of technical vocational education can be affected by these shortages of materials and the use of materials of less quality as well as substandard equipment. This was expressed by a teacher (Tpvt2) from a private school when she said:

> *Because of these shortages, we sometimes use things which are irrelevant. The shortages of ingredients also affect the quality and texture of our products. Sometimes it makes it difficult to produce a three course meal. Teachers find it difficult to practise. For example, students practise*

in twos while in the examinations, it will be an individual effort and it takes about 2 hours and the student will not be used to that.

It emerged from the data that most of the schools had a shortage of equipment and learning materials. It was also revealed that schools lost equipment through theft. Government schools have more of a shortage of equipment and learning materials than in private schools and most of the equipment is old and unusable as compared to private schools. One can therefore conclude that Implementation of technical vocational education in Khami District secondary schools faces a critical shortage of equipment and learning materials. The researcher further investigated the quality of equipment used by students.

4.6.1.1 Quality of equipment

Information was sought to establish the quality of equipment used by students, since the quality of equipment could affect the implementation of technical vocational education. Quality of equipment determines the quality of the end product as well as acquisition of relevant skills by students. Old machines can constantly break down or malfunction. Table 4.16 presents data on quality of equipment used by students.

Table 4.16: Responses by students on quality of equipment.

Quality	Govern school(n=18)		Pvt school (n= 11)		Farm school (n=4)	
	Freq	%	Freq	%	Freq	%
Average	8	44,4	8	72,7		
Good			3	27,3		
Poor	10	55,6				
No equip					4	100
Total	18	100	11	100	4	100

Information solicited from government school students revealed that government schools had poor quality of technical vocational education equipment. Table 4.16 indicates that the majority of students (55.6%) indicated that technical vocational education equipment in their schools was poor. This equipment could hardly be used as some parts were missing, it was too old, and in most cases malfunctioning. Those tools used for measuring graduations could hardly be seen. Eight (44,4%) students indicated that the equipment was of average quality. This meant that the equipment was usable although old and sometimes gave them problems.

Information from private schools revealed a different scenario as students indicated that most of the equipment was of average quality. Table 4.16 indicates that the majority of students (72,7%), indicated that the quality of equipment was average and (27,3%) indicated that the equipment was of good quality. This means the equipment was usable and functioned well without giving the[illegible]nes.

The data on table 4.16 indicates that majority of students (48.5%) suggested that equipment was of average quality. There was a mixture of sentiments from both private and government schools. Information from 13 government school students (39, 39%) revealed that the equipment was of poor quality. Three students (9, 09%) from a private school indicated that the equipment was of good quality; meaning that it could be used without causing any problems. One student (3%) did not indicate the quality of equipment used.

It emerged that the farm school had a critical shortage of equipment. Information from the farm school students revealed that students had no technical vocational education equipment; as such instead of indicating the quality, they wrote "no equipment". This was indicated by all students.

4.6.2.1 Views of teachers on quality of school equipment

The views of teachers were also sought to establish the quality of equipment used by students in schools. The majority of equipment in schools was found to be of poor

quality. The majority of teachers (61,5%) from government schools indicated that the equipment was too old. This equipment always gave them some problems. They could hardly be used. Four (33,3%) teachers indicated that the equipment was of average quality.

Information solicited from private schools teachers depicted a different picture in private schools as equipment was said to be of average quality and some of it being good. The majority of teachers (55.6%), indicated that the equipment was of average quality while 3 (33,3%) indicated that the equipment was of good quality. However, the situation in the farm school was confirmed by the teacher respondent that it was critical as there was no equipment.

The researcher observed that most of the equipment was old and was not in line with the demands of new technology. Machines such as guillotines, drilling machines and hand sewing machines, served the purpose but were not in line with the demands of industry. These machines were old models and affected the quality and type of items produced. Students also need to acquire skills to operate machines used in industry to make it easy for them when they join the world of work, hence, they should practise with the correct machinery.

4.6.2 Text-book -student ratio

Text books are an important component of the learning system as they provide students with the needed information. They can also be used as referral points when doing home work. Students were requested to indicate whether they had technical vocational education text books in their schools and also to show the textbook-student ratio. Text-books are important for the implementation of technical vocational education as they are the source of information. Their responses are shown below according to their schools. Table 4.17 below presents data solicited from students on student text-book ratio in their schools.

Table 4.17: Responses of students on textbook student ratio in their schools

Textbook Ratio	Government		Private		Farm	
	freq	%	freq	%	freq	%
1:3	2	22,2	5	45,5	4	100
1:4			2	18,2		
1:4			3	27,3		
1:5	2	22,2	1	9,1		
1:6	2	22,2				
Have no textbooks	11	61,1				
No response	1	5,6				
Total	18	100	11	100	4	100

Most government schools in Khami District have a shortage of textbooks as indicated by the majority of students. Table 4.17 indicates that the majority of the students 61,1%), from government schools said that they had no text books for technical vocational education subjects. The text-book- pupil ratio was also high as shown in table 4.17; 5 or 6 students shared one text-book. The lowest text-book-pupil ratio is shown as 1: 3 in government schools.

This situation was confirmed by the head of department in a government school as she indicated that schools doing Fashion and Fabrics had problems in acquiring an important text book by Louw. She commented:

> *We have shortage of text books, as you can see we all use this one photocopied text-book. It is the only one for the teacher I had to find it for myself; the school cannot afford to buy it. It is not available locally (Needle Work and Clothing. Manual Volume 1.Grade 10 by Louw). This book was got in South Africa. Most of the text books were lost through theft and*

vandalism and some were lost in 2008 during teachers' strike. We have inadequate text-books. The book-student ratio is 1:10.

Data solicited from private schools depict a different situation from that in government schools. Students said that textbook–pupil ratio is low. This was indicated by (45,5%) students who indicated the ratio as 1: 3 and (27,2%) students indicated the textbook ratio as 1:5. However, these ratios show inadequacy of textbooks. The problem of text books was also highlighted by a teacher from a private school. Tpvt2 said:

We sometimes use our experience when we are planning or teaching as we also have no enough textbooks. We have shortage of text books; we use text books we brought from our former government schools. Form 4s use Form 2 books. The best textbook is Louw (Needle work for schools). We don't have this textbook. We cannot even photocopy this book as the school does not have a photocopying [illegible] because we do not have electricity in the school.

The situation of inadequacy of textbooks in the farm school is not all that critical as three students share one textbook. This was shown by all (100%) students from the farm school. The shortage of textbooks was confirmed by students from the farm school during the interview as one student from Fgrp3 said, "*We have shortage of text books for Agriculture. Some of us share one text book among three of us while others share one text book between two of them".*

It emerged that government schools had a critical shortage of textbooks as some students indicated. Information from respondents reveals that most schools in government schools had more problems with obtaining technical vocational education text-books as compared to private schools which had a low textbook student ratio. Interestingly information from interviews revealed that the textbook-student ratio was better at the peri-urban farm school than at urban government schools. Perhaps this could be attributed to low enrolment in the farm school as indicated by school records.

Information reflects that all the schools had similar problems regarding the shortage of text books. The text book-student ratio is similar in the majority of government schools which had high enrolments. The researcher also established that the farm school had low student ratio as only two or three of the students shared one text-book. Students had a shortage of text books. The text book-student-ratio was too large and made it difficult for students to take text books to their homes to do home work. Such text book-student ratio could have an effect on the durability of text books as they can be easily torn when students share them. It can also affect the quality of learning as well as strategies used by teachers. This is a cause for concern since it can affect the implementation of technical vocational education curriculum in schools. The acquisition of skills by students can be also affected.

It emerged from the observations made by the researcher that the farm school and one private school had no school library. The o[illegible] government and private schools had libraries but in all the cases, these libraries were under-stocked and lacked relevant technical vocational education books. They had a shortage of relevant student books for subject specifics. The researcher established from interviews with school management that most books were mainly donated for reading purposes by NGOs. Libraries need to be well equipped since they are the source of knowledge and they assist students to develop research skills.

4.6.3 In-service and training programmes in place in schools (Continuous Professional Development)

In-service Education and Training (INSET) is a term widely used to refer to planned activities practised both within and outside schools primarily to develop knowledge, skills, attitudes and performance of professional staff in schools (Oldroyd & Hall, 1988). This is sometimes referred to as continuous professional development.

In-service and training programmes are important aspects of any school development programme as they are meant to build capacity of the organization's personnel. They

are mainly meant to increase the level of competence for teachers in syllabus interpretation, instructional delivery and classroom presentation. These programmes can either be conducted internally or externally, that is, by the school or outside school agencies. In schools, they are conducted by the administration and outside agencies are district education officers and other interested stakeholders. They are meant to improve teachers' instructional competence. INSET is mainly the responsibility of the deputy school head and head of department in the school setting in Zimbabwe. The external INSET programmes fall under the jurisdiction of the education officer and Better Schools Programme of Zimbabwe (BSPZ). This study sought to establish INSET programmes which are in place in schools to build teacher capacity and for professional development.

It was enquired from the school management team whether they conducted in-service training within their institutions. Information collected from school heads and HODs revealed that generally all schools have in-service training programmes within their institutions. All management respondents, 100 % (18) said their schools had INSET programmes for teacher development. They all indicated that they conducted staff development to improve teachers' instructional skills. Management respondents indicated that they used subject panels and class supervision by HODs. This was supported by one head of department in an interview with the researcher. She commented:

> *These teachers are given close supervision and had observation lessons for them just yesterday. We scheme together as a department. We also have staff development workshops fortnightly where we assist each other as teachers in our department.*

Information was also solicited from the school management team as to why they conducted INSET programmes in their schools. The majority 42.1% (8) of school management, said that, they used staff development programmes to help teachers improve their performance and 15.9% (3) indicated that they used them as motivational factors to boost teachers' confidence in class management.

The researcher had interest in finding out the most common type of INSET programmes in the schools. It was established from interviews with teachers from government, private and farm schools that staff development workshops, supervisions, staff meetings and induction workshops were the most common forms of teacher development programmes conducted in the schools. These were mainly conducted by heads of departments and departmental committees. This was also confirmed by one teacher (Tgvt13) who said:

> *We sometimes have staff development workshops where we assist each other as department on certain issues. Sometimes we also have term beginning of term and end of term staff meetings to discuss school issues and how we can improve students' performance.*

Enquiries were made from teachers on the [illegible] of staff development workshops within their schools. Information solicited from teachers revealed that most staff development programmes in schools are conducted fortnightly. It was also revealed that staff meetings were sometimes conducted at the beginning of the term and at the end of each term. The duration of these continuous professional development workshops ranged from one hour to two hours.

Regarding assistance that teachers get from their HODs, quite a number of different ways of assistance was mentioned; but most teachers cited moral support, staff development programmes and issuing of text books as well as planning and scheming as a team.

However, an interviewed teacher (Tgvt1) said she had never received any support from the school and district in terms of skills and training since she was new at the school. Tgvt2 aired the same sentiments as Tgvt1 when he said that; "*There is no assistance given by the school in terms of skills development and workshops. Sometimes the school administration is not supportive*".

On INSET programmes and other training programmes provided to assist teachers to improve their teaching skills within the school, teachers mentioned staff workshops, meetings, induction workshops, assessment programmes. These were mentioned by respondents from government, private and farm schools. However it was noted that some schools do not conduct these INSET programmes as indicated by Tgvt1 and Tgvt2.

Information from government, private and farm schools reveals that there are no workshops conducted by the district education officers to improve teachers' capacity. All respondents concurred with this. Tgvt1 remarked, "The district or province education personnel do not give us assistance at all". This view was shared by one head of department who said, "*We do not have any support from the district education officers. Last year we had only one workshop that was for marking end of the year 'O' Level national examinations. It was only there [illegible] days".* However, when these workshops are held teachers find them beneficial as they sharpen their various skills and make them better individuals in terms of executing their duties.

Lack of out of school INSET programmes at district level was confirmed by DEO1 in an interview:

> *When the programme started, we had induction workshops with the school heads. The duration varied, running for one day to four days. We also had meetings to conscientise them. We first tried to interpret the syllabus with them and to upgrade the teachers. This year; we intended to have 5 workshops but we were let down by financial constraints. So far we had none.*

The lack of out of school INSET programmes was confirmed by one of the district education officers in an interview with the researcher. The majority of heads and HODs indicated that the support they got from district officers was inadequate. DEO2 aired the same sentiments when he commented: "*We have not conducted workshops for the technical vocational teachers because of shortage of resources. However, schools*

organize their own staff development programmes within their schools. They have their internal mechanism".

Information from interviewed teachers from government schools cited Home Economics Association as one board which used to develop teachers' capacity in the teaching of Fashion and Fabrics and Food and Nutrition. This association used to update its members on current developments and trends in the implementation of Food and Nutrition and Fashion and Fabrics syllabi as well as teaching strategies in those subjects. It was always held annually at national level. However, they pointed out that they were no longer attending because of financial constraints as schools could not afford to send teachers to those conferences.

The researcher also established from interviews with teachers that teachers who went to universities for further training, in most ca[illegible]ot return to their stations as they joined the private sector immediately after completion. They indicated that the demand was high for teachers with technical education in industries and remunerations are better.

It emerged from information solicited that all schools conduct internal INSET programmes such as staff supervision, staff workshops, induction courses and staff meetings to assist teachers in professional development. It was established that these INSET programmes were conducted to improve teachers' performance and to boost the teachers' confidence in handling lessons. These are mainly conducted by heads of departments and departmental committees. However, there are no external INSET courses conducted by the district. However, teachers could go for study leave to advance themselves at colleges or universities.

4.7 Financial resources

Funds are an important component in technical vocational education. For schools to operate smoothly, there should be adequate funding to meet operational costs. Schools' main revenue base from school levies which are paid by students. These funds are

administered by SDA/SDC with the assistance of school heads. It is from these funds that schools build specialist rooms, buy furniture, machinery and other learning materials such as textbooks and also pay ancillary staff. These facilities are necessary and contribute immensely towards the successful implementation of technical vocational education curriculum. Hence, this study sought information on the funding of technical vocational education. Information was solicited from school heads and HODs. See the table below

Table 4.18: Views of heads and HODs on funding of schools

Who funds your school?	Government		Private		Farm	
	freq	%	Freq	%	Freq	%
Parents	9	90	6	85.7	1	100
Government	-	-	-	-	-	-
Parents and government	1	10	-	-	-	-
Responsible authority	-	-	1	14.2	-	-
Total	10	100	7	100	1	100

Responses from school management team were sought on who was the main funder of the schools. It was revealed that most schools are funded by parents through school levies. Figure 4.18 indicates that the majority of the management team 90% (10), from government schools said schools were mainly funded by parents and only one management team member from a government school (10%), indicated that schools were funded by parents and the government. The majority (85.7%) of the management team from private schools indicated that schools were funded by parents and one management member (14.2%) from a private school differed with his colleagues when he indicated that schools are mainly funded by the responsible authority, in this case, the Board of Directors. The funding of schools by parents was also confirmed by the school head from the farm school.

However, all the members of the management team from government, private schools and the farm school indicated that the government paid teachers' salaries although in private schools, the board of directors topped it up according to their financial standing.

The researcher also solicited information on funding of schools from the SDA/SDC. Information solicited from SDC/SDA confirmed observations made by the school management. The majority of school chairpersons and their secretaries 90% (9), indicated that schools were mainly funded by parents although government paid teachers' salaries. However, it has to be noted that during the time of the study, government did not pay teachers salaries. They only paid them what was termed "allowances" and the parents had to pay what was termed "teachers' incentives".

The funding of schools by parents was confirmed by DEO1 when he posited:

> *There is inadequate funding of [illegible] vocational education by government. The schools are funded by parents as they pay school fees and levies. The government used to pay grants for each student but now it is no longer doing it; and donors sometimes give direct assistance to schools. Some may pay fees for underprivileged student such as orphans and buy uniforms or give supplementary feeding, especially World Vision, Plan International, Christian Care, Cadec, and Capernum Trust.*

Data indicated that the difference among these schools was the amount of levies paid by students. The private schools charge higher levies than government schools. The farm school has the lowest fees. A teacher respondent from a private school indicated that students were paying R1500 as fees in their school per term as compared to R100 per term in government schools and R30 in the farm school.

Students' views were also sought from government and the farm school in a focus group, on issues of school finances. The following are comments from two students in Fgrp1:

We pay school fees and teachers' incentives, we no longer pay practical levy but we pay SDC levy (R100), school fees (R100) per term and teachers' incentives (R 50) per student per term. The school does not receive any funds from the government. The funds we pay are not adequate for the school needs. Our parents are also not able to pay these funds as some of them are not working and those who are working are earning little money.

Student from Fgrp3 said:

The funding is mainly done by our parents as we pay school levies. There is no money we receive from the government. The money we pay is not enough to buy the things needed by the school. The students pay (R30) for school levy and (R40) for teachers' incentives. The parents are not able to pay this money as some of them are not working. Our parents are also not able to pay because they earn low wages from working on the farms.

According to information solicited from district education officers, school management, teachers and students all the schools are mainly funded by parents. All the respondents indicated that students' levies are the only revenue base for those schools. Data further showed that students in private schools pay the highest levies as compared to government and farm schools. However, students in government schools pay higher levies than those in the farm school. This is in line with the recommendations of the Secretary's Circular 2007(MoESC, 2007) which stipulates that parents should decide the levies for their students, according to their affordability.

4.7.1 Adequacy of school funding

For schools to operate effectively and efficiently, they need adequate funds for operational cost. The researcher therefore went on to investigate adequacy of funds from school management, teachers and SDA/SDC respondents. It was established that schools generally had inadequate funds. It was revealed by all members of

management in government schools100% (10), that their schools had inadequate funding. This was also confirmed by the school head from a farm school and the majority 67% (4) of the management team respondents from private schools. Only 11% (2) members from the management team respondents from private schools said schools had adequate funding.

The same information was sought from teachers. All 100% (14) of the teachers from government schools echoed the same sentiments as school management as they indicated that funds were inadequate for school operations. The same sentiments were confirmed by the majority of teachers from private schools 6 (67%), who indicated that funds were inadequate. The teacher from the farm school was in tandem with his colleagues' views from both government and private schools.

The views of SDCs/SDAs were also sought on the adequacy of funds collected by schools. Responses from the majority of SDC/SDA members 90% (9), indicated that the school funds were not adequate. Their responses concurred with what was earlier said by students, management team and teachers.

SDA2 remarked:

> *Parents find it difficult to pay fees because of poverty and some are not working, and those who work get low wages. Some parents also find it difficult to pay although they are self employed. Orphaned students find it difficult to pay fees. Each student pays USA $10 per child per term and this is about R100.*

It also emerged from the interview with one school head from a government school that schools face problems in the payment of levies. She said that, "Parents find it difficult to pay levies most of them are not working and some of them are farm workers.

However, despite the fact that schools are encountering financial problems, parents are trying their level best as observed by the researcher in two government schools where parents made repairs of 45 one seater desks and 36 chairs. The researcher found the carpenters in the process of repairing the furniture. In the other government school, the researcher was shown repaired toilets. However, some desks and chairs that were sent for repairs had not been collected due to shortage of funds. This shows that parents have a positive attitude towards technical vocational education and with support from business people and government, the programme can be successfully implemented.

4.7.2 Financial strategies adopted by schools to supplement budgets

The researcher further investigated how schools managed to survive if the funds were inadequate. The majority of government SDC/SDA members 70% (7), indicated that schools supplemented their funds through fund raising while 3 SDC/SDA (30%) did not indicate how they managed to supplement the shortages. Fund-raising included the following activities: running school tuck-shops and civics-days. This was confirmed by respondents (SDA1 and SDA2) in the following comments:

SDA1 remarked, '*When we repair school equipment we ask for civics day from parents. We also run tuck-shops to try to raise funds*".

Respondent SDA2 commented, "*We have no other sources of income except fund raising through civic days and tuck-shop sells*".

The members of the management team were also asked how they managed to survive if the funds were said to be inadequate. Those in government schools echoed the same sentiments as their SDA counterparts as they mentioned fund-raising through civics-days and tuck-shop sales as strategies for supplementing their meagre school revenues.

The management team from private schools concurred with their government school counterparts in citing fund-raising activities such as tuck-shop sales and civics-days. They further suggested that they sold raffle tickets during school open days.

It was established that for most schools to survive, they had to increase their revenue base through fund raising activities. The most common strategies for supplementing school revenue base were civics-days and selling goods in the school tuck-shops. However, sale of raffle tickets was commonly used by private schools.

4.7.3 Extra funding

The researcher went on to investigate whether schools received extra funding. It was established from respondents that schools had no extra funding as indicated by the majority of the SDC/SDA, 84% (16). Schools did not receive any extra financial assistance elsewhere and 16% (3) indicated that they had extra funding. Those who indicated that they had extra funding revealed that some donors paid levies for under privileged students. However, information from respondents revealed that orphans generally received assistance in various forms such as; school levies, school uniforms and supplementary feeding. This was confirmed by the interviewed SDA chairperson and secretary.

This was confirmed from an interview with one government school development chairperson who commented, "*We do not have extra funding although some students' fees was paid by Plan International Zimbabwe, but it is given to few orphans*". SDA2 concurred with her counterpart when she said, "*Only orphans are assisted by some Nongovernmental Organizations (NGOs), like Christian Care and Capenum Trust. Even these NGOs are sometimes failing to pay the fees for those students. Now they are also in a desperate situation due to economic hardship".*

The assistance given to orphans by NGOs was confirmed in interviews with student respondents, when one of them from Fgrp2 said, "*The government only pays teachers' salaries. Plan international Zimbabwe, Strive, Capenum Trust and Bulawayo City Council pay only for orphans. Beam is no longer there".* Similar comments were echoed by one student from a farm school Fgrp3 commented, "*Capenum Trust and ORAP pay levies for orphaned students and also buy uniforms for them, but they do not buy books. ORAP gives food to Form one and Form two students".*

Information from private schools revealed that private schools also received financial assistance for orphans from NGOS. This was confirmed in an interview with a student who said, "Some students who are orphans and are not able to pay their fees have their fees paid from NGOs like Capernum Trust and World Vision. They also buy uniforms for them. This was observed from a church private school only.

Information from DEOs revealed that orphans and vulnerable children from farm schools, government schools and private schools were offered some various forms of assistance by NGOs. These included school levies, school uniforms and supplementary feeding.

In an interview DEO2 said:

> *...the government used to pay grant [illegible] student but now it is no longer doing it; and doners sometimes give direct assistance to schools. Some may pay fees for underprivileged students such as orphans and buy uniforms or sometimes give supplementary feeding, especially World Vision, Plan International, Christian Care, Cadec, and Capenum Trust.*

It was established that some schools were even offered assistance to build a classroom blocks. The researcher was informed that the farm school was assisted by a non-governmental organization called Zimbabwe Development Communities which donated a classroom block and furniture. The parents assisted by contributing labour. It is observed that non government organizations are important stakeholders in the schools as they contribute towards the betterment of students' lives through education.

According to the current information from respondents, the Zimbabwean government has shifted the funding of schools to parents. This is unlike in the past where the parents were supplementing the government. In the past community support sought to bridge the gap on what the Ministry of Education provided and the demands of the community or the needs of the school. The community could be called upon to erect

additional buildings, employ additional staff, buy more books to supplement existing stocks and finance pupils' education tours (MoESC, 1993). However, the Ministry is only meeting one of its obligations; that of paying teachers' salaries however, at the time of the study, it was only paying them incentives. Information from respondents revealed that the funding for schools was inadequate for school operations. Parents had been called upon to supplement teachers' salaries through payment of teachers' incentives.

4.7.4 Way forward on funding of technical vocational education

The researcher also sought views of respondents regarding the way forward in the funding of technical vocational education in schools. The majority of management respondents indicated that there was a need for government to show commitment by adequately funding the programme. The need for seeking support by government from the business community was also seen as a noble idea for the successful implementation of technical vocational education. Parents were also to increase their funding by making students pay more levies than the current rates. The following are some comments made by school heads in an interview:

HM1said, "*For technical vocational education to be successfully implemented, it needs commitment from the government. The government has to put more funds".*

HM2 posited:

> *"Government should take the Nziramasanga Document (1999) seriously and fund technical vocational education. There should be co-operation between government and the private sector in funding technical vocational education as the two parties may benefit from it"*

Regarding ways of improving technical vocational education funding, all respondents from government schools, private schools and the farm school said the government should seek help from donors. Half of SDC/SDA management team said parents should start self help projects while the other half said government should intervene and fund technical vocational education. SDC/SDA respondents further indicated that

technical vocational subjects should be made compulsory for all students and more resources are needed if its implementation is to succeed.

4.8 Monitoring and support systems

Monitoring is the continuous process of ensuring that the implementation of the plan is proceeding smoothly. Curriculum designers need to provide the necessary support for their recommended programmes or programme modifications to facilitate their fast and smooth implementation. Education officers carry out this role of monitoring the implementation of curriculum in schools through supervisory duties. Their supervisory activities include a formative evaluation component since they organize in-service courses that up-date and extend the knowledge and skills of school heads and teachers. There is a need for constant visits to schools by the district personnel so as to have full knowledge of what is taking place in schools.

District Education Officers (DEO) have a role to monitor how curriculum is being implemented in schools and render other relevant services for teacher growth. The schools are visited on equal terms, whether private or government. They are just selected randomly. The research sought information on the regularity of class visits by the management team. This had a bearing on the implementation process of technical vocational education. Figure 4.2 presents data on views of school heads and HODs on frequency of school inspections by the district education officers.

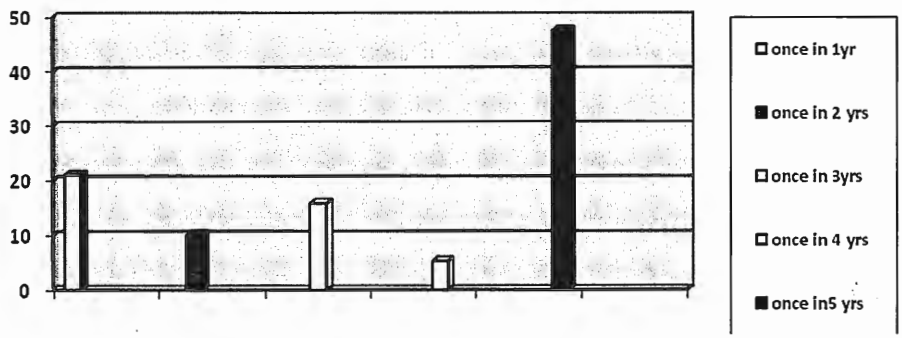


Figure 4.2: Views of heads and HODs on inspection by DEOs

Figure 4.2 indicates that there are different views on how schools are inspected by government, private and farm schools. Information solicited from respondents reveal that district officers visited schools once every five years. This was confirmed by the majority of the school management team, 50% (9) which indicated that the DEOs did full inspection in schools once every five years. Three of these respondents were from private schools and six were from government schools. Four (22.2%) management team indicated that schools were fully inspected once every year. Two school management respondents were from the government schools and the other two were from the private schools.

According to this information, schools lack adequate supervision from the district officers as they are inspected once every five years. Five years is a long period considering that some of these teachers are unqualified and may need consistent supervision.

Responses were sought from the teachers on the same issue. It was a established that district officers visited schools once every five years while other respondents indicated that they had never seen them in their schools. This was substantiated by eight teachers 34,8% (8) who indicated that school inspection was done once in every five years. Of these teacher respondents, four were from private schools and four from government schools. On the other hand, 30, 4% (7) teachers indicated that they had never had any school inspection from the DEOs. It emerged that four of these teachers were from government schools and three were from private schools. It has to be noted that some of these teachers were new in the schools and others had recently joined the teaching profession.

Interestingly one temporary teacher (4, 4%) from the farm school indicated that schools are inspected once a term. The researcher had an interview with the teacher and found that the respondent came to that school in January 2009 during the first term and the

DEOs came in 17June 2009. Since this teacher was temporary, he could have assumed that they came every term.

Information from government school focus group students revealed that the district officers never visited schools. One of the student in Fgrp1 said, "*We have never seen DEOs in our school since we came to this school".* Some of these students were in their fourth year and therefore it could be assumed that the DEOs had not visited this school for four years.

The views of the students were confirmed by their head. HMgovt1said, "*We do not have any technical assistance from the district officers. The last time they were here, they had come for only administrative issues; they did not make any class inspections".*

Tgvt12 said, *"I have never had school ins[illegible]om the district education officers since 1996 when they visited our department. However, it was beneficial as it pointed out some of my short comings".* This means that this teacher had not been inspected for more than twelve years.

A teacher from one of the private schools during the interview confirmed lack of supervision in schools by the district education officers. *" I have never been inspected by DEOs for the past four years as a teacher".* Information from the interviewed farm school head was different from that of her government school colleagues.
The district officers also assist us through their school inspection programmes. They were here on the 17/06/09 and they inspected all the teachers. It really helped us as they pointed out some of our weaknesses.

This lack of regular supervision was acknowledged by the district education officer. He attributed it to shortage of transport and financial resources as well as to the economic situation. DEO1 said, *"We are handicapped by finance and transport. We have managed to visit all the schools in the past five years".*

The researcher sought information from the DEOs on the standing policy pertaining to the full inspection of all schools in terms of normal frequency. The two education officers had different views on how often they are supposed to have school inspections according to the Ministry's policy document. DEO1 said once every year and DEO2 said once in every two years. Such contradictions from people who are to lead and guide a district do not give a good picture of the officers' knowledge of policy circulars. Lack of knowledge on such issues may have a negative impact on the implementation of technical vocational education as policies can be wrongly applied.

The majority of school management respondents 72.2% (13), indicated that when DEOs managed to visit their schools, in most cases they were satisfied with class inspections, recommendations and assistance the district team rendered during full school inspections. However, five school management members (27.8%) showed dissatisfaction. They said the district team s[illegible]e inspected the teachers. This is an indication that when they visited schools, teachers were not inspected. This was in tandem with what was echoed by HMgvt1 who said the DEOs came to her school for administrative purposes.

The views of district education officers were sought on what the way forward is in terms of schools' inspection in the implementation of technical vocational education. In his interview, the Khami District Education Officer emphasized the need for expertise in the supervision of technical vocational education teachers. He commented, *"Technical vocational education should be supervised by people who are experts in the discipline. The district should have technical vocational subject inspectors".*

This confirmed the sentiments echoed by former Khami District Education Officer earlier that he was the only specialist in the whole of Bulawayo Metropolitan Province. He proposed that the government should go back to the old system where there were subject education officers. He further suggested that government should inject more funds for supervision purposes and provide the district education officers with transport for mobility instead of relying on Provincial transport.

It emerged from information that there is inadequate supervision of schools by the district education officers. Schools are inspected after a long period. It was established that some schools are inspected once every five years and some teachers have not been inspected for a long period. Inadequate school supervision was attributed to financial cost and lack of transport for the district personnel as they relied on Provincial transport. It is also alleged that these school inspections are sometimes only conducted for administrative purposes. However, it also emerged that when the inspections are conducted on classroom practitioners, they are found to be beneficial. Lack of adequate supervision by the district education officers could impact negatively on the implementation of technical vocational education curriculum. Views of teachers were sought to establish how the internal school supervision operated.

4.8.1 Class visits by school heads and HODs

The role of the head of a school and HOD is that of getting things done effectively through class teachers. Class visits are mainly for developmental purposes and feedback. The head has to observe the instructional delivery by the teacher, check both students and teacher records during class visits as well as give feedback. The staff will work well if they see that the administration take-note of their work and constantly reinforces them according to their performance. The staff will work well if they are properly briefed on what is expected of them as well as on changes taking place.

Hence, it was important for the researcher to seek the views of the school heads and HODs on how often they visited classes. Information was sought on the frequency of class visits made by heads and HODs. The data on class visits by school management are presented in figure 4.3 below.

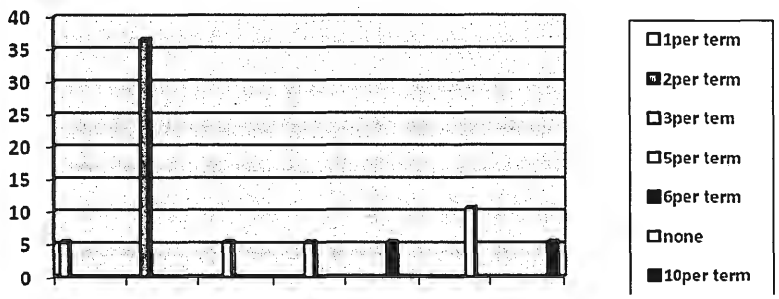


Figure 4.3: Views of heads and HODs on class visits

The researcher solicited information about the regularity of class visits by school heads and HODS as it contributes towards teacher improvement through feedback and reflection which are important components of how people learn. Information revealed that the management team carried out class visits regularly. Figure 4.3 above shows that majority of school heads and HOD respondents 38.9% (7) carried class visits twice per term while 11.1% (2) indicated that they did not make class visits. Information was also solicited from the teachers on the same issue of class visits. The majority of the teachers 47.8% (11), said they found the assistance given by HODs being adequate, 30.4%(7) said that the assistance given to teachers by HODs was inadequate.

Evidence from interviewed teachers revealed that HODs, deputy heads and heads made class visits. Tgvt13 commented:

> *We occasionally have school supervision by the heads of departments, deputy head and school head. They make class visits and also do book inspections as well as records inspections. Records inspections are done fortnightly. The supervisions are beneficial as they assist us to see our areas of weakness so that we can correct ourselves.*

A teacher from a private school echoed the same sentiments as her government school counterpart when she expressed her views.

We have supervision from the HOD, and deputy head, head as well as from school directors. In this school you are also observed teaching by the management as part of an interview before you are offered a place.

The assistance of teachers through supervision by the school management was confirmed by one of the teacher respondents from a government school as she concurred with her private school colleague. *"The school assists us through class visits and book-inspections. Under normal circumstances we have 3 term books inspections and 3 term class visits, but this year we have not yet had any. This is because of the economic situation".*

Information solicited from respondents reveals that both students and teachers benefited from class visits and book inspections conducted by the management team.

Information was sought to establish if senior and junior staff had the same number of class visits by the management. The majority of heads and HOD 50% (9), said they conducted the same number of class visits to junior and senior teachers. The reasons cited were as follows: they wanted to avoid being accused of bias or favouritism, they also wanted to maintain uniformity. These class visits were conducted once a month following the supervision schedule. Seven management respondents (38.8%) said juniors were monitored more often than senior colleagues. They argued that junior teachers needed more assistance than senior teachers. One respondent (5.6%) who said they did not always conduct the same number of visits to their teachers argued that it depended on availability of time and on how busy the term was.

Information from figure 4.3 and interviews reveals that management had mixed views on supervision conducted as some said they conducted the same visits for both senior teachers and junior teachers while others indicated that juniors were supervised more regularly than senior teachers. According to school records, it was found that temporary teachers received more supervision than qualified teachers. This situation was similar for government, private and farm schools.

However, during the interview with one teacher, she pointed out a very pertinent issue; that of lack of monitoring of students by parents. Tpvt2 said:

> *There is no monitoring of students' work by parents as 75% of the students stay with house maids and their parents are working in South Africa.. There is no-one to supervise the students at home and this affects their learning.*

However, an interview with the school head revealed that parents in the farm school were not able to monitor their children's work as they had to travel long distances to and from school and always arrived in the evening. Above all, most of the parents are not educated. The observation by the respondent is important as students need parental guidance in order for them to succeed in their school work. Such issues could have a negative impact on the implementation of technical vocational education.

According to the solicited information, there is inadequate supervision of schools from the district offices. It emerged that most schools are inspected once after every five years. Information also revealed that in some cases, schools' inspection were only conducted on administrative issues and neglected the core business of the school which is teaching. It was further established that whenever these inspections were conducted properly, teachers benefited from them.

On a positive note, it emerged that teachers received assistance in the form of supervision from HODs, deputy heads and school heads. It was revealed that the management conducted both class visits and book inspections. These class visits are generally conducted twice per term and can be viewed as adequate. It also emerged that in some schools, junior teachers are supervised more frequently than their seniors. It is assumed that they need more assistance than their senior colleagues. However, the majority of schools did not consider seniority when conducting class visits as they were afraid to be accused of bias and favouritism. This assistance rendered by the management team has been viewed as beneficial by most of the teachers.

Students in the farm school lacked parental supervision because most of the parents are not educated and secondly because they arrive home late because of long distance. It was also revealed that students in private schools lack parental supervision because most of parents are working in South Africa and they stay with house maids. Such conditions are not favourable for the implementation of technical vocational education.

4.9 Students' performance

4.9.1 District national examinations school results from 2006 to 2008

School results are an indicator of whether students and teachers are achieving their set objectives as well as meeting their obligations. However, sometimes these cannot be a good measure in terms of human capital development because examinations tend to measure only basic and specific skills and knowledge that may not be required by the employers. The researcher sought data on school results. It was very difficult for the researcher to access data on the school results. Most of the school heads or senior teachers would pretend to be busy and also those asked about the results would only say they are very low or poor without giving figures or percentages.

It was established that there was poor record keeping among schools as some results of past years could not be found. However, the researcher also had to use the results from the district office for 2006, 2007 and 2008. The 2004 and 2005 results could not be accessed as some schools then did not belong to Khami District; they were under Mzilikazi District.

In Zimbabwe a student is considered to have passed a subject if he/she has scored fifty percent and above. A student is considered to have passed 'O' Level if he/she has passed five subjects including English Language. The national pass rate at 'O' Level is 21% for the past five years (MoESC, 2006).

All schools offer Agriculture because of accessibility of the equipment and tools. It is also encouraged since Zimbabwe is a farming country and most students realize gains. The majority of students; mainly girls, do Fashion and Fabrics while Building is mainly the domain of boys. The subject with the lowest pass rate was Computer Studies which had 8% (3). In the academic path-way, the worst pass rate was 9.6% in Mathematics.

The best results were from Art where the pass rate was 100% and all three candidates passed. The second best subject was Metal work where all forty-five boys (100%) who sat for the examinations passed and the two girls failed, bringing the pass rate to 95,7%. The best pass rate in the academic path-way was 60% in Ndebele followed by English literature (47%) and English language (42%).

Information reveals that the average pass rate in technical vocational education in 2006 was 41.9% as compared to 27.4% in the [illegible] path-way. Technical vocational education had a higher pass rate than academic subjects.

Generally, there was a decrease in the district national examination of 'O' Level results pass rate in technical vocational education path-way. It dropped from 41.9 % in 2006 to 33.3% in 2007 and 26.46% in 2008. This scenario was also previously displayed by schools' results. The same scenario was evident in the academic path-way where the average pass rate was 27.4% in 2006, 25.69% in 2007 and 25.9% in 2008. These results were worse when compared to those in technical vocational education. It emerged that there was a decrease in examination results from 2006 to 2008 in both technical vocational path-way and academic path-way. The best results were those for 2006. The examination results for 2007 were also better than those for 2008.

The teachers and management respondents attributed such trends to the decline in the Zimbabwean economic situation which contributed to the country's brain drain. The dissatisfaction and demotivation of teachers was at its highest peak in 2008 when schools were not opened for two terms because of teachers' industrial strike action as

confirmed by interviews with the teachers. The district report for 'A' Level (2008) national examination results analysis for Khami District confirmed that high staff turnover, poor remuneration, pupil's negative attitude, absenteeism and unqualified personnel are factors which contributed to poor performance (Khami District, 2008).

The 2007 district national examination results show that all the ten candidates who sat for Computer Studies were predominantly girls and it also revealed that all candidates failed. The same percentage was witnessed in Physics. In both subjects it was attributed to shortage of qualified personnel as the majority of schools were manned by temporary teachers in Computer Studies. Information shows that students also did not do well in Building Studies, 2 students (2, 2%) passed, a boy and a girl. This is an indicator that given the chance, girls can perform tasks in the same manner as boys. It was further revealed that the average pass rate in technical vocational education in 2007 was 33.3% as compared to 25.69% in the academic path-way.

It was established that in 2008, students did not register for Building Studies and Food and Nutrition in two government schools because of high cost of building materials due to the economic meltdown. One school had to even drop Building Studies in 2009 from its school syllabus as stated by an interviewed teacher, "*This year we do not have Food and Nutrition for forms 1 and 3 because of high cost of ingredients and we also dropped Building Studies".*

Evidence reveals that both (100%) candidates who sat for Art passed in 2007. According to the documents these results are for a private school in a peri-urban area where students were given a choice to choose subjects and the enrolment was low. They maintained the previous year's record. This may be attributed to low student-teacher ratio as shown in open-ended questions and there is high teacher to pupil contact. Surprisingly, no student registered for the subject in 2008.

In general, quite a number of subjects were not registered in 2008 which had been registered in the previous years as revealed by the respondents. This was mainly

attributed to the high cost of materials. Low results were attributed to the country's economic problems and the worst teacher strikes in the country's history and lack of resources or some specialist teachers leaving the country for greener pastures as previously stated. It can be noted that the number of boys who wrote Fashion and Fabrics is very low may be people are changing their attitudes towards classifying subjects by gender. Boys who did Fashion and Fabrics managed to pass it and girls who did subjects like Technical Graphics.

The heads and HODs cited the following reasons for such results:

- Inadequacy of resources as the major causes of poor results
- Streaming students according to ability
- Type of candidature, that is, students with poor results being placed in technical vocational education
- Shortage of water for practical lessons, lack of qualified teachers and the education system being in disarray

The problem of water was confirmed by SDA1 when she remarked, "*As a school, we have problem with water shortage. There is no water during the day. I do not know what is wrong with the piping. We have approached the councilor he has suggested that we should have a borehole".* The head of the farm school echoed the same sentiments on shortage of water. "*We also have the problem of water. The borehole we have dries up. So we have to ask school children to bring some water for the teachers from their homes with 2 litre bottles".*

An SDA member from a government school attributed the poor results to too many temporary teachers in the school and poor school attendance by students as there was industrial strike action by teachers for the whole of 2008. She also attributed it to too many transfers to better schools especially to the former white schools (Group A). She stated, *"There are many temporary teachers as such the school results are not good. The whole of last year there was no learning as the teachers were on strike most of the times. Metal work and Agriculture were the most affected".*

However, one government school with good results attributed it to extra lessons by teachers. HODI stated, "*The results last year were good. We had 60% pass rate in Fashion and Fabrics. We did well than in Mathematics and Geography which had 1% pass rate each. The reason is that we had extra lessons with our students".*

The two DEOs interviewed attributed the poor pass rate to lack of both material and human resources. This view was echoed in the 2008 report on 'A' results analysis. The education officers pointed out that the majority of the qualified personnel had left teaching for greener pastures. DEO1 commented, *"Most of the teachers are under qualified….Most teachers have left the country. There has been a high staff turnover especially, among the young, diligent and hard working teachers".*

The numbers of teachers who had left w[illegible]ated to be two thirds of the full complement of staff as stated by the DEO2. The DEO1 estimated the number of trained teachers who had left the country to be approximately 75%. The DEO1 remarked, "*Most of the technical vocational teachers have left the country for other countries due to poor working conditions. Roughly two thirds of the trained teachers have gone".*

According to the solicited information, students in technical vocational education are not performing well as the average pass rate is low. However, it has been noted that students' pass rate in technical vocational education is better than in academic subjects. It further emerged that the students' pass rate since 2006 has been on the decline from 41,9% in 2006 to 26,46% in 2008. The poor examination results have been attributed to the following: brain drain, use of temporary teachers, economic situation in the country, lack of resources and poor attendance. Information reveals that people's attitudes towards technical vocational education is gradually changing as boys and girls do subjects which were previously gender-biased. It also emerged that while there are large classes for technical vocational education, there are few students who register for

technical vocational education examination subjects due to high cost of registration fees as compared to academic subjects.

4.9.2 Schools results from 2005 to 2008

National school examinations results at 'O' Level are not good. Parents complained of poor results although they pointed out that some sectors did well. The SDA remarked, "Presently school results in Fashion and Fabrics are pleasing; however, those in Agriculture and Building are not pleasing. *Students acquire skills from these subjects but materials are a problem".*

An interview with SDA secretary confirmed poor results by schools and attributed the failure of students to high prevalence of temporary teachers in schools and teacher industrial strike action. She stated; *"... There are too many temporary teachers and as such, the school results are not good. The whole of last year there was no learning as teachers were on strike most of the times. Metal work and Agriculture are the most affected".*

Students' results are an important aspect of the learning process as they indicate students' achievement in terms of learnt and taught skills in technical vocational education. Hence, the researcher analysed the documents on students 'results. The results for both government and private schools as well as for the farm school are presented in figure 4.4.

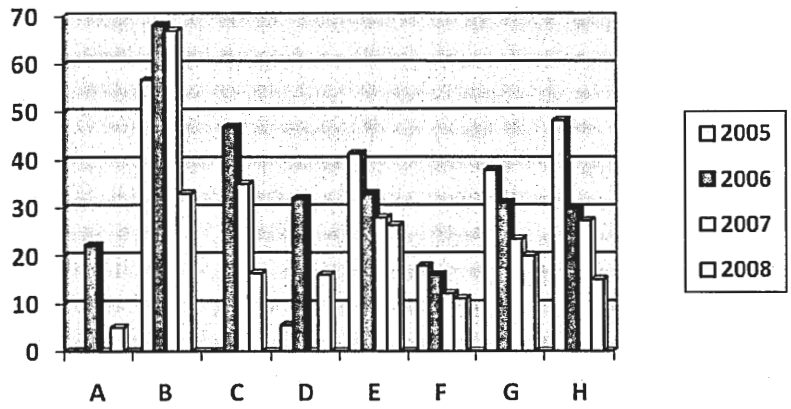


Figure 4.4: Figure 4.4.4: Average school results for seven schools from 2005 to 2008

Students' school results are an important aspect of the implementation of technical vocational education as they are an indicator of how teachers perform their duties. The researcher was not able to access the results for 2006 for school A, for 2005 for school C and for 2007 for school D. Generally, most of the schools were not doing well in national examinations as the average pass rate in most schools is below fifty-percent. There is only one school which has good results which is above fifty percent for three consecutive years, the highest pass rate being 68.3% .

Figure 4.4 above shows that government school results were better in 2005 as the three schools had an average pass rate of above 37%. This average pass rate was the best as compared to those of the three following years. Information in Figure 4. 4 shows that there is a decline in government schools' average pass rate as the results of 2006 are lower than those of 2005 and the trend goes on with 2008 having the lowest average pass rate. Government school E seemed to be performing better and there is almost consistency in the results.

Figure 4.4 indicates that most of the private schools had a better average pass rate in 2006. However, school B seems to have good results except in 2008. This was mainly attributed to low student-teacher ratio and better facilities as indicated by all

respondents in the administered questionnaire. The school had an average pass rate of above fifty per cent from 2005 to 2007.

Information reveals that the worst results are from the farm school. Figure 4.9 indicates that the worst results were in 2007 where there is no student who passed and in 2008 where the pass rate was 5%. Information reveals that school A had the lowest results in the past four years; the pass rate ranging from 0% to 5% which is the highest pass rate of the school. The poor results in the school can be attributed to lack of qualified personnel at the school as revealed by data in Table 4.9 on teacher qualifications. Information also revealed that in this farm school, students did not do practical lessons due to shortage of water and equipment as also confirmed in an interview with both students and the class teacher. In this school, Agriculture was the only technical vocational subject taught.

In an interview the head acknowledged the school's poor results, "*Our results are very low. We have a problem as most of our students cannot practise what they have learnt due to shortage of Agriculture equipment and water. We only rely on rain to practice horticulture but we still have problems of equipment and tools*".

It emerged from this study that the average pass rate in most schools is low although it was better than in academic subjects. Generally the average pass rate was slightly better in private schools than in government schools. It was established that the best average pass rate was from a private school and the worst from a farm school. It emerged from data that there was relationship between pass rate and type of school. However, the declining pass rate observed in all schools was attributed to various factors, such as economic meltdown in the country and low morale among teachers as well as migration of well qualified staff as indicated in some sections above.

4.9.3 Production of items by students

Information was also sought on items produced by students as they were being prepared for the world of work and self reliance since these were some of the objectives

of technical vocational education. The researcher wanted to find out whether students had acquired some technical skills and able to produce some quality items. Hence, he sought the views of teachers on this issue. This was important it could give an insight on how technical vocational education is being implemented in schools. The Figure 4.5 below indicates views of teachers on items produced by students.

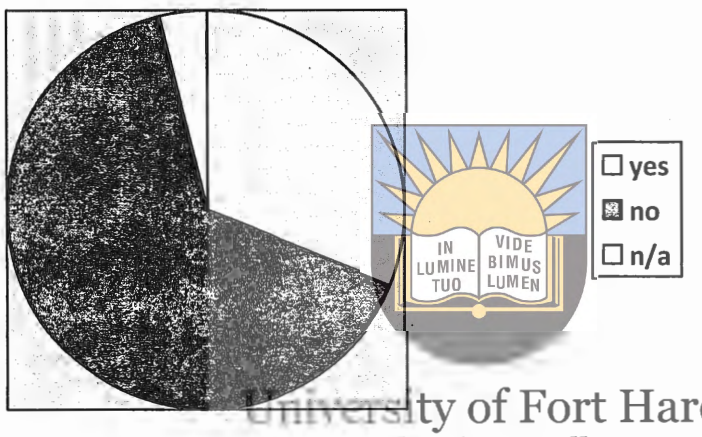


Figure 4.5: Views of teachers on items produced by students

Figure 4.5 above shows that most of the teachers 65% (15) said that their students were able to produce quality items. One teacher from a government school stated, *"They are able to produce quality and marketable items but they lack resources".* Seven teachers (30%) indicated that their students were not able to produce quality items because students who were placed in technical vocational education classes were dull and could not read plans. This made it difficult for students to face problems in designing and as such, they struggled even if they were good in practical work. This was indicated in questionnaire.

One HOD from a government school cited little knowledge on the part of administrators at the school. He pointed out *"There is little knowledge on the part of the administrators*

at the schools, to know how to combine the subjects and consider the ability of the pupils to take up such subjects in order to succeed".

The respondent claimed that the head lacked the know-how on the combination of the subjects which affected the students they produced. The teacher stated that school heads failed looking at the correct ability and aptitude of students to take up correct vocational education subjects in order to be successful.

The researcher viewed some of the items produced by students as some of these items were displayed in specialist rooms. Those doing Fashion and Fabrics were able to make dresses which they took home. Some of the dresses were well-designed. Those doing Agriculture were able to grow vegetables and sold them to the community. In Metalwork and Woodwork they were able to make small items such as bottle openers, harrows and tray servers. The SDA member was interviewed by the researcher confirmed that students were able to construct some good items and they also produced good products.

SDA chairperson said:

> *The school used to keep a lot of chickens, both students and the community benefited. The community benefited because the school made a lot of money from the sales and students benefited from learning self reliant skills. Now we have problems of funds and we cannot hire security people to guard during the night and we have problems of funds to buy chick-feed. The last chickens we had were sold prematurely because of shortage of chick feed. We are not able to grow enough vegetables because we have problems of water rationing as you see near the gate there; there is a school garden. They are preparing seed beds.*

The researcher observed vegetable beds which had been prepared and there were some seedlings which had been planted. Although schools encountered some problems, students were able to acquire technical skills as confirmed by one teacher in

an interview. *"Our students are getting enough practice and Form 4s have made garments. One of our students is doing garment and textile at Evelyn High at "A" Level. Students have adequate practice".*

Interviews conducted with a head of department confirmed that students acquired sufficient skills from technical vocational education. *"Some students are doing well. I remember one of my former students is an instructor in Fashion and Fabrics in one of the private colleges".*

It was established that some schools, although faced with water problems, were able to produce vegetables and to sell them to their communities. Some students were also able construct garments, tray servers, bake scones and also make some bottle openers. It was further established that some technical vocational education students were able to rear live stock for commu[illegible]mption before they encountered economic problems. The study found that students have the potential and if they are properly selected they could even do better. Students were able to fund raise from scones and other items they had baked as established in interviews with teachers.

According to solicited information, schools are faced with numerous problems in the implementation of technical vocational education. Among these are high cost of raw materials which has caused some schools to cease rearing chickens. It also emerged that schools doing Crop Science, face water problems.

4.9.4 Self help projects made by students

The aim of technical vocational education is to equip students with self-help technical skills to enable them to engage in personal projects. The researcher sought to establish whether students were able to initiate personal projects in their respective fields of specialisation. The views of teachers were sought on this issue. The majority of the teachers 56, 5% (13) indicated that only a few were able to do so. Of these respondents six were from government schools and the other seven were from private schools. Eight teachers (34.8%) from government, private and farm schools said their students were

not able to engage in meaningful personal projects after completing secondary education. They argued that students were not able to engage in money generating projects because of lack of capital, economic challenges, lack of resources and lack of support from government.

Only a few teachers indicated that students were able to engage in personal money-making projects after completion of Form 4. Two teacher respondents (8.70%) indicated that there were many students who initiated personal projects. They indicated that some students were involved in wood carving while others had welding projects and girls were involved in dress-making and some were in the bakery industry entrepreneurship.

In an interview with one head of department, the researcher established that it was difficult to ascertain if students engaged in personal projects after completion of Form 4 as there was no follow up or record keeping. The HOD said, *"It is hard to tell because there is no feedback after students have left school"*.

It emerged that only few students are able to engage in self help projects due to lack of capital, shortage of resources and government support. This is an indication that if students are given capital or raw materials, they could engage in meaningful projects. Solicited information also shows that there is no follow up or records to show if students embark on personal projects after completing school.

4.10 Summary

The implementation of technical vocational education seemed to have a number of controversies and challenges. Students are not given guidance and counselling before they are selected to technical vocational education. The provincial counsellors seemed to be either overwhelmed by the workload or lacked the will to visit schools. The selection process of students seemed to be handled differently according to schools. Grade 7 results and Form 2 results are only used as opposed to aptitude, interest and ability of students. Students in government schools complain of being forced to do

subjects they have no interest in while those in the farm school complain of limited choice of subjects as they only do Agriculture.

Schools lack adequately qualified teachers with relevant experience. Technical vocational education is being implemented by temporary teachers who lack training and prerequisite skills for the programme. Professionally qualified personnel migrate to neighbouring countries like Botswana and South Arica. There is also internal brain drain as teachers transfer from poor farm school and government former black township schools to former white affluent suburbs where there are better incentives.

Funding and lack of resources such as specialist rooms, desks, chairs, equipment, machinery, text books and learning materials are a major impediment to successful implementation of technical vocational education. The most affected are the government schools in terms of text books. [illegible] seemed to be overburdened by the running of day to day affairs of the schools and the payment of teachers' incentives both in private and government schools as well as in farm school which previously was the responsibility of the central government. Implementation of technical vocational education faces problems of high inflation and economic meltdown in the country.

Information revealed that all types of schools conduct INSET/CPD programmes within their institutions and are conducted by HODs and Departmental Committees. Technical vocational education suffers from inadequate supervision by the district office personnel due to unavailability of transport and financial cost. Teachers lack the much needed staff development and other professional assistance from the district office.

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It emerged that NGOs play a major role in the education of orphans and vulnerable students as they pay their fees and others support school materials. It was further revealed that orphans and vulnerable students are supplied with supplementary feeding. In some cases the NGOs have assisted the schools with the building of classroom blocks. The following chapter discusses the findings made by this study.

CHAPTER 5

DISCUSSION

5.1 Introduction

In this chapter, the researcher provides a discussion of the data presented in chapter 4. The discussion is grounded in the main themes that formed the cornerstone of the study, namely: selection of students to technical vocational education path-way, teachers' capacity, funding, resources, perceptions of parents, students and teachers towards technical vocational education and finally, the monitoring and support put in place in the implementation of technical vocational education.

5.2 Selection of students

The complex nature of curriculum implementation is illustrated by the fact that the learning situation involves not only teachers but also students. The reality of curriculum implementation also depends on the interaction of the learning materials and learning experiences the teacher has provided, and the pupils' affective and cognitive dispositions. However all this is dependent on the way students are selected.

Guidance and counseling is an important factor in the implementation of technical vocational education curriculum as it assists the selection of students to the correct and relevant path-way. In government schools students are faced with a challenge in making informed decisions in the choice of subjects as they do not receive guidance and counseling. This is contrary to the Zimbabwe Ministry of Education Sports and Culture Secretary's Circular 14 of 2004 which stipulates that students should be given guidance and counseling when selected to technical vocational education. However, a different scenario existed in private schools where students were given guidance and counseling. This omission by school heads of guidance and counseling could affect the manner in which skills are imparted on students. Students who are misplaced could have a negative attitude towards the subjects and as such, lose interest in technical vocational education. Hilgard and Godwin's theory of learning states that "learners

engage in activity most willingly if they have helped to select and plan the activity (Doll, 1998:62).

Musaazi (1982), advises that schools should give students pre-decision consultations so as to assist them to clarify their occupational aims, giving due consideration to their abilities, aptitudes, interests, personalities and prevailing employment situations in the country. Most students from government schools were denied this opportunity. Contrary to Musaazi's (1982) views that abilities, aptitudes and students' interest should be considered when placing students, in Khami District, in government schools students are not consulted. Worse still the characteristics mentioned by Musaazi (1982) were never considered. Neglecting student's abilities could have a negative impact in developing their skills and preparing them for the world of work as proposed by the human capital theory.

The study revealed that students' end of year examinations was the main criterion for students' selection. It is in line with Kellaghan and Greaney (2004) who view the purpose of any standardized achievement test as providing the user with the information concerning an individual's knowledge or skills so that the user can make decisions of selection and classification, for academic and vocational counseling purposes. This can be considered as a fair way of placement but in this case it was not fair as all students who did not perform well were placed in technical vocational education while students with good results were placed in academic classes.

The argument brought forward was that there was a need for scientists, hence, allocation of bright students to science classes. This indicates a bias and lack of understanding of technical vocational education policies among these school heads that mainly specialised in academic subjects. They simply overlooked the fact that technical vocational education subjects belong to the sciences. For example, Agronomy, Crop Science, Food Science, Wood Technology and Metal work and Technical Graphics which is an essential prerequisite for one to be an architect. These subjects need acumen in Mathematics like any other science subjects.

It can be observed that some students who are capable of being absorbed in technical vocational education are being excluded. This becomes a blow in the development of human capital. These students who are left out could have advanced themselves and become engineers, there-by contributing towards their country's economic growth which is one of the aims of implementing of technical vocational education curriculum.

Article 2 section 3 paragraph 2 of the United Nations Convocation of Technical Vocational Education, states that the Contracting States shall guarantee that no individual who has attained the educational level for admission into technical vocational education shall be discriminated against on grounds of race, sex,.....political or other opinions, birth, or on any other grounds (UNESCO, 1989: 3). The study found that some school heads violated the Convention with regard to technical vocational education as they placed bright students in "A" classes t[illegible]mic subjects. This was a form of discrimination.

However, selecting students in that way could disadvantage some students who have a flair for technical vocational education as some students who were from a home background, where parents were involved in garment making wanted to take Fashion and Fabrics as a subject to follow the family's career, were denied this choice. This act by the school administration is a clear indication that ingrained attitudes do not easily fade away as they show a bias towards academic subjects. It confirms Armstrong's (1994) view that, all new programmes inevitably clash with certain entrenched attitudes and values. Human beings tend to protect, preserve and promote their own views of a system. School heads who used this criterion were still following what was happening during their own schooling times in the then Rhodesia, where students with poor results were placed in technical vocational education classes and those with good results were placed in academic classes (Moyana,1989).

Fullan's (1991) model of change and Rogan and Grayson's (2003) curriculum implementation theory concede that school heads play a major role in the

implementation of a programme. The school head has to monitor the implementation process and give technical and material support to the teachers. Therefore, if the school heads have a bias towards academic streams that means technical vocational education will be disadvantaged. Hence, it may not be implemented as planned by the curriculum planners. This study further confirms Fullan's (1991) model which stipulates that when change coincides with people's values they will always resist it (Ornstein & Hunkins, 2004). It has to be noted as earlier indicated that, none of these school heads had a qualification in technical vocational education, they did on academic curriculum. Therefore, their bias towards academic subjects should be viewed as the values they hold towards academic curriculum.

Information from this study confirms that students struggled in some of these technical vocational subjects because they were poorly selected and lacked Mathematical acumen. They were good in terms of practical but failed to interpret the plan or failed to design. It was therefore difficult for such students to achieve some major objectives of the technical vocational education syllabus, especially in Metal-work, Fashion and Fabrics and Woodwork.

These objectives include developing practical skills to measure and make constructions, establishing a capacity to read and interpret formal technical drawings and diagrammatic illustrations (MoESC, 2006). A number of students could not measure accurately; whether using scales in food and nutrition, or measuring different materials in Fashion and Fabrics, Metalwork and Woodwork. Technical vocational education demands that students should develop self reliant skills, however, some students had difficult in developing these skills due to poor selection process and therefore this may defeat the objective of implementing it.

Lingard and Ozga (2007:108) concede that, "learning, expertise, and human resources-the 'human factor' as it is sometimes called-are critical elements of the well-being of our economies". If students cannot measure accurately how can they contribute meaningfully to the development of their country's economies. In real life, who could

employ a worker who is not able to measure accurately and what kind of products could be produced by such a worker? Some of these short comings in the implementation of technical vocational education could be attributed to the selection criteria used by school heads.

It emerged from data that school heads from both government and private schools neglected continuous assessment which is an important proposed element in the students' selection system to technical vocational education. The Rogan and Grayson (2003) curriculum theory considers assessment as an important factor in implementing any curriculum. This omission was not in line with the Director's Circular Number 41 of 2007, which states that "to facilitate accurate channeling of students, schools are expected to embark on a comprehensive continuous assessment and documentation of learners' attitudes, interests and aptitudes".

In light of the above, this circular is issued to offer guidelines on Form 2 school-based internal examinations and continuous assessment for the purposes of accurately channeling learners into various pathways at Form 3 level (MoESC, 2007). These findings were in line with the findings from the survey carried out on the state of readiness in the implementation of the two-pathway education system by Bulawayo Metropolitan Province in secondary schools. Ministry of Education, Sport and Culture (2006:5) revealed that "the concept of and reason behind continuous assessment needs further clarification to most heads of schools". This is an indication that there is a flaw in the selection system.

These flaws in the selection of students are indicators of poor implementation of technical vocational education. The flaws in the implementation of technical vocational education shows the gap between what is expected and what is happening, the difference between proposed policy and implemented policy (Parsons, 1995). This is the difference between the expected policy and the real implementation as the bureaucrats do not often consult the implementers and take them for granted. Educational reforms have failed because those in charge of the efforts had little or a

distorted understanding of the culture of the school as innovations are designed by experts outside the schools (Ornstein & Hunkins, 2004). It further confirms the views of McCutcheon (1988), who postulates that the curriculum enacted in the classroom differs from the one mandated by administrators or developed by experts. The implemented curriculum is sometimes different from the intended curriculum as curriculum implementers such as teachers and school heads modify it to suit their situation. As Rogan (2007) confirms, the attention and energies of policy makers are too often focused on the 'what' of the desired educational change and neglect the 'how'.

However, the use of examinations as selection criteria on its own is also faulty as only final Form 2 results are used to select students to the technical vocational path-way at Form 3. It would be ideal if test or examinations are done in conjunction with the aptitude test, ability and student interest. This view is shared by Mehren and Lehman (1984) when they posit that in combination with other data, achievement test results could be used to assist students to plan future educational or technical vocational programmes.

If students see little relevance in the curricular activities, they are not going to be motivated to participate or learn (Ornstein & Hunkins, 2004; Rogan & Grayson, 2003). Students should react with heightened interest in a program if it is to succeed. Hence, students should be engaged in any change of curriculum if it is to succeed. This is supported by Hilgard and Goodwin's theory of learning which stipulates that, "learners engage in an activity most willingly if they have helped to select and plan the activity (Doll, 1989:62)". This would have been good if students with a liking for technical vocational education were chosen, as they could be motivated to work harder. Learners themselves are the object of curriculum implementation. Therefore if they have a negative attitude towards planned and deliberate learning in technical vocational education, then the teachers' objectives cannot be realized.

Implementation of technical vocational education in the studied area confirms Rogan and Grayson (2003) curriculum implementation theory that the background of students,

and the kind of strengths and constraints they might bring to the school are crucial. A range of issues influence students' attitudes to learning and responses to change. These have been observed in the above discussion as characteristics of students affected the implementation process of technical vocational education as wrong students were selected to the technical vocational education path-way while the correct people were placed in the academic path-way.

5.3 Perceptions on technical vocational education

Another notable finding from this study was that the majority of the students in Khami District had positive attitudes towards technical vocational education. This is contrary to what other researchers observed. They observed that students have negative attitude towards technical vocational education (Ishumi, 1993; Mandevu, 1991). Learners' negative and indifferent attitudes become an obstacle to the profitable implementation of curriculum (Tanner & Tanner, 1980). From [redacted] and Tanner's (1980) view point, positive attitude shown by Khami District students could [illegible] them to be active participants in the implementation of technical vocational education. Therefore, the effect of technical vocational education curriculum should bring about desirable, positive change among the students; that of developing their technical skills and making them employable as proposed by the human capital theory (Sall et al., 2009).

Evidence suggests that students enter school with diverse needs, some of which are cultural and social (Bergmann, 1996), and that matching the delivery of learning with students' learning styles and needs is pivotal for effective learning (Brown, 2005 cited in Brown, 2008). However, information revealed that most students were motivated to learn technical vocational education because it empowered them with relevant life skills. These included: poultry rearing, growing vegetables, garment making and baking. It is in accordance with the human capital theory which encourages development of life skills among students and is one of the main objectives of implementing technical vocational education in schools. But these students' spirit was dampened by shortage of qualified teachers. Elmore (1990) notes that poor teaching creates misunderstood effects and that misunderstanding has socio-emotional effects on the learner. The learner becomes

exasperated, temperamental and may withdraw from school. In such situations, teachers should be well qualified to deal with students.

According to Rogan and Grayson (2003) theory of implementation, those charged with the implementation of a curriculum need to be supported in a variety of ways, and need to be enabled to communicate and collaborate with one another (Rogan & Grayson, 2003). A school is a unit within society, and can only exist through the cooperation of the school community. According to Fullan's (1991) educational model of change any innovation which lacks support from the community cannot succeed (Fullan, 1991; Hunkins & Ornstein, 2004). Establishing positive attitudes of parents is the key towards implementation of any school project.

Paterson and Jamieson (1999), concede that attitudes such as beliefs and feeling guide and affect the way people treat and socialize with each other. It can therefore be argued that if parents have a positive attitude towards technical vocational education they can influence their children to have a positive attitude towards that curriculum as proposed by Rogan and Grayson curriculum implementation theory. Issues like parental commitment to education can improve students' attitudes towards the proposed innovation (Rogan & Grayson, 2003).

The study found that parents had a positive attitude towards technical vocational education as they supported the teachers by providing their children with equipment such as baking trays, picks, shovels, needles and even flour from their homes. They also repaired school furniture. Asikhia, (2010) acknowledges that healthy interpersonal relationship among the personnel in the school setting helps to promote the teaching-learning situation. This healthy relationship between the school and parents could attract and sustain the academic interest of the learners. Positive attitudes by parents are of great importance as they could motivate their children by providing them with this equipment. One of the instructional implications of Piaget's theory of cognitive development is that learners need to be kept active by providing them with "rich environments that allow for active exploration and hands-on activities" (Schunk,

2004:4). Implementation change model advocates for material and parental support successful curriculum implementation (Fullan, 1991; Ornstein & Hunkins, 2005).

Parents' active involvement in their children's learning and support give students confidence and encouragement to achieve (Hoover-Dempsey et al. 2001). Unarguably, parents play and determine to a great extent the academic achievement and overall success of their children. They are the prime educators of the children. Thus, they are fundamentally supposed to be equipped and re-equipped with some multi-dimensional skills. Such skills include: equipping them to understand the psycho physiological development of the child and providing a psycho and cognitive stimulating environment for the children (Asikhia, 2010).

It can be observed that technical vocational education in Zimbabwe presently enjoys the support of parents as there was a good relationship between the school and the parents. One of the major objectives of technical vocational education, that is, to change people's attitude towards labour or technical vocational education, was achieved as revealed by both students' and parents' positive attitudes towards labour.

5.4 Teacher Capacity

One major determinant of the quality of education is the teacher. It is critical to pay attention in the design of training programmes, to the level of a teacher's knowledge of relevant subject areas and teaching experience. When courses fail to take the teacher's level of knowledge into account, implementation of the reform will be hampered (Verspoor, 1995). The classroom teacher can be viewed as one of the key technical vocational education implementers. As curriculum implementers, teachers must be knowledgeable on curriculum issues such as syllabus interpretation as well as scheming and planning and all this is dependent on teacher capacity. Teacher capacity includes characteristics such as qualification, teacher training and teacher's experience. However, these qualifications alone without motivation cannot produce the needed results. Teachers need to be motivated so as to be productive. This then implies that

the quality of service rendered by an unmotivated teacher could affect the academic achievement of learners (Asikhia, 2010)

5.4.1 Teachers' professional qualifications

The research findings indicated that technical vocational education had shortage of adequately qualified teachers. The two-fifths of the whole staff in the district were temporary teachers who only possessed Advanced General School Certificate of Education. The study found that the farm school and government schools had more temporary teachers as compared to private schools. According to Rogan and Grayson's (2003) curriculum implementation theory such teachers had no capacity to support the implementation of technical vocational education.

This study confirms Nyangura and Reece's (1990) findings which revealed that a number of Zimbabwean teachers lacked professional training and experience and as such, had weaker practical instructional skills. Inadequately qualified professional personnel from all types of schools can compromise quality in developing students' skills and their chances of employability as proposed by the human capital theory (Sall et al.,2009; Shavit & Muller, 2000)..

The objective of developing students' technical skills and making them employable was also compromised by teacher qualifications. However, there are contrasting views on the effect of teacher qualification on student learning. A study by Asikhia, (2010) in Nigeria revealed that teachers believed that students' poor academic performance is not influenced by the teachers' qualification while students perceived that teacher's qualifications do not affect their academic performance. The difference in the perceptions could be because students have high expectations for teachers who teach them and believe that any teacher who does not meet such expectations will not aid their academic performance. However, Soyibo's (1986) report is in support of students' perception that students' poor academic performance is influenced by teachers' qualifications.

It seems as if there is a consensus among scholars like Soyibo (1986) and Rogan and Grayson (2003) who all concede that teacher's training and the level of teacher's confidence can affect the implementation of any programme. Therefore, the use of teachers by Zimbabwe who lack training in content, knowledge and relevant instructional delivery methods compromised the implementation of the technical vocational education curriculum. Under qualified teachers can face challenges in the interpretation of the syllabus as well as in class management. Lack of these competencies could have led to the poor performance by students, a case revealed in the study.

A research by Hansen, (2006) cited by Pretorius, (2008) confirms that, when schools fail, the causes are often seen to lie in the quality of teaching provided. In view of the findings by Hansen (2006), one could safely say there is good performance in schools where there were more qualified teachers [illegible] private schools due to quality of teaching. This view is shared by Husen, Saha and Nooman (1978) cited in Psacharopoulos and Woodhall (1985), who postulate that the quality of teachers is another vital determinant of pupil performance.

According to Rogan and Grayson's (2003) implementation theory, failure to successfully implement technical vocational education in the studied area could be attributed to capacity to support innovation as quite a number of teachers were untrained and lacked subject matter, because there were quite a number of temporary teachers. This challenge does not face Zimbabwean schools only as confirmed by Rogan and Grayson (2003), who concede that lack of subject matter knowledge by teachers found in other parts of the world is also a major problem in countries like South Africa.

5.4.2 Specialisation

Capacity of teachers includes variables such as one's specialisation and experience. The teacher's own background, training and level of confidence and his/her commitment can affect the implementation of a programme (Rogan & Grayson 2003). It emerged in this study that the farm school had non specialised teachers. The study found that the

whole of Khami District had a shortage of specialised technical vocational education teachers and most of the teachers had trained for the labour specific and craft based technical vocational education. According to Rogan and Grayson theory of implementation schools with unspecialized teachers can find it difficult to implement the designed programme.

Mupinga et al. (2005) found that teachers who implemented technical vocational education in secondary schools in Zimbabwe were the same professionals trained for the labour-specific and craft-based programmes, a result confirmed by this study. This study further established that students were taught by teachers with diplomas and degrees that were not relevant to the subject content in the particular technical vocational subject. These individuals were not trained as teachers. Therefore, it becomes difficult for such teachers to impart relevant knowledge and technical skills to students.

One of the elements of the foundation of the present study was that implementation of technical vocational education suffers from poor qualification and lack of specialised teachers. The study found out that schools had inadequate and unqualified teachers. It is true that a good and effective school is made up of good and effective teachers. Teachers' qualities determine the success of the programme. Ozigi (1983:18) argued that:

> *No matter how efficient and well intentioned you are as a school administrator, you can hardly achieve success without the support and co-operation of well qualified, dedicated and adequate staff. It is through them that the actual education process takes place, indeed high quality teachers are your very best resource asset.*

The study found that Khami District's teachers lack these qualities cited by Ozigi (1983). This can affect the product produced by these classroom practitioners. The study on poor performance in Grade 12 in South Africa by Legotlo, Maaga, Sebego, van der Westhuizen Mosoge, Nieuwoudt and Steyn (2002), revealed that the shortage of

relevant and qualified educators contributed towards students' failure. In that study one learner postulated that teachers, who are less qualified, fail to explain concepts.

In Zimbabwe, technical vocational education is recommended to be taught by people with a diploma or a relevant technical vocational education certificate or degree (MoTHE, 2005:18). This study established that teachers in technical vocational education in Khami District were poorly qualified. A similar problem was also observed in studies carried out in Mozambique (World Bank 2004). Similar results were established by Kerre (1986) in his studies on technical vocational education in Kenya.

This study attributed the shortage of qualified personnel to a number of factors such as: few teacher training colleges, brain drain, that is, teachers moving to Botswana, South Africa and Britain to seek better paying jobs. Poor conditions of service as well as poor salaries drove many teachers out of the teaching profession. The findings of this study further confirmed those of Gora, (2007) who also found out that technical vocational institutions in Zimbabwe suffered from shortage of teachers due to internal and external brain drain.

The cause of brain drain is attributed to the economic situation in the country. In his article on Successes and Challenges on Zimbabwe's Public System Reforms, Kanyongo (2005) cites economic meltdown and high inflation within the country as contributory factors to shortages of teachers. Many teachers had to leave the teaching profession to escape the worsening economic situation and most found employment in neighbouring countries while others have gone to Britain and the United States (Kanyongo, 2005).

The findings of the study further confirmed those of Gill et al. (2000), and Johanson and Adams, (2004) who found that the majority of technical vocational education teachers in Germany and other Eastern European countries as well as Sub-Saharan Africa, left technical vocational education institutions for better paying jobs. Such situations are a cause for concern to the policy makers. Therefore, if implementation of technical

vocational education is to succeed, policy makers need to address those issues. Salaries for technical vocational education practitioners need to be upgraded to the level of those in the industrial sector to curb internal and external brain drain. The brain drain is also experienced by South Africa where most of its skilled workers migrate to European countries such as Britain, Australia and America (Mohr, Fourie & associates, 2008). Mohr, Fourie and associates (2008) further concede that other Sub Sahara African countries experience the same problems as their workers migrate to South Africa.

It further emerged that the shortage of qualified personnel could be attributed to the country's failure to retain its qualified teachers and inadequacy of technical vocational educational teachers' training colleges as there were only two teachers' training colleges in the whole country. These were Belvedere Technical Teachers' College and Mutare Technical Teachers' College. These train non-graduate teachers; they offer a diploma in education. Graduate teachers are trained at Chinhoyi University of Technology. The revelation by this study is contrary to what was reported by MoHTE (2005) that non-graduate teachers for practical subjects in the secondary sector were initially trained at the secondary teachers' colleges of Mutare, Gweru, Belvedere and Hillside. At the present moment, former teacher training colleges like Gweru, have changed status to a university and Hillside only trains teachers for academic subjects and music.

5.4.3 Experience

One of the elements of the foundation of this study was that the teacher's experience had an effect on the implementation of technical vocational education as well as skills development. The findings of this study established that the majority of teachers had less than one year experience. These teachers belonged to the 'threshold phase', the first year of teaching (probation). Teachers in this stage have to learn how to cope with classroom problems. The new teachers focus on the day to day mastery of the job. Beginning teachers strive for acceptance by students, colleagues and school

management (Letven,1992; Vonk, 1984 cited in de Feiter et al., 1995). Vonk's (1984) studies on problems of beginning teachers revealed that:

- many problems originate from the fact that beginners have too little pedagogical content knowledge,
- the lack of overview makes classroom teaching so complex for most beginners that problems with classroom discipline, classroom management, are inevitable,
- most beginners have a perspective on their role as a teacher which is too optimistic, and are not prepared for meeting and dealing with unmotivated students.

The teacher serves as a resource and an agent: developing curriculum in committees, implementing it in the classroom and evaluating it as a teaching team. There is a need for the teacher to have experience to effectively execute his/her duties. It is the experienced teacher who is able to use relevant teaching methods in class, understand interest and learning needs of the students, and the content as well as use the relevant teaching materials (Pullan, 1991; Hunkins & Ornstein, 2004; Rogan & Grayson, 2003). Therefore it is the teacher through his/her experience who has to translate curriculum from theory into practice. Therefore, teachers who lack experience can find it difficult to execute their duties effectively and efficiently as they may find it difficult to interpret the syllabus. Teachers with long service are in most cases viewed to be conversant with numerous teaching strategies and teaching methods as well as with the interpretation of the school syllabus.

According to Carey's (1986) model, these teachers who have less than one year teaching experience are in stage 1. They are classified as the beginning teachers. Beginning teachers are those with 0-3 years teaching experience. This teacher has recently qualified from the college or university. One needs more assistance in his/her teaching techniques. One may be equipped with theory but lacks knowledge and its application. However, in this case, most of these teachers were temporary teachers who were untrained and as such, needed more assistance from administration for them to

effectively impart students with the relevant technical skills and knowledge which could render them employable and productive as well as manage their own projects.

The study revealed that the majority of teachers were young and had one to five years experience. According to Carey's (1986) model, these teachers belonged to the practising teacher (3-8 years of teaching experience). The practising teacher has to be assisted if he/she has to be effective and be aware and conversant with the latest development in the field (Carey, 1986).

The study further established that the majority of the school management had one to five years experience in their present positions which could be rated as 'not adequate experience'. These individuals belonged to what Carey's (1986) model called experienced teacher (8+ years teaching experience). It can be observed that these teachers are senior but they lack experience in administrative and supervisory roles. The study revealed that most of the deputy heads and HODs who were in this stage and therefore needed assistance from the district education officers in the form of staff development workshops to equip them with management and administrative skills, but it seldom materialized.

This situation reveals that the school management team had less experience in the implementation of technical vocational education as the majority of them had less than eight years experience. According to Rogan and Grayson (2003) curriculum implementation theory, school management plays a major role in the implementation of school curriculum. If the school is in disarray and not functioning well, innovation cannot or will not be implemented (Rogan & Grayson, 2003).

Lack of experienced and specialised personnel is a cause for concern in the studied area as it may have a negative effect on skills development of students. Technical vocational education is a skills-based programme which needs to be taught by competent people who are well equipped with the correct technological know-how. Evans (1993) argues that it is self-evident that professionals cannot perform their roles

without specialist knowledge. The findings of this study also confirmed previous studies by Nyangura and Reece (1990) which revealed that Zimbabwean teachers lack longer teaching experience which implies weaker practical instructional skills. The main cause of lack of experience was mainly due to the mobility of the young and energetic teachers to other countries as indicated by Gora (2007) and as confirmed by the findings of this study. The implementation of technical vocational education and human capital development is in limbo because of such challenges.

The teacher is the originator of educational assessment. Assessment of the learner is the critical teaching skill which contributes in a large measure to quality learning of the student. An untrained and in-experienced teacher will not be able to carry out effective assessment of learning strategies. In the case of Khami District where most schools had untrained and inexperienced teachers, students could have been misplaced in a stream or path-way where they did not belong du[illegible] assessment methods. Therefore, poor performance of students in technical vocational education could be attributed to that.

There was high staff turnover in most schools due to poor conditions of service as revealed by the finding of this study. However, staff turnover is not unique to Zimbabwe as studies on factors contributing to staff turnover carried out in Canada and Papua New Guinea research by Bray (1987) revealed that conditions of service such as poor working conditions, work overload, salary incentives, class size and inadequate learning materials contributed to high staff turnover. High staff turnover can have an adverse effect on the learning situation because of lack of continuity. This can affect the development of students' skills. This is confirmed in the study by Nhundu (1997) whose study in the implementation of EWP in Zimbabwe revealed that schools with the least staff turnover experienced greater success in the implementation of EWP than schools with moderate to high staff turnover. The schools that had experienced high turnover rates were characterized by lack of organizational continuity. The implementation of the technical vocational education is likely to face lack of continuity.

The human capital theory propagates that technical vocational education students contribute towards their countries' economic growth through technical skills. But in the situation where there is high level of untrained, inexperienced teachers and brain drain as revealed in this study, it becomes difficult as students may not even get the relevant skills for employability. This could be due to the teachers' level of professional competence which enormously influences students' technical skills.

It therefore becomes imperative for the Education system to devise means and ways to attract and retain adequately qualified teachers. Naturally directed curriculum could be distorted by teachers who lack the knowledge, skill and initiative to adapt and adopt the curriculum plan as already discussed. This study further confirmed Rogan and Grayson (2003) curriculum implementation theory that, teachers play a pivotal role in reform processes, and factors such as their background, training, subject matter, knowledge and motivation influence their capacity to implement programme (Rogan & Grayson, 2003).

5.4.4 Continuous professional development (CPD)

McLaughlin (2002) argues that all the successful curriculum change projects depend on implementation strategies that include effective staff training. Research by (Hargreaves, 1994; Fraser, Kennedy, Reid & McKinney, 2007) suggests that professional development is an essential part of improving school performance. As earlier indicated from the data provided in chapter 4, schools had a large number of temporary teachers. However, if these untrained teachers received assistance from HODs and school heads, they could improve their teaching capacity. Moreover, staff training can be affected by the length of service in the implementing school.

Coolahan (2002 argues that the best CPD should be conducted within the school environment and it has to consider both the interests of the education system and personal and individual needs of the teacher. The study found that most CPD programmes were internally conducted. It emerged that most of the schools in Khami District had staff meetings and subject staff development workshops which lasted a

duration of one to two hours and were conducted fortnightly. These on-site-workshops were conducted by subject committees or heads of departments. The study further established that teachers were able to scheme in teams. Such workshops could enable the young and inexperienced teachers to improve their teaching skills as well as motivate them.

A study by UNESCO (2009) on teacher motivation, compensation and working conditions. Above all, the implementation change model advocates in-service workshops among staff members to equip them with relevant skills as well as boost their confidence (Fullan,1991; Ornstein, & Hunkins, 2004). This is also in line with the Rogan and Grayson curriculum implementation theory which advocates material and non-material support which is in form of professional development (Rogan & Grayson, 2003). According to Rogan and Grayson's (2003) theory, lack of non-material support can hamper the implementation of technical vocational education in the designated schools.

The study further established that besides staff workshops in some schools, teachers worked in subject panels, where they worked as teams. It is recognized internationally that teacher development is often promoted within the context of school development with more schools being encouraged to engage in collaborative development planning. In this case, teachers work as communities of learning and thus plan, scheme together and share ideas on how they can develop students' skills (Coolahan, 2002). Working as communities of learning can benefit both experienced and newly qualified teachers. This is in line with studies by Young and King (2002) which ascertained that instructional quality can be strengthened when the school heads create internal structures and conditions that promote teacher learning.

A professional's knowledge therefore also becomes outdated at an ever increasing rate, hence the need for a continuous updating of knowledge and skills. Continuing professional development is a vital instrument through which professionals can remain relevant in society (Frick & Kapp, 2007). Curriculum designers need to provide the

necessary support for their recommended programs or program modifications to facilitate their rapid implementation (Fullan, 1991). They have to do this so as to build self-confidence among those affected (Ornstein &Hunkins, 2004). It can be observed that there is a need to assist those untrained teachers, newly qualified teachers as well as experienced teachers who have long been in the service. This can help them to gain confidence in dealing with new situations of curriculum implementation in technical vocational education and in the use of new equipment.

Interestingly, it emerged from the study that the Home Economics Department is no longer affiliated to the Association of Home Economics due to the financial and economic problems of the country. The study further revealed that teachers used to have cluster workshops conducted by Better Schools Programme of Zimbabwe (BSPZ) but these were no longer conducted since 2008 due to lack of funding. BSPZ is a programme which sought to improve the [illegible]ice of schools through working together as clusters and districts. It aimed at improving teacher competencies.

This is a model of CPD which is described by OECD as a bottom-across approach whereby teachers in a cluster of schools may collaborate on professional learning and development activities (Fraser et. al., 2007). The economic situation in Zimbabwe has negatively affected the implementation of technical vocational education; denying the teachers opportunities to develop themselves within their clusters. The study revealed that teachers were not happy with the lack of these CPDs. The lack of these staff development workshops disadvantaged students who would have benefited from the knowledge and skills gained from such workshops or courses by their teachers.

One of the major factors which contribute to successful implementation of any innovation is the participation or characteristics of the district level as cited in the change model (Fullan,1991) and in Rogan and Grayson's (2003) curriculum implementation theory. The Rogan and Grayson's (2003) curriculum implementation theory emphasises the need of external support to improve the implementation process of a programme.

The study revealed that schools did not receive any external in-service workshops from the district officers because of inadequate finance and transport. Considering that most of the teachers in the studied area as earlier indicated in this study, lacked specific skills, there was a need for them to get assistance from the district specialist. The external support for implementing a programme is emphasised by the Rogan and Grayson theory of implementation.

If teachers lack support such as professional development programmes or in-service training they will find it difficult to implement the desired programme (Rogan & Grayson, 2003). This therefore jeopardized the implementation of technical vocational education and the students' skills acquisition. In-service workshops by the DEOs would have afforded teachers opportunities to share ideas and discuss curriculum issues, enhancing their skills for curriculum delivery.

However, despite the fact that they were not able to conduct external workshops for teachers and school heads, district officers held meetings with the heads. Rogan and Grayson's (2003) theory of implementation concedes that those charged with the implementation of change need to be supported in a variety of ways, and need to be enabled to communicate and collaborate with one another. The results from this study are contrary to the views of Rogan and Grayson (2003) as the study revealed that they did not get any material and material support from the DEOs. These teachers were denied a chance to be together during workshops and share their experiences and challenges in the implementation of technical vocational education. The lack of external support in terms of staff development workshops could have impacted negatively on the development of skills for both teachers and students leading to poor performance by the schools.

There were no self-advancement programmes provided by the district education office except at national level when teachers went to do degree courses. However, most of the teachers left the profession after graduation for better paying jobs as revealed by

the study. This type of professional development is in line with Friedman and Philips (2004) as cited in Fraser, et al., (2007) when they state that legitimacy of professional development activities is often perceived in terms of formal training courses linked to work or gaining a qualification-portable or bankable. Such acquisitions act as motivation to teachers.

This study noted that CPD seemed to have a paradigm shift from that of attending courses and training for days to the concept of life long or continuing learning within their schools. This is in accordance with Middlewood, Parker and Beere, (2005) who argue that professional development is an on-going process of reflection and review that articulates with development planning that meets corporate, departmental and individual needs. Nonetheless, the findings of this study revealed that in terms of Rogan and Grayson's (2003) curriculum implementation theory, schools lacked external non-material support in form of professional development and this hampered the implementation of technical vocational education in the studied.

5.5 Pedagogy and teaching methods

It need not be emphasized that teachers are the chief curriculum implementers because they interpret the national curriculum according to the individual teacher's level of professional training, personal qualities, intelligence, school, environment and to the learner's characteristics. Thus, the teacher's level of competence can influence effective technical vocational education implementation. However, it has to be noted that the quality of teaching technical vocational education hinges on a number of variables. Those include infra-structure and equipment, relevance, content, teacher qualifications and relationships with the world of work. These variables tend to have a symbiosis relationship, that is, if one of them malfunctions, the rest become affected. (Mbele, 2005). Therefore, teacher qualification and experience on their own cannot bring about successful implementation of technical vocational education and the development of self-reliant skills among the students.

Evidence from the study revealed that students did not attend schools for two terms because teachers were on industrial strike action. The study further found that teachers lacked commitment and came late for classes. Students lost valuable time for learning because of this behaviour by teachers. It is argued that students who miss extended periods of direct contact times with their teachers are less able to develop the requisite knowledge, skills and competence that school curricula demand (UNICEF, 2000), and are less likely to see the need to come to school. This view is true as some students ended up not coming to school regularly as they saw it as waste of time. Rogan and Grayson's (2003) curriculum implementation theory also concedes that lack of commitment by teachers can hamper the implementation of the intended programme.

It is most likely that the absence of teachers and their lack of commitment could lead to poor implementation and performance by students in technical vocational education. Research by Legotlo et al., (2002) on Perspectives of Stakeholders on Causes of Poor Performance in Grade 12 Learners in a province in South Africa, revealed that students in Grade 12 failed because of union activities, lack of commitment and absenteeism among staff members. If students with poor results are chosen to do technical vocational education, curriculum has to be changed to suit the type of students. It should be borne in mind that students' characteristics are also the determinants of curriculum as stipulated by the Fullan's (1991) model of change and Rogan and Grayson's (2003) theory.

It is clear that while the teacher is the final arbiter of the classroom practice, learners have the final choice regarding their response to experience provided (Nkomo, 1995). The teacher has to choose teaching methods which suit the learners. In this case, temporary teachers would find it difficult to choose teaching strategies relevant to the majority of students that were placed in technical vocational education classes since students were academically challenged. On the other hand, the teachers were also handicapped by lack of training and experience to adjust to the teaching methods suitable for the ability of the students. As a result, what would have been taught could have been different from what was expected.

This view is in line with Fullan's (1991) model of change and Rogan and Grayson's (2003) theory which states that, what is taught, is quite different from the curriculum that is actually implemented and achieved in the form of the operational and hidden curriculum borne out of the diverse, complex, human interaction in the teaching-learning situation. One important issue relevant to understanding the educational policy implementation domain is policy interpretation. The different people involved in the implementation of an educational policy are likely to have, not only different values and different interests, but also motives and perceptions, which constitute what some policy analysts have called different values and different cognitive structure (Lewis, 1984, Parsons, 1995).

Teachers still have an important role in skills development as well as in the implementation of technical vocational ed[illegible]s they must teach content and functions required. By the engagement with the content, they make learning effective, meaningful, integrated and transferrable. The teacher becomes a strategist who constantly makes decisions about the substance of instruction, about the procedures needed to acquire a function, and about the conditions under which it is appropriate to apply a given function (Horton, 1988 cited in Grosser, 2007). If government is serious about the implementation of technical vocational education, it has to be serious about improving the situation on the calibre of technical vocational education teachers.

Teaching methods are being devised to make learners autonomous and free them from constraining supervision. Emphasis is placed on the direct motivation and involvement of the learners. What goes on in the classroom and the impact of the teacher and teaching is the crucial outcomes variable for improving learning (Rogan & Grayson, 2003). The way teachers teach is critical in any reform design to improve quality (Sall, Ndiaye, Diarra & Seck, 2009:54). The success of implementing technical vocational education in Zimbabwean secondary schools is dependent on the teaching strategies used by teachers.

Regardless of which philosophical view one has of education, there is no doubt that teachers influence students' learning as better teachers foster better students (Ornstein & Hunkins, 2004:321). Teachers are integral to the thinking that drives programme creation and implementation as they are reflective (Giroux cited in Ornstein & Hunkins, 2004). Hence, the researcher sought to establish strategies used by teachers in their lessons. The study revealed that most of the teachers used the child-centred approach such as projects and demonstrations which allowed skills development and students involvement. Learner-centred approaches are based on an emancipatory vision in which students take control of their learning: they are active, creative, and self-regulatory. Direct intervention by the teacher is seen as suspect and as interfering in a natural process (Taylor,1999). The role of the teacher in this kind of learning is that of a facilitator. According to these findings, the teachers implemented constructivist learning methods.

The advantage of direct participation by students in the learning process has been adopted as effective since the introduction of active methods based on established psychological and organizational knowledge. The merits and the efficiency of the most commonly practised pedagogical approaches and methods, such as structured teaching, outcome-oriented pedagogy and competency- based approaches depend on the training received by the teachers, their scholarly culture and their personality (Sall et al. 2009).

Thus, this could be difficult for temporary teachers in the studied schools as they lack training. The problem of using teacher centred approach seems not to be only affecting the studied schools only. Sall et al. (2009) concede that to improve the quality of education in Sub-Saharan Africa, it requires teachers to be trained to become genuine educational professionals who are capable of using active and stimulating communication techniques that place students at the centre of learning. It has to be noted that the technical vocational education curriculum is skills-based; therefore it needs teachers to use relevant teaching methods in order for students to acquire those skills.

The findings of this study were that some teachers used perceptional instructional methods because of shortage of textbooks. The use of lecture methods did not allow students a chance to explore their environment, thereby limiting students' creativity. Sall et al. (2009) argue that pedagogical methods and strategies are feasible and efficient only if they are backed by adequate teaching materials, aids and equipment. It has to be noted that the use of strategies does not guarantee that students will acquire the relevant skills and knowledge. Students' characteristics can also be a determinant factor in the implementation of technical vocational education (Fullan, 1991; Rogan & Grayson, 2003). Their willingness to learn is one of those factors. The other important factor which can affect the learning situation is the class size. The pedagogical methods practised by teachers largely depend on the class size.

5.5.1 Class size

The size of the class and the modes of functioning are determined by political and economic factors. These factors are subject to numerous internal and external factors. The size of classes and effective modes of functioning depend directly on the number of schools and classrooms available, as well as the number of students and teachers available (UNESCO, 2004).

This study found that most government schools had large teacher-student ratios as compared to private schools. In most government schools, the ratios were as high as 1:35 instead of the official ratio of 1:25 which affected student-book ratio as well as the teaching load. Where classes are small, students are given adequate assistance and there is a lot of teacher-student interaction. Class size is of paramount importance in technical vocational education where students are to develop practical skills. These students have to receive teacher assistance and have adequate equipment or tools. The quality of teacher-student interactions, the frequency of homework and the opportunities offered to students to discuss and exchange ideas in class depends on the number of pupils in the class. Quality is a function of the number of pupils in class (Sall et al. 2009)

Large classes in technical vocational education are difficult to manage as students need close and personalized supervision. These sentiments were echoed by Sall et al. 2009 when they said that teachers are reluctant to resort to active and participatory methods, and to divide students into small groups when there are many students for the space available.

The study had contrasting findings from most private schools and farm schools where some classes had seven to twelve students. In cases where the teacher-student ratio was 1:7, there is human resources under utilization although students can receive full attention. This view is shared by Wolter (2008) in his studies in Switzerland where it was noted that school classes that are too small and much too large have a negative impact on the learning out comes. But within these poles, the only acceptable range which can have a good effect on learning outcome[illegible]o 20 which is in line with the government's recommendations, as revealed by the study. The effect of large classes is also confirmed in a study by UNESCO (2009) which showed that children who were in classes of 25 students or more were 1:5 times more likely to demonstrate lower test scores and increased grade repetition.

Class size remains a key topic in school quality debates. Evidence suggests that quality education (in terms of student achievement) is associated with small class size (Darling-Hammond 1998), although the link has not been consistent in the world (Postlewaithe, 1998; Williams 2000 cited in Brown,2008:293). The perceived benefits of small class size are revealed in Brown's (2008) study where migrant teachers are employed in Botswana to reduce teacher shortage and reduce class size. This study established that these large classes emanated from shortage of teachers who had either joined the private sector or migrated to neighbouring countries. Therefore, the schools tried to capitalize on those few teachers who were available. These few teachers who teach large classes in technical vocational education can be demotivated because of the prevailing situation. According to UNESCO (2009) teachers are motivated by teaching small classes.

Information from this study revealed that while there were large classes, only few students registered for the end of the year 'O' Level national examinations. It has to be noted that to register a subject for national examinations in Zimbabwe depends on funds in most cases, practical levies are expensive than academic subject levies. The number of subjects a student wants to write depends on one's capabilities or affordability by parents. Generally, a student should write a minimum of five subjects and should pass them and these include main subjects like English Language and one science subject. The maximum is usually nine subjects. Low registration of examinations by technical vocational education students was confirmed by ZIMSEC (2006).

Some students failed to register for examinations in technical vocational education subjects because of high costs. It can be [illegible] that such situations mainly affect students from poor backgrounds and those orphans who are mainly sponsored by NGOs. The assistance by NGOs confirms the capacity support given by outside agencies as propounded in Rogan and Grayson's (2003) curriculum implementation theory. High costs of registration fees which affect students from poor backgrounds confirm that technical vocational education can be a form of exclusion (Shavit and Muller, 2000). Such situations defeat the whole concept of technical vocational education contributing meaningfully towards the country's economic growth as suggested by the human capital theory. It also affects those students who intended to pursue their careers in the technical field. This study further sought information on students' performance in national examinations.

5.5.2 Students' performance

The implementation of any curriculum is determined by the national examinations. In Zimbabwe, these include the Grade 7 and the International Examinations at "O" and "A" Levels. The value of a public examinations certificate is stressed in our society (Nkomo, 1995). In Zimbabwe, people consider passing 'O' Level as a great achievement since the certificate is used to seek employment. Advancement to 'A' level and is also

considered for those who want to be admitted to polytechnic colleges and teacher training colleges. Consequently, curriculum implementation is geared towards success in these examinations. It can be noted that Zimbabwean technical vocational education could be classified as content-based.

The quality of any education system is measured by the performance of its students. This study found that students' district national examination pass rate for technical vocational education at "O" Level was very low. In some cases, some schools had an average pass rate of 0%. It emerged from the study that most private schools were performing better than government schools. The better pass rate in private schools could be attributed to better facilities and better conditions of service.

It was further established that technical vocational education results were better than in the academic subjects. Candidates perfo[illegible] in technical vocational education subjects. However, the technical subjects are characterized by low student enrolment and few districts offer them, yet they could boost the school pass rate (MoESC,2006). This is a complicated situation considering that most students who are channeled to technical vocational education are those who would have performed badly at Form 2 level. Thus, this study established that in some schools, students were given extra lessons. The pass rate could also be attributed to low enrolment of students who write national examinations. It could be assumed that those students who register for technical vocational education examinations are those who are confident to pass it.

The result from this study showed a different trend in the pass rate from 2005 to 2008 as there was a downward trend in the pass rate. In 2005, students performed better than in 2006, and in 2006 they performed better than in 2007 and in 2008 the results were worse. This was mainly attributed to the use of untrained teachers and the poor economic situation in the country as well as industrial strike action by teachers and use of an old, irrelevant syllabus. The poor performance by students is due to the inadequacy of qualified teachers due to transfers and migration to other countries was confirmed by the Division of Quality Assurance (MoESC, 2006).

Some of these schools had big staff turnover due to transfers and resignations to greener pastures (MoESC, 2006). Poor results were also revealed in this study where a farm school had an average pass rate of 0% in 2007. The school was using the wrong syllabus and the subject was taught by an untrained temporary teacher. Contrary to what happened to the farm school in one private school where they used the relevant syllabus, the subject pass rate was high. Nonetheless, this could be attributed to a number of factors as the former is poorly equipped and the latter has better facilities. The examination school results from the private and farm schools show the need to consider the differences in the schools' environments as suggested by the Rogan and Grayson's (2003) theory that schools' characteristics should be considered when planning and implementing curriculum (Rogan & Grayson, 2003).

Bush, Joubert, Kiggundu and Rooyen (2009) acknowledge that socio-economic conditions in a country can have an impact in the school learning environment as there is a relationship in material cost and available school revenue. Inflation has an adverse effect on school revenue and materials to be procured. Therefore, performance of students can be inhibited by a serious shortage of learning and teaching support materials; successful implementation of any programme is dependent on the availability of resources and teacher factors (Fullan, 1991; Rogan, 2003).

The poor performance of students in this study are attributed to shortage of materials and inadequate qualified teachers. Teachers migrated to other countries to flee the economic situation prevailing in the country. Poor performance of students was further attributed to low morale among staff members. These findings are also in line with Fullan's (1991) model of change as well as the Rogan and Grayson's (2003) theory which advocate adequate supply of material and financial resources to schools if implementation of the desired programme is to succeed.

It was further established that teachers in the farm school fled from the school because of poor accommodation and transport costs. This confirms studies in Ghana, Nepal, Malawi, Pakistan, Papua Guinea, Rwanda and Zambia where teachers' salaries are woeful and there is inadequate teacher accommodation and where accommodation is available, it is poorly administered (VSO, 2006). Skills development among students demands that all these mentioned factors should be in a good state for it to take place. Any unfavourable environment works against the promotion of skills development among students, hence, jeopardizing their chances of employability.

Evidence suggests that countries with high net outward migration of teachers tend to experience a simultaneously migration-aspiration among the non-migrant teacher colleagues who remain behind, especially at the local school level where the teachers migrated from (Commonwealth Secretariat 2003; Ingersol, 2001). The study's results confirm observations from Brown (2004) [illegible] Brown (2008), where part of the reasons pushing many teachers, both inside and outside the SADC region, to migrate, is job dissatisfaction resulting from low compensation, job status, and frustrating working environments linked to large classes and limited resources.

The school syllabus is an important document in the implementation of any school curriculum as it guides the teachers on what has to be taught. It also gives an overview of all topics to be taught within a given timeframe and above all, it shows the aims /objectives of that particular curriculum. It emerged from this study that schools had a shortage of syllabi and they used different syllabi. Some schools used old syllabi while others used new ones. Shortage of syllabi can cause confusion among teachers and the desired or intended curriculum may not be implemented. Such a situation raises concerns on what exactly is being taught in these schools. Mupinga et al. (2005) concede, in the absence of set performance standards, the course objectives from which teachers derive the content for various technical subjects are open to different interpretations which could result in students graduating with different competencies.

Fullan's (1991) model emphasises clarity on the implementation of a programme (Fullan, 1991; Ornstein & Hunkins, 2004). The lack of clarity in the implementation process could be seen in the use of different syllabi by schools and in the subject syllabi which are used by teachers to interpret the goals of the programme and derive the content. This has led to some schools performing well while others perform badly.

The Ministry of Education, Sport and Culture (n.d.) Junior Certificate Syllabi for Building, Metalwork, Woodwork, and Technical Graphics objectives lacked clarity as students are expected to get exposure to the industries, gain basic skills and processes for a particular industry; and develop technical skills to a degree where they are self-sufficient. An awareness of industry, and acquisition of basic technical skills seem to be at the extreme end of the continuum with advanced skill proficiency. The dilemma for technical vocational education teachers becomes how much emphasis to put on basic skills without jeopardizing the levels of technical proficiency where students are self-sufficient.

Among the objectives of Woodwork are to "promote the acquisition of knowledge and technical skills leading to self-sufficient; and make simple wooden articles that are useful in the home and community (MoESC, n.d:22).Technical vocational education is a skills-based curriculum, students have to develop technical skills through practical lessons or construct items as proposed by the human capital theory.

This study established that students were able to design and construct some items for home use. They were also able to engage in productive agricultural activities. It also emerged from this study that students practised entrepreneurship skills as they sold their produce. This shows that some of the objectives of technical vocational education are being implemented as students skills, which are in line with human capital theory. Students' items being good was also acknowledged by ZIMSEC (2006). However, articles produced by students are not the quality needed by big markets or industries and therefore, they could not contribute towards the country's economic growth as propounded by the human capital theory.

While it can be argued that school and classroom factors are critical in the shaping of student learning, curriculum policy is nevertheless seen as key factor in setting the direction for, and providing coherence in, the teaching and learning. A curriculum framework sets out the intentions of policy makers (Taylor,1999). The implementation of technical vocational education could be affected by poor funding policies despite the fact that there may be some good and best qualified teachers as well as lack of clarity as articulated by Fullan's (1991) implementation model of change. The researcher sought information on schools funding and availability of other resources as they are an important factor in the implementation of technical vocational education..

5.6 Financial and material resources

In the case of developing countries, Verspoor (1989), in his analysis of 21 World Bank-supported educational change programmes, pointed out that those large-scale programmes tend to emphasize adoption and neglect implementation. Thus, in nearly all instances, low outcomes resulted from poor implementation of what was essentially a good idea. In most instances, this is caused by lack of political will from the government, lack of funding as well as lack of resources. The policy-makers never give themselves time to evaluate what is really taking place on the ground (Verspoor, 1989). It can be observed that despite the fact that most of the policies are being implemented, the government is not willing to commit itself.

5.6.1 Funding

The provision of facilities necessary for curriculum implementation is not be possible without the cooperation and joint action between the beneficiaries (local communities) and central government (Nkomo, 1995). Parental involvement in the affairs of schools is a worldwide phenomenon. In Zimbabwe, government authorized parents to be in charge of the affairs of the school and technical vocational education (Ministry of Education Secretary Circulars number 2 of 2001 & 2002). Evidence from this study reveals that parents have played their role and they are the major funders of technical vocation

education as they now pay teachers' incentives and incur all the expenses of running schools. This concurs with Fullan's (1991) model of change and Rogan and Grayson's (2003) theory which emphasise the importance of external funding or outside support for the successful implementation for an innovation.

The study further found that schools faced problems as most of them are not working. Even those who were employed earned low wages especially those who worked on farms. The capacity to implement technical vocational education is hampered by the environment factor. Teachers in these schools can only implement the curriculum according to the way that suits their environment and this could be different from the planned and intended curriculum.

Chinyamunzore, (1995) in his paper on "Devolution and Evolution of Technical/Vocational Education Curricu[illegible]Zimbabwe", acknowledges that employment is a critical issue in Zimbabwe. The economy is shrinking and for one to find employment is a nightmare (Chinyamunzore, 1995). This study confirmed the seriousness of the economic situation in the country as government no longer funded public schools because of the prevailing economic situation. It is these conditions which negate the successful development of human capital.

Students in technical vocational education need sufficient funds to run projects where they can develop a number of self-sufficient skills. Glatthorn, Boschee & Whitehead, (2006) emphasize the need for curricular support such as educational funding from responsible authorities. Failure of proper funding can impact negatively on development of students' technical skills and competencies and their chances of employability. According to Rogan and Grayson's (2003) theory of implementation, if schools lack financial support from outside agents like government they could find it difficult to implement the desired programme.

It emerged from the study that government schools are poorly funded as compared to private schools. This confirms results of the study by Gill and Heyman (2000) in Egypt,

where it was established that government schools had poor quality of education due to inadequate funding. The study further confirms studies by Johanson and Adam (2004) carried out in Kenya and Botswana which showed that technical vocational education curriculum delivery needed large financial inputs for its successful implementation as well as developing students' skills. Such findings are in line with Rogan and Grayson's (2003) curriculum implementation theory. This theory views outside agencies as an important factor in the implementation of curriculum because of the support they render to the schools. The support could be in cash or kind. In Zimbabwe, it is the responsible authority which has to meet all the school's needs. The responsible authority, therefore, has an obligation to support the school programmes of which failure to do so leads to poor implementation.

Schools were therefore not able to meet their obligations such as procurement of equipment and other learning materials as teachers' incentives because of inadequate funding. Interestingly it emerged from this study that in government schools for the first time in Zimbabwe, parents paid teachers' incentives to top up those paid by government. Dempsey and Sandler (2005) acknowledge the importance of parental involvement in children's learning. They view it as involving support of academic achievement of their children through providing finances which are fundamental to academic success. Ornstein and Hunkins (2004), and Rogan and Grayson (2003) concur with this view as they argue that money is needed to support all school programmes for successful implementation. According to Fullan's (1991) model of change it could be difficult for the studied schools to implement technical vocational education with inadequate funding.

Parents provide the school with financial support for its day to day running (Chivore, 1995). However, until 2008, parents in government schools had never paid teachers' incentives; they only provided funds for facilities, equipment and infrastructure. Although these incentives paid by parents were meant to motivate teachers, they had a negative impact since teachers were not paid on time or regularly. Parents seemed to struggle with other problems as most of them were not employed, as revealed by the study, and

they could not pay both teachers' incentives and levies. According to the findings of the study, these situations were prevalent in both government and farm schools. These financial woes are confirmed by the Zimbabwe Human Development Report (1990) which noted that the country's economy performance declined since the introduction of the Economic Structural Adjustment Programme (ESAP) in 1990 (United Nations Development programme, 2003 as cited in Kanyongo, 2005) . Poverty has become more acute and wide spread, leading to many parents failing to pay school fees for their children.

Teachers are the most important factor in determining the quality of education that students receive. Therefore, non-payment of teachers' salaries can affect their motivation and morale, leading to poor performance and non-commitment towards execution of duties. The nonpayment or low payment of teachers' salaries was reported as the other factor which led to poor perform[illegible]tudents in Khami District 'A' Level results (MoESC, 2008). UNESCO (2009) also considers salaries as a critical issue in the teacher's motivation. This study found that all civil servants in government schools were paid USA $ 100, which by then was equivalent to R1000. However, at the time of writing this report, the situation had slightly changed as teachers earned USA $190 which is about R 1330 and school heads earned slightly more about USA $250 which is equivalent to R 1750.

The situation has improved slightly as seniority is now considered in terms of posts. In the private schools, the situation is different as teachers are paid better salaries. They top-up what is paid to civil servants in government schools. This depends on individual schools. Low salaries have been witnessed also in Kenya between 1991 and 2002 where a teacher's salary for a primary teacher was less than that of a bus driver and less than a skilled industrial worker (Fredrickson cited in VSO 2006). It is well documented that any long-term predictable funding that does not take into consideration the cost of paying teachers is going to fail (VSO, 2006).

This study established that non-payment of school levies did not affect teachers only but had an effect on students as many of them could not afford technical vocational subject levies and as such, dropped the subjects. The findings of this study confirmed what was articulated in the Zimbabwe National Report (MoESC, 2001) that some students drop technical vocational education subjects due to lack of funds. Financing education in Zimbabwe has been a major problem and a challenge. The education system has been highly consumptive with a total annual budget of an average of Z$12 billion per year for the two ministries (MoESC, 2001). These financial constraints result in shortage of staff and teaching materials; thus, compromising the quality of education. This has also contributed to increased dropout rates at secondary schools and colleges (MoESC, 2001).

The 2001 and 2002 implementation of technical vocational education policies left the initiative to individual school heads on the [illegible] of technical and vocational subjects, depending largely upon the facilities and staff available in the school including learner preferences (MoESC, 2001; 2002). Schools had depended on per capita grants from government and the school service fund, the apportionment of which, even though regulated, depended on the school heads (MoHTE, 2005). It emerged from this study that schools were poorly funded by government and this affected choice of technical vocational education subjects offered by schools.

Evidence from the study indicated that government no longer pays schools per capita grants and school service funds. Schools now depend solely on SDA/SDC funding. Kanyongo (2005) argues that the decentralization by government reduced the central government's financial responsibilities, thereby increasing the gap of quality of education between the rich and the poor. This finding was confirmed by this study as private schools had better facilities than farm and government schools.

Capital investment, purchase of consumables and maintenance of equipment were all to be financed by these funds and because of this lack of a sustainable funding; refurbishment and replacement, the state of infrastructure and equipment has continued

to decline, making it difficult for schools to implement technical vocational education. UNESCO (1993) emphasizes the need for strong allocation mechanisms for financial resources as it improves the quality of learning and assists schools to be market responsive.

Failure by government to allocate additional funds to support technical vocational education could be interpreted by teachers as lack of interest and commitment in technical vocational education. Several studies have reported a high correlation between central administration commitment to involvement in the change process and the success of the change process (Nhundu, 1997). Fullan (1991) argues that teachers and other implementers do not take change seriously unless central administration demonstrates support through action and not mere verbal approval. Such action involves the sourcing and provision of adequate funds and equipment.

5.6.2 Material resources

The relationship between school inputs and achievement has shown that student performance in developing countries is largely influenced by quality of school inputs and not by the socio-economic factors (Psacharopoulos & Woodhall, 1985). Resources usually inhibit the effective implementation of the various aspects of the curriculum. It emerged from the study that some public schools had broken windows and door handles while most of the private schools had good buildings with intact windows and doors.

Some of these facilities were vandalized by students themselves. These trends were also revealed in a study by Legotlo et al., (2002) where students themselves vandalized school property. According to the Rogan and Grayson's (2003) theory, the physical resources are certainly a major factor that influences capacity. Poor resources and conditions can limit the performance of even the best of teachers and undermine learners' efforts to focus on learning (Rogan & Grayson, 2003). This is a clear indication that students in government schools in Zimbabwe were exposed to harsh learning

environments and their performance could have been affected by these poor conditions..

The study further revealed the difference in learning conditions among private, public and government schools. Private schools experience the best conditions while those on the farm school were worse. It has to be noted that government schools are equally in a worse predicament than private schools, as revealed by this study. This disparity was also noted in most of South African schools where some private schools boasted of good buildings which could be rated as the best in the world. On the other hand, there were those public and private schools with broken down buildings, lacking doors and windows, electricity, and with few books and other resources (Rogan & Grayson, 2003). This study also revealed that one private school and a farm school had no electricity. In post colonial states, education system seems to encounter similar educational problems in terms of school infra-structure as indicated by study and Rogan and Grayson, (2003) on conditions of schools in South Africa.

Information from the study confirms a situation observed by Gill and Heyneman's (2000) study in Egypt where poor quality of technical vocational education was due to lack of adequate or current equipment. It was further revealed in this study that the successful implementation of technical vocation education is hampered by shortage of specialist rooms. This study also revealed that the shortage of infra-structure and equipment in both government and private schools made it difficult for teachers to conduct their lessons freely. This study further exposed that government, private and farm schools were bedeviled by shortage of specialist rooms. In some cases, two classes shared one specialist room at the same time.

Legotlo's, et al., (2002) studies on learner performance in a province in South Africa cited overcrowding and shortage of classrooms as some factors which contributed to poor performance among Grade 12 learners.

Studies in Tunisia, Chile and India by UNESCO (2009) confirmed the Rogan and Grayson's (2003) theory that physical capacity is an important factor in the implementation of a programme when it revealed that school infrastructure does influence the quality of various elements of the educational process. It revealed that the size and organization of classrooms can also influence the instructional methods of teachers. The teacher, in this case where space was too small, was forced to use the lecture method instead of group work and students were crowded, creating an unconducive atmosphere for learning. Technical vocational education is meant to develop students' skills and achieving these goals under such conditions according to Fullan's (1991) model of change and Rogan and Grayson's (2003) theory of implementation could be difficult.

5.6.3 Textbooks

School facilities can determine the effectiveness in curriculum implementation. Teachers need adequate instructional resource materials which include textbooks, teaching aids and stationery which need to be supplied in large quantities and on time. This is a factor over which educationists are generally in agreement. Students perform well if there is adequate resources with regard to classrooms, libraries, textbooks, finances and relevant curriculum (Fullan, 1991; Grayson & Rogan, 2003; Ornstein & Hunkins, 2004). The availability of such resources determines the teacher-student ratio. Where the ratio is high, (i.e. more students to one teacher) academic performance is lower than in schools where there are fewer students to a teacher (low teacher/student ratio), (Chakanyuka, 1995).

According to a research by Legotlo et al., (2002) on perceptions of stakeholders on causes of poor performance in Grade 12 in South Africa, students failed because of textbook shortage. Parents, school governing bodies, principals, students and teachers all concurred on that fact (Legotlo et al., 2002). This confirms the Rogan and Grayson's (2003) theory which argues that shortage of materials are an important factor in the implementation of a programme and the capacity of teachers can be affected by this factor. Textbooks seem to contribute immensely towards development of both technical

skills and knowledge as they are the source of information. Fullan's (1991) model of change also confirms that textbooks are an important factor in the implementation of curriculum.

According to this study, most schools both private and government, had shortages of textbooks. Other studies by Sall et al. (2009) have indicated that shortage of textbooks is not a challenge to Zimbabwean schools only. It is a problem which is encountered by most Sub-Saharan African countries. MoEHE (1996) acknowledges the challenges faced by schools in terms of textbooks. The major stumbling block to the provision of quality education in schools is shortage of textbooks, supplementary reading and reference books, to both primary and secondary schools (MoEHE, 1996). Studies by Kantabaze (2005-2006) cited in Sall et al., (2009) revealed that in ten developing countries, the relationship between mediocre results and the lack of school books was more significant and stronger than other variables such as qualification of teachers and the size of classes.

The study further revealed that shortage of textbooks was also made worse by the high cost. The situation has been found to be common in Sub-Saharan Africa was the cost of textbooks is prohibitive for the majority of households (Sall et al., 2009). The report by MoEHE, (1996) revealed that these provisions seem to be an issue that has been on-going for a long time without being addressed because of factors such as government's lack of political will or poor budgeting.

The study indicated that there was a difference between urban and rural schools in terms of textbooks and material shortages where student-book ratio was higher in urban public schools than on the farm school. This is contrary to what was reported in MoEHE, (1996) where the ratio was 1:5 in rural areas and 1:2 in urban areas. In 2006, the Quality Assurance Division reported the book-student ratio in public schools as 1: 8 (MoESC, 2006). This study has shown that the ratio on the farm school is now 1:3 and in public schools 1:10. This shows a decline in the economic situation as government schools can no longer afford to buy textbooks. It is evident that the economic state of

affairs in the country is affecting the learning situation and implementation of technical vocational education.

5.6.4 Equipment and facilities

If effective learning is to take place, a healthy learning environment must be created in the form of basic facilities, laboratories, workshops, and libraries (Nkomo, 1995). This study revealed that all these materials were not available in the majority of the studied schools in Khami District. The shortage of these essential equipment and facilities affected the development of students' skills and the quality of technical vocational education. The Quality Assurance Division also cited inadequate teaching and learning materials as a challenge which faced schools and caused poor performance by students (MoESC,2006). A study in Egypt by Gill and Heyneman (2000) revealed that the quality of technical vocational education in Egypt was affected by inadequate furniture, machinery and outdated equipment. It was further revealed that lack of these resources caused poor performance of Grade 12 learners in a Province in South Africa (Legotlo, et al., 2002).

The high success rate of reform in the implementation of technical vocation education in Brazil is attributed to high quality of the physical facilities, equipment and training materials. The maintenance of these facilities and equipment which is done regularly is also seen as critical in high quality delivery (Wilson, 1996). The situation in the studied area portrayed a different situation as most of the technical vocational education equipment in these secondary schools was old, outdated and some of it was obsolete as opposed to the Brazilian situation. Some of the equipment and tools in government schools were bought 26 years ago when the schools were first established as revealed by this study. This equipment was not repaired or replaced especially that which was consumable. Other equipment was said to be lost through pilferation by teachers was also never replaced. The situation in the farm school was critical as there was no single tool or equipment for agriculture. The situation accounts for poor performance of students in technical vocational education.

Although schools lacked equipment, they got solace in that parents had positive attitudes towards the implementation of the programme as they went out of their way in both government and farm schools to provide schools with some tools and materials which were needed. Ornstein and Hunkins (2005) concede that change innovations need the support of community and this is also emphasised by Fullan's (1991) model of change and Rogan and Grayson's (2003) curriculum implementation theory. This study established that at the farm school parents allowed students to fetch water and fire wood although it is against school regulations. It further emerged from this study that students even brought water from their homes to water their produce.

Consequently, it becomes difficult to implement curriculum where there is shortage of facilities and equipment considering that technical vocational education is mainly practically- based and is oriented towards skills development as proposed by the human capital theory. Nevertheless, it should be noted that curriculum implementation is the result of the interaction of various factors such as teachers, their personality, the learners' capabilities and teaching materials, hence, when there is shortage of one ingredient, the product is of poor quality. Similar results were found by Olatan (1996) in Nigeria where most schools were poorly equipped, and had ill-equipped workshops, libraries and the conditions under which technical vocational education was being implemented was poor. It can be observed that implementation of technical vocational education in most African countries is inundated with problems of resources.

Despite this acknowledgement of shortage of resources, the government still has not found any solutions to the problems. It only keeps changing policies which do not promote the desired goals of technical vocational education; that of developing students' skills for relevance and employability. Teachers could still fail to successfully implement technical vocational education due to capacity to support innovation because of poor funding, shortage of equipment, infrastructure and textbooks as proposed by the Rogan and Grayson curriculum implementation theory.

5.7 Monitoring and support

School heads are powerful influences within school settings in facilitating teacher use of an innovation or educational program. They create mechanisms to handle logistical and time scheduling, continuously monitor the attitudes and feelings of teachers (Taylor, 1987) and they provide a cognitive grasp, encouragement, confidence and cohesion (Van der & Knip, 1998) with respect to an innovation. For the head to perform these duties, he/she should be professionally qualified and experienced. Hence this study sought the qualifications of school heads and those of HODs since they are involved in the day to day management of the curriculum.

In Zimbabwe, about 80% of supervision is undertaken by administrators. Ministry rules and regulations require them to do so. The power-base of an administrator is organizational authority and that of a supervisor is expert knowledge. In this case, the HODs are mainly the experts as they are subject specific. This study established that the majority of the school management team was professionally qualified and these professionals could lend adequate professional support to teachers. Teachers need adequate support in various forms; namely, emotional, professional and social support in order for them to benefit from the exercise. Support systems include; supportive material out of school learning communities, subject area networks and professional organizations (Hargreaves, 1998).

The success of a curriculum leader as a change agent largely depends on the extent of formulating a shared vision and developing a strategic plan of implementation. Developing a vision of change and a strategic plan are key components of the process and should include guidelines that help aid the process (Glatthorn, Boschee & Whitehead, 2006). Thus, this can be difficult in schools where there are inadequate syllabi and the leaders lack experience as it emerged from this study that schools had inadequate syllabi and school heads and HODs lacked experience.

These heads and HODs could be handicapped in the execution of their duties by lack of experience, as the majority of management team had less than one year and one to

five years experience in their current positions. According to Carey's (1986) model, these members of the management team lack experience. It could be due to this lack of experience that some schools used the old syllabus as revealed in previous sections of this report. At the school or institutional level, the head of the school and HOD are the chief instructional supervisors. They monitor and guide the curriculum interpretation through ensuring that schemes of work, lesson plans and records of marks are prepared regularly and in accordance with the approved curriculum (Nkomo, 1995). If these professionals lack experience it could be difficult to assist teachers in some issues or to handle those way-ward teachers. They can even find it difficult to interpret the new syllabus and end up teaching only topics they are comfortable with.

Educational leaders ensure that curricular design, instructional strategies, and learning environments integrate appropriately to maximize learning and teaching. They facilitate and support collaborative-enriched learning environments conducive to innovation for improved learning (Glatthorn, Boschee & Whitehead, 2006). For one to execute these duties effectively one has to be experienced.

The finding of this study was contrary to observations made by the Quality Assurance Division (2006) that there was inadequate supervision by school heads and HODs which impacted negatively on the learning situation (MoESC, 2006). It emerged from this study that teachers received assistance from their heads and heads of departments who regularly visited classes and inspected teachers' record books and students' exercise books. This is in accordance with the views of Bush et al. (2009), who say that monitoring involves visiting classrooms, observing teachers at work and providing feedback. Bush et al. (2009) conclude that monitoring is a widely distributed role, including head teachers, deputies and heads of departments. Shinkfield (1994) concedes, while principals assume many roles, one of their most important responsibilities is the evaluation of teacher performance. This is an important responsibility as the head checks; a) the improvement of the instructional programme, b) the improvement of teaching practices, c) the improvement of student performance

and finally, the improvement of staff development and opportunities for teachers (Shinkfield, 1994).

This study further revealed that students' exercise books were also inspected occasionally. Both teachers and students benefited from such an exercise through feedback. The findings of the study are in line with Rogan and Grayson's (2003) theory of implementation and Fullan's (1991) model that emphasise teacher support by the school leadership if implementation is to succeed. This confirms Shinkfield's (1994) view that the head has to monitor students' performance. Bush et al. (2009) found out that there was a strong link between very good monitoring and good teaching. Under-qualified and less experienced teachers could have benefited from such class visits as their short-comings could have been identified and corrected. Information revealed that junior teachers were given more class visits. This is in line with studies by Nyagura and Reece (1989) in Zimbabwe, which pointed, [illegible] teachers required more advice and encouragement from their heads for successful execution of their duties. The untrained teachers need more class visits and feedback in order to improve their teaching methods and class management skills.

School heads have a direct responsibility for the quality of learning and teaching and for pupils' achievement. This implies setting high expectations and monitoring and evaluating the effectiveness of learning outcomes (Bush & Glover, 2009; Rogan & Grayson, 2003). Nelson (2003) argues that it is necessary for the principal to know good instruction when they see it, to encourage it when they do not and to facilitate on-going learning for staff. For the school head to do that, he/she has to carry out class visits and give teachers feedback on the way they handle classes. In a situation where a head reneges on his/her duties of class visits, technical vocational education implementation can be affected as teachers can continue using wrong teaching methods. There is also a danger of individual teachers interpreting the syllabus according to their own understanding.

The school head and heads of departments monitor daily the implementation of the technical vocational education curriculum. Occasionally, the external monitoring of the curriculum must come from DEOs and Education Officers (EOs). These instructional supervisors maintain the standard of education as expected by the National Government (Rogan & Grayson, 2003). They are to provide the external support needed by both school heads and teachers. The quality of these educational supervisors is expected to determine the effectiveness of the curriculum implementation process as stipulated by the Rogan and Grayson's (2003) theory. If teachers are given adequate supervision and feedback, they are bound to improve the students' learning process.

The findings of the study indicated that Khami District has a shortage of technical vocational education experts. There were no education officers in the district who were specialists. Inadequate technical vocational [illegible] experts means school heads and heads of departments are deprived of that expert advice which could be valuable for the implementation of technical vocational education in schools. Perhaps this could be the cause of continuous use of the old syllabus by the schools. Similar findings of a shortage of technical staff in technical vocational education were reported by Aboum (1996) in 26 Sub-Sahara African. The study also confirms Gill's et al. (2000) findings in Sub-Sahara African countries where technical vocational education suffered from lack of monitoring due to shortage of qualified personnel. It can be observed that shortage of technical vocational education specialist officers is not unique to the studied area as it is common among Sub-Saharan African countries.

The shortage of expert officers at district level is contrary to what was observed in Zimbabwe by Madziyire et al. (1998) that at secondary level each education officer is in charge of a subject specialization in a district. This study established that there is no longer any subject specialist in the district or at regional level for secondary schools. The whole Bulawayo Metropolitan Province had only one technical vocational education specialist, as revealed by the study. This situation is a cause for concern as teachers are deprived of a chance to be monitored and given the correct and relevant

professional support as well as feedback. The DEO is directly in charge of eight secondary schools and twenty-six primary schools. In his supervision, the DEO provides in-service courses to teachers and supervises student teachers, untrained teachers and qualified teachers. He plays an important role in developing and improving the efficiency of teachers in the schools. Hence, there is a need for constant professional development workshops for both teachers and school heads conducted within the district as proposed by the Rogan and Grayson's (2003) theory of implementation.

The study further reveals that most of the schools were not inspected for long periods, hence, depriving these teachers of an essential service. The lack of school inspections by the district personnel may confirm the fears by parents that school heads absented themselves due to lack of supervision by the district personnel (Nziramasanga,1999).

Inadequate transport to carry out supervisory duties by external supervisors was cited as a major challenge for quality assurance in schools which lead to poor performance among students (MoESC, 2006). This challenge was confirmed by this study as it emerged that failure to conduct regular school inspections by the district education officers was attributed to lack of transport within the district due to high cost. This study confirmed former Minister of Education Sport and Culture's (Chung) view that visiting each school is too costly. That is why some secondary schools were not visited by education officers for two years (Chung, 1988). She further elaborated that there was a need to also consider that DEOs have a high supervisor-supervisee ratio. They have to visit 34 schools in the district including both primary and secondary schools and it is not possible to give adequate supervision to all teachers. The district does not have its own government vehicles.

5.8 Summary

In this chapter, the major findings show that schools lack the capacity to support implementation of technical vocational education as propagated by the Rogan and Grayson's (2003) theory. Implementation of technical vocational education in secondary schools encounters numerous problems such as: inadequate specialist rooms, furniture,

funding, resources and equipment. Schools have a shortage of professionally qualified personnel and they end up resorting to employing temporary teachers who lack relevant teaching skills and experience. This has negatively affected the performance of students as well as skills production. The technical skills acquisition by students have also been greatly affected by the use of two different syllabi by the schools, that is, the new and old syllabuses. The findings showed that the planned curriculum is different from the implemented one. District education officers have failed to supervise curriculum implementation and improve classroom practitioners' teaching methods through CPD programmes.

However, poor funding by the relevant authorities has also impacted negatively on the students' skills development as wrong ingredients or materials were used by schools in their improvisation. This greatly affected the quality of the end product. Despite these hardships, technical vocational education in secondary schools has managed to empower students with some technical skills to a reasonable extent as they managed to design and make items like garments, tray servers, bake scones and produce vegetables for sale. In future, government needs to consider the idea of partnership with the business world for successful implementation of technical vocational education in secondary schools.

The next chapter provides a summary of the study, the major conclusions that were drawn from the study as well as some recommendations that could be adopted by policy-makers in an effort to address the problems facing implementation of technical vocational education in secondary schools.

CHAPTER 6

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter draws together key elements, lessons and questions from the study. It is divided into three parts; summary, main findings and recommendations.

6.2 Summary

The present study was concerned with the assessment of the implementation of technical vocational education in secondary schools. Technical vocational education is a crucial tool of economic development and it is central to the human capital development and hence, many countries implement it in their schools with the hope that by educating these students they can [illegible] the country's economy through productive skills (Akoojee, Gewer & McGrath, 2005). Hence, technical vocational education in secondary schools should be seen equipping students with technical vocational skills and preparing them for the world of work.

Three case studies in Ghana, Kenya, and Botswana by Lauglo et al. (2002) found that not much empirical research has been done on the topic since the 1980s (Johanson & Adams, 2004:87). The above assertion prompted the researcher to engage on this study whose purpose was to assess the implementation of technical vocational education in Zimbabwean secondary schools. The study sought to assess:

- how students are selected to the vocational path way.
- the capacity of teachers in delivering vocational education in secondary schools.
- the availability of resources in the implementation of technical vocational education in secondary schools.
- support and monitoring mechanisms provided by schools, government and SDCs to schools.

To achieve these objectives, the researcher adopted the mixed method methodology which is imbedded in the post-positivist research paradigm. Post-positivist research paradigm attempts to increase our understanding of the way things are and that objectivity is an ideal that can never be achieved, and research is conducted with greater awareness of subjectivity. By combining qualitative and quantitative methodology, it assisted the researcher to strike a balance and avoid being subjective on issues like selection of students, teacher capacity, funding, monitoring and availability of resources. Post-positivists acknowledge that people can understand things from a different perspective and propose a number of different answers on the same issue as it is constructed in an individual's mind. O'Leary (2004:6) claims that post-positivists see the world as ambiguous, variable and multiple in its realities- 'what might be the truth for one person or cultural group may not be the "truth" for another.

This method assisted the researcher to se and views on implementation of technical vocational education from different people in different communities with different backgrounds. The choice of respondents was influenced by their backgrounds and their engagement with the studied phenomenon, hence, their opinions were sought. The strength of this method was that it used quantitative and qualitative data. This gave the researcher a wide range of choice on the data collection instruments. The researcher had to opt for questionnaires, interviews, document analysis and observations.

The researcher was able to send questionnaires to students, teachers, SDA/SDC members, school heads and heads of departments who were sparsely distributed so that their views were also considered. This allowed respondents to contribute their views, opinions and perceptions freely on issues of implementing technical vocational education. The researcher also had a chance to interview District Education Officers, school heads, teachers and SDC/SDA members and this gave the researcher an opportunity to observe some salient features and probe for more information on some grey areas on technical vocational education and its implementation from all implementers and stakeholders. This was in line with Borg and Gall (2007) who noted

that observation is one of the techniques that can also be used when data is collected through other means and was difficult to validate.

The methods allowed the researcher to dig even deeper on students' performance through the use of document analysis. The mixed methods research is used as a form of triangulating methods and data sources in seeking convergence and corroboration of results from different methods and designs for studying the same phenomenon (Creswell, 2007; Johnson & Onwuegbuzie, 2004). The triangulation of data gave the researcher balanced information where the researcher had to draw conclusions on the studied phenomenon.

In general, the methodology was appropriate in that it accomplished the desired results. The survey alone would not have given the researcher the chance to analyse some documents related to students' performanc[illegible]mpared what was said with what was happening, hence, producing a true picture of the implementation of technical vocational path-way. The researcher would have been deprived of observing the real situation on the schools' infra-structure, classroom seating arrangements and the true reflection of shortages of furniture, equipment, facilities and text-books if he used the quantitative approach only.

The researcher would have missed the detailed accounts which were received from students and SDC/SDA chair persons, teachers and head of schools. On the other hand, a case study alone would not have managed to give information from these sparsely populated schools and worse still on all eight district secondary schools. Below are the main findings of this study.

6.3 Main findings

Contestations around how technical vocational education is being implemented in secondary schools and how it has to develop human capital continue to elude theorists and practitioners alike. What is of fundamental importance is, how it is to be implemented to achieve the curriculum's set objectives. Implementation of technical

vocational education was meant to develop students' attitudes towards practical work, to read plans as well as design and construct some items. The main findings of this study can be summarized under selection of students, teacher capacity, funding, resources and monitoring the implementation. The major findings of the study are listed under sub-headings in the subsequent paragraphs.

6.3.1 Selection of students into technical vocational education path-way

With regard to how technical vocational education is being implemented in secondary schools, the study concludes that:

Guidance and counseling of students before their selection to technical vocational education is not conducted among many government schools and where it is done, it is done late by senior teachers and heads of department. The Provincial team from psychological services no longer conducts guidance and counseling in schools due to lack of financial and transport problems. Nonetheless, private schools conduct guidance and counseling to their students before they choose the path-way to follow. Implementation of technical vocational education in government schools is inundated with lack of consultation of both students and parents in the selection of students to technical vocational education path-way although a different scenario was observed in private schools.

It emerged from these findings that implementation of technical vocational education in secondary schools is impeded by poor use of selection criteria standards in the placement of students to the technical vocational education path-way. Students' abilities, aptitude, and interest are never considered by most government schools although a different case was revealed in private schools. Private schools consulted students in the placement process and also considered ability and interest of students. Teachers in government schools mainly relied on end of term tests and subjective techniques such as timetabling and assigning under- performers to technical vocational education. In selecting students to technical vocational education path-way, both

government and private schools are not using continuous assessment, which is an important element in the selection criteria.

Finally, it was established that farm school students are deprived of subject choice as they are not offered a variety of technical vocational education subjects. They are compelled to do one existing technical vocational education subject which is Agriculture. While the development of skills was achieved to a lesser extent with these students; a higher rate can be achieved if correct and non arbitrary standard measures are used in the selection process.

6.3.2 Teacher capacity

There are many young unqualified teachers who lacked professional qualifications, specialisation and experience who are involved in the imparting of technical vocational skills to students in technical vocational education path-way in Khami District secondary schools. This compromises the standard and quality of skills and competencies developed in students as well as the nature of programme implementation. It emerged that none of the school heads in the district had specialised in technical vocational education although all of them are professionally qualified and have the relevant experience. However, the weakness of non specialisation was compensated by the fact that all the HODs were specialised in the subjects they headed although a number of them had not been in those positions for a long period.

The teachers used demonstrations, projects and other child-centred methods in the development of technical vocational education skills and competencies in the students' learning processes and there was relevance in the use of lecture method especially where there was shortage of text-books. Teachers' capacity to handle and manage classes in implementing, technical vocational curriculum is improved through internal school supervision, staff workshops, and induction courses as well as staff meetings mainly conducted by school heads and HODs. These are conducted regularly.

Nevertheless, the implementation of technical vocational education is affected by high staff turnover as well as internal and external brain drain. Teachers in the farm school migrate to town while those in towns either go to former white schools which have better incentives or migrate to neighbouring countries like Botswana and South Africa. This is mainly due to poor remunerations and poor working conditions which have even affected the morale of those teachers who have remained. The situation is the same in government, private and farm schools.

6.3.3 Pedagogic issues

The implementation of technical vocational educational and achievement of its objectives is mainly affected by big classes in government schools where the teacher-student ratio is 1:35. It was further established that while there were big classes in government schools, few students registered the subjects for national examinations because of financial costs. On the other hand, some private schools have too small teacher student ratio of 1:12. There is over utilization of teachers in government schools as well as under utilization of personnel in private schools.

However, use of the old syllabi by teachers could affect the implementation of technical vocational education in schools. Some private, public and farm schools are not implementing the new syllabus for the technical vocational curriculum. The use of the old syllabus is attributed to a shortage of new syllabus. The use of different syllabi by schools defeat the whole essence of implementing technical vocational education in schools as different curriculum is being implemented. This has been cited as another cause for poor performance of students in technical vocational education..

Students are able to make items like dresses, serving trays, bake scones and cakes although they have problems with availability of resources. Only few schools which do not experience water problems are able to grow some vegetables. Before the country's economic meltdown, students managed to keep live stock like rabbits and chickens. After leaving school, few students engage in projects or start their own businesses such as garment making, bakery industry and welding because of lack of financial backing.

However, schools need to have tracer system for its students after Form 4 to have a correct record on what they are doing.

The performance of students in technical vocational education in terms of pass rate is poor but it is higher than that of academic path-way. School results show a downward trend of students' performance from 2005 to 2008. None of the public schools implements technical vocational education path-way at 'A' Level and this leads to a dead end as students who want to proceed to university in technical vocational education face challenges. It was established that students who wanted to continue with technical vocational education subjects at 'A' level were to go to other government schools in other districts. Only two private schools offered technical vocational education subjects at this level.

6.3.4 Financing

Technical vocational education is mainly funded by parents through school levies and this impedes its proper implementation as the funds are inadequate. Responsible authorities like the Board of Governors in private schools pay teachers' salaries, however, the government at the time of the study did not pay teachers' salaries they were only paid incentives by both government and parents. The situation was the same for the farm school. Non-Governmental Organizations such as World Vision, Plan international Zimbabwe, Christian Care, Cadec Capenum Trust and Zimbabwe Development Communities provided assistance to public and farm schools with feeding programmes, payment of school levies and buying of school uniforms for orphans and vulnerable children. They also provided assistance with library books and in some cases classroom blocks as well as furniture. This was mainly to better the education and livelihood of disadvantaged students.

6.3.5 Equipment, infra-structure and other resources

Skills development through implementation of technical vocation education is impeded by the inadequacy of specialist rooms, furniture, equipment and facilities, text books and

libraries. The shortage of these resources is common in public, private and farm school, although the rate is higher in public schools. Interestingly the study found that the farm school had the lowest text-book student ratio, that of, 1:3. Students were not able to do homework due to shortage of text-books.

The development of human capital through the implementation of technical vocational education in public schools has challenges as the quality of equipment was either inadequate or too old. Nonetheless, the situation was worse in the farm school where there was no single tool for the only course offered. The quality of the equipment is made even worse by the fact that those which were worn out through wear and tear were never replaced. Public schools lose some equipment through burglary and pilferation by staff and careless handling by students.

Both government and private schools are affected by load shedding of electricity and water problems. Water problems are worse in farm school where child labour is rampant as children bring water for teachers and fetch fire wood for them. Implementation of technical vocational education curriculum in the farm school is hampered by transport, accommodation, and water problems. Teachers find it difficult to work under such conditions as valuable time is spent either looking for water or hitch-hiking to the work place.

6.3.6 Monitoring

There is monitoring of teachers through the school's internal system, following a supervision schedule and junior teachers are given more class visits to assist them through feedback. Teachers' records as well as students' exercise books are also inspected by school heads and HODs. It also emerged that most students lacked parental supervision as most of them lived with working maids since some parents were working in South Africa and the farm school students sometimes arrived at night because of distance. They also did not get assistance from parents as most of them had a lower level of education as compared to their children.

Schools lack quality assurance inspection from the district officers due to lack of finance and transport. Schools are mostly visited after five years. Implementation of technical vocational education experiences lacks specialist advice as most District Officers did not specialise in technical vocational education. The whole province has one such specialist among its five districts.

6.4 Technical vocational education in terms of the human capital theory

From the fore going discussion, characteristics of implementation of technical vocational education in Khami District lie mainly within the skills development as well as in the development of various competencies. Technical vocational education in secondary schools is viewed as equipping students with planning and designing skills, interpreting plans, as well as making items for home use. These are the highest skills which are imparted to students by their teachers.

In terms of employability, technical vocational education in secondary schools did not seem to be ready for this task as there is no evidence that directly links these skills to employment. This is in line with Johanson and Adams (2004) who postulate that so far there is no study which has shown that "vocationalisation that affects a minor section of student's total curriculum-five class period a week, or as much one third of the time in the instructional schedule-gives an advantage in finding work within the first years after leaving school".

The curriculum does not seem to be able to concentrate on this aspect. Students are given skills that do not rise to the level required to produce high quality world class products. The study also found that it was difficult to trace students after school and follow up on their employability record. Above all, this aspect depended on the economic environment, which may not have been enabling when students left school. Another disadvantage is that at the time there was student lack of self-marketing skills. Johanson and Adams (2004:16) concede that weak human capital form of generally low levels of educational attainment can "constrain the ability of workers to acquire new skills as market changes and thus slow both investments and market adjustments to

new technology". It is therefore difficult to train secondary school students to suit the demand of industries as the demand of human capital is determined by the fast changing technology and the new demands of industry.

This study targeted among other objectives as indicated in previous paragraphs, self reliance projects as the ultimate aim of skill development for the students. It was envisaged that students could open bakery projects, poultry projects and small garment projects which could contribute towards economic growth. The skills developed by secondary schools had little effect on economic growth within the country. The goods produced by students were only fit for local consumption since they were not of high quality; especially with regard to bakery and other agricultural products as it emerged that the equipment was old and not in line with modern technology.

Nonetheless, it could be learnt from this study that the development of human capital through technical vocational education at secondary school level is determined by a number of factors such as: students characteristics, support mechanism from various stakeholders, teacher capacity, availability of equipment and material resources as well as the prevailing economic conditions in the country of implementation.

6.5 Fullan's curriculum implementation change model

Overall, the findings of this study support the curriculum implementation change model by Fullan (1991) discussed in this study. The contribution of parents to the learning situation as well as the funding of various projects within the school system has confirmed the role of the community as agents of change. The change of values and attitudes by both parents and students assisted the researcher to understand why people change their values and attitude towards an innovation. According to Fullan's (1991) model of change when people view change to coincide with their values, they are more willing to accept the innovation being implemented (Fullan, 1991; Ornstein & Hunkins, 2005).

This model assisted the researcher to understand the teacher characteristic, student characteristics and their needs as well as the importance of outside school agencies, how they can affect the implementation of a programme. The model further facilitated the researcher to understand the complexity of implementing technical vocational education and that there are a number of factors which are involved if implementation of a programme is to be successfully implemented. Technical vocational education has been poorly implemented because teachers were inexperienced and some of them were not professionally qualified. The needs of students were not considered in the selection process as well as in the learning process since there was inadequacy of text-books and other learning materials for skills development.

The model further, assisted the researcher to understand that the success of an innovation or curriculum implementation is dependent on adequate funding, adequate both human and material resources, the characteristics of the school and that of the district. The views of respondents on funding confirmed the importance of these resources for the successful implementation of any change. While this model emphasised teacher characteristics, those of students and characteristics of change itself, all added to more complications in the implementation process as it may be difficult to find such an ideal situation. From this model one may realise that there is no perfect model of implementing a programme, it can only serve as a guideline of existing situations or minimize the chances of failure in the implementation of any curriculum.

6.6 Rogan and Grayson curriculum implementation theory

This study reveals that implementation of technical vocational education in the studied area is in line with the Rogan and Grayson's (2003) implementation theory as it revealed that the three main constructs of the theory need to be considered if the implementation of any curriculum is to succeed. Profile of implementation offered a map of the learning area and a number of possible routes that could be taken in the implementation process (Rogan & Grayson, 2003). It revealed that if teachers were well qualified and received the needed support and used the relevant teaching strategies,

and students with the correct aptitude and interest were selected, they could acquire the relevant technical vocational education skills.

However, the situation in the studied area was not conducive to successful implementation as proposed by the Rogan and Grayson implementation theory since there were inadequate, inexperienced and demotivated teachers who lacked specialisation. The implementation of technical vocational education was hampered by lack of capacity to support innovation, and support from outside agencies. There were inadequate specialist rooms, equipment, and text-books. DEOs did not visit schools often enough to give teachers feedback or to conduct CPD workshops. Teachers ended up resorting to innovative tactics in order for students to practise technical skills due to shortage of relevant equipment and materials. This theory assisted the researcher to realise the importance of the capacity to support innovation, especially the role of monitoring the curriculum by the department of standard control (district education team) and the school internal monitoring system.

The Rogan and Grayson's (2003) implementation theory exposed the weakness of curriculum planners and policy-makers that they did not consider different situations which existed among schools. The performance of schools was judged using the same criteria despite the fact that they belonged to different responsible authorities and backgrounds. It is taken as one size fits all and is good for everybody. Examinations were the ultimate measurement for students' performance at the expense of skills acquisition.

The theory provides the basis of curriculum implementation but it is undermined by the lack of a coherent structure. One cannot clearly connect the three constructs: Profile of implementation, this being the way in which the curriculum is implemented. Capacity of implementation is defined as the readiness of various institutions in the implementation of technical vocational education. Support from outside agencies refers to the inputs made by the DEOs and other stakeholders in ensuring that technical vocational education is implemented successfully and according to the principles stated in

286government policies. The profile of implementation does not make a clear distinction between the dimensions and their connection with the different levels. As much as the theory has done a valuable job on curriculum implementation it is silent on how the technical skills can be acquired.

6.7 Conclusions

The findings of the study suggest that although teachers implemented technical vocational education in their schools and produced better school average pass rates than those in the academic path-way they were critical of a variety of issues over the curriculum and the implementation process. These issues range from heavy teaching load, lack of teaching and learning materials, equipment, furniture, text-books and large classes.

Technical vocational education curriculum indicates good ideas such as developing students' self-reliant skills, making items for home use and designing as well as developing entrepreneurship skills. However, systematic problems within the Zimbabwean education system, such as lack of specialist rooms, overcrowded classrooms, lack of teaching and learning materials, inadequate number of text-books, low teacher motivation, suggest that some of the expectations are unrealistic and indeed difficult to achieve in the classroom.

Use of child-centred pedagogy was sometimes hampered by lack of text-books and shortage of materials. Since schools in government and farm schools were more poorly equipped than private schools, these teachers encountered severe problems. These problems emanated from the fact that policy-makers fail to consider classroom realities as well as other subjective and objective realities within which teachers work. Studies conducted in Namibia (O'Sillivan, 2002) and South Africa (Rogan and Grayson, 2003) highlight the capacity of schools to support educational innovation is taken for granted. Factors that determine school capacity to support curriculum implementation, including teacher and student factors, school ethos and management, and physical resources are inadequately considered or ignored. Yet, successful implementation of curriculum

innovation will depend on the extent to which policy-makers and planners take school realities into account. Rogan and Grayson (2003) further concede that, in order to be effective, strategies for curriculum implementation need to consider both the current level of curriculum and classroom practice, and the current capacity to support innovation.

Implementation of technical vocational education seems to have achieved some of its objectives, especially that of changing people's attitudes towards labour, developing students' technical skills as they managed to construct and engage in meaningful productive income generating projects. Nevertheless, the objective of making them employable is rather controversial as it is difficult to trace students' history after leaving school and their employability can be determined by a number of factors such as the economic situation.

A lesson that can be derived from implementation of technical vocational education in Khami District secondary schools is that successful implementation of this type of curriculum is difficult to achieve, especially in a country with poor funding system, high inflation and unhealthy economic conditions as well as inadequate professionally qualified staff. It could also be learnt from this study that if implementation of technical vocational has to succeed, policy-makers should consider the different environments in which schools exist and the different needs of both students and teachers in the implementing schools.

This study further exposed that there is still exclusion in the implementation of technical vocational education among schools as revealed in the selection process and that biases towards academic path-way are still prevalent among the majority of school heads. Finally, shortages of professionally qualified personnel will always exist as long as salaries of technical vocational education teachers are lower than those in the private sector.

6.8 Recommendations

This study has looked at how technical vocational education is implemented in Zimbabwe at Khami District secondary schools. It, therefore, provides learning points for consideration by District Education Officers, school authorities and teachers as well as academics delving into research in the field of technical vocational education curriculum. Recommendations are divided into two: those relating to implementation of technical vocational education curriculum and those relating to further research.

Recommendations for improving implementation of technical vocational education in secondary schools. The study recommends that Senior Masters and Senior Mistresses should give students guidance and counseling during orientation and before class allocation. There should be communication between schools and the Provincial Psychological Services team which deals with guidance and counseling and where possible they should delegate instead of abdicating their duties. This can assist students to make informed decisions in the choice of subjects which are in line with their career aspirations.

The selection of students into technical vocational education path-way should consider students' aptitude, ability and interest. This should be backed by results from continuous assessment and students' portfolios as well as from end of year tests. The course work should consist of at least 60% of the total mark. Use of examinations only must be avoided if technical vocational education has to bring about its desired effects. Finally, there should be an open-door-policy especially in public schools, for students' and parents' consultation on issues of placement of students to technical vocational education.

The government should include technical vocational education subjects for pre-service teachers in each of its training colleges for secondary schools so as to increase the output of trained teachers. There should be in-service training courses for those teachers who trained long ago to acquaint them as well as develop their instructional leadership skills in line with the new technology and global trends. District Education

Officers should conduct regular workshops for both teachers and heads to improve their varied competencies. There should also be regular quality assurance visits to schools so as to check on schools' needy areas and give frequent feedback. The study suggests that each school should be visited at least once in every two years so that they can improve on the recommendations made by the district quality assurance team.

To avoid high rate of internal and external brain drain among teachers, the responsible authorities should improve teachers' remunerations and conditions of service. The salaries of technical vocational education teachers should be in line with those of their counterparts in the private sector.

Successful implementation of technical vocational education is dependent on funding and availability of resources. The government has to increase its funding of technical vocational education if schools are to achieve the intended objectives of technical vocational education. The schools must be fully equipped with modern technology facilities, equipment as well as text-books and libraries for research. The Ministry of Education, Sport and Culture should provide schools with adequate and relevant syllabi to avoid use of new and old syllabi by schools. To avoid high cost in running technical vocational education in institutions the district can have two technical vocational education model schools with adequate infra-structure, facilities and equipment as well as adequate professional staff.

To improve the quality of students' skills and products there should be collaboration between government and the private sector. Students should be attached to industries during school holidays where they can learn and improve their technical skills relevant to their career aspiration. In order to motivate the concerned companies the government should charge low taxes for those companies that have students on attachment, as an incentive. Such measures can go a long way in improving the quality of technical vocational education.

Schools should also have a tracker system for their students who complete technical vocational education so as to measure its successes. That is, schools should keep records and make a follow up on their students so as to find out whether skills attained by students are relevant to the world of work and thereby give them a chance to make recommendations on the school curriculum.

Considering the type and quality of facilities, equipment and technology found in schools the researcher is of the opinion that there is a need for further research to find out how funding could be improved so as to procure modern and quality equipment, hence , improving product quality and marketability.

There were no government high schools with technical vocational education classes in the studied area. This is a cause for concern and the researcher proposes that research be carried out to shed more light on the progression rate of technical vocational education students from secondary school level to university level, pursuing degrees in technical vocational education courses.

In conclusion, the study reveals that many gaps still exist in technical vocational education as it fails to create jobs and contributing towards economic growth. It is therefore, proposed that research on the possibility of adding indigenous skills associated with manufacturing artifacts and craft be carried out so as to expand the existing range of technical vocational education subjects being offered..Traditional artifacts and crafts could be exported, thus foreign current could be earned. In turn this might create employment and also contribute towards economic growth of the country.

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APPENDIX 1

University of Fort Hare
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Questionnaire for teachers on: implementation of technical vocational education in secondary schools in Khami District.

Section a: general background information

Date of questionnaire distribution .....

Type of school: Church [ ] Government [ ] Private [ ] Rural district council [ ]

Any other specify----------

Location of school: urban [ ] peri-urban [ ] rural [ ]

What is your gender? Male [ ] Female [ ]

What is your age? Below 20 years [ ]

20- 29 years [ ]

30- 39 years [ ]

40- 49 years [ ]

50- 59 years [ ]

60- 69 years [ ]

Above 70 years [ ]

SECTION B: Teacher Capacity

What is your academic qualification? ----------

2. What is your highest professional educational qualification?

Certificate in education [ ]

Diploma in education [ ]

Bachelor of education [ ]

Honours degree [ ]

Masters in education [ ]

Any other specify.....

What is your specialization? ----------

What is your experience as a teacher?

Less than 1 year [ ]

1-5 years [ ]

6-10 years [ ]

11-15 years [ ]

20 years and above [ ]

What subjects are you teaching? ..... ----------

What are your favourite subjects? .....

What is the class size of students you are teaching?

Male .....

Female .....

In your opinion does class size affect your teaching? Yes [ ] No [ ]

If yes please explain.....----------

Which are the teaching methods you use in your lessons? .....----------
---

Could you please explain why you use them .....----------

How are the conditions of service and salaries of teachers? Good [ ] average [ ] poor [ ]

If they are poor how have they affected the learning situation? .....----------
---

What assistance do you get from your head of department and school head? .....

How do you find it? Adequate [ ] inadequate [ ]

Which INSET and other training programmes are provided to assist teachers to improve their teaching skills? .....----------
---

Who conducts those INSET programmes? .....

Usually how long do those INSET programmes/workshops last?----------
---

What support systems are provided by the district officers? .....----------
---

How do you find it? Adequate [ ] inadequate [ ]

Syllabus Implementation

Which syllabus do you use in your school? The new one [ ] the old one [ ] we mix the new and the old one [ ]

Please explain why .....----------

Are your students able to produce items of good quality? Yes [ ] no [ ]

If no please explain why? .....----------

In the past 5 years how many of your students have managed to open self help projects? .....

If there are few or have not managed what is the problem? .....----------

---

Which exams do your students write? ZIMSEC [ ] HEXCO [ ] NCF [ ]

What is the average pass rate of students in the subject in the past 5 years? In 2004 [ ] in 2005 [ ] in 2006 [ ] in 2007 [ ] in 2008 [ ]

What do you think are the causes of such results? ..... --------

---

How many of your students are doing tech/voc subjects at 'A' level? .....----------

---

How many of your students have managed to be employed in jobs where they use tech/voc skills?----------

What are your views regarding the implementation of tech/voc education? ----------

---

SECTION C: Selection of Students to Technical Vocational Education Path-way

At what level do you select students to technical vocation path-way? .....----------

---

How do you select them and why do you use that criterion? .....---------

---

Are students given guidance and counseling before they are selected? Yes [ ] no [ ]

If yes who does it? .....

If no why it is not done? .....

Do parents have a say in the selection of their children? Yes [ ] no [ ]

Are your students consulted on their selection to tech/voc classes? Yes [ ]

no [ ]

Generally what is the attitude of students? Positive [ ] neutral [ ] negative [ ]

What is parents' attitude towards tech/voc subjects? Positive [ ] neutral [ ] negative [ ]

What have they done to show that?----------

Section D: Resources and Funding

Who are the school major funders? .....

Are the funds adequate or inadequate for the school operations? .....----------

---

Besides the major funders does the school have any other sources of funding? .....

Does the school have adequate infra-structure to cater for good learning environment? Yes [ ] no [ ]

If no how do you manage these shortages to ensure effective teaching and learning environment? .....

How could you describe the availability of furniture-desks, chairs, equipments, text books and other learning materials? Adequate [ ] more adequate [ ] inadequate [ ]

What is the student-text book ratio? 1:3 [ ] 1:4 [ ] 1:5 any other specify .....

What is the quality of equipment you are using? Good [ ] average [ ] very poor [ ] too old [ ]

What is the availability of materials during lessons? Always available [ ] sometimes available [ ] always unavailable [ ]

To what extent do shortages of materials affect acquisition of relevant skills in practical subjects? To lesser extent [ ] not at all [ ] to greater extent [ ]

Are the parents forth coming in terms of buying school equipments and learning materials for their children? Yes [ ] no [ ]

Please if its no specify .....

What are your suggestions on funding which could assist in implementing tech/ voc education? .....

Section E: Monitoring

1. On average how many class visits does the school head make?

once a term [ ] twice a term [ ] thrice a term [ ] none [ ]

What is the number of class visits made by your head of department? .

once a term [ ] twice a term [ ] thrice a term [ ] nil a term [ ]

How do you find these class visits? they are beneficial [ ] are not beneficial [ ]

Do you have in service training programmes/training workshops and who conducts them? .....

Usually how long does such workshops last? .....

How do you find these workshops? beneficial [ ] Not beneficial [ ]

Normally how often do district education officers conduct school inspection?.....---------

---

Do you find these inspections? Beneficial [ ] not beneficial [ ]

Please specify your answer .....

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APPENDIX 2

Interview guide for district education officer on implementation of technical vocational education in Khami secondary schools general background information

Name of interviewer: ----------

Date of interview: ----------

Position of respondent: ----------

Sex: ----------

Age: ----------

What is your highest professional qualification?

What is your experience in your current position?

How many secondary schools are in Bulawayo province?

What about in your district?

What is the total enrolment of the students in the district?

What about that of teachers?

Selection of Students

How are the students in your schools selected into technical vocational education?

Are you satisfied about the way it is done?

Generally in your own opinion what is the attitude of parents towards technical vocational education?

From your own experience what would you say is the attitude of students towards technical vocational education?

Capacity of teachers

How is your staffing in the district?

What should one have to be said he/she is adequately qualified for teaching technical vocational subjects

How is technical vocational education being implemented in secondary schools in your district?

How has been the performance of the district in technical vocational education in the past five years?

As a district what programmes (inset/training workshops) do you have in place to improve the performance of your teachers?

Usually what is the duration of such work shops?

What programmes (inset/training workshops) have you put in place to assist school heads?

How has been your staff turn over of technical vocational education teachers in the past five years?

How are the conditions of service of teachers?

Syllabus Implementation

Which syllabus is mainly followed by your schools?

What is your observation in terms of relevancy in technical vocational education in Khami district schools?

Have your students been able to produce items?

What contribution is made by industry in the technical vocational education curriculum?

How would you rate the chances of these students being employed in areas of their specialization?

What are your suggestions on the implementation of technical vocational education?

Monitoring and Support

What role is played by government in the implementation of technical vocational education?

What role is played by SDC/SDA and other stakeholders in the implementation of technical vocational education?

According to Ministry's policy document how many times are you supposed to visit each school?

In the past five years how many secondary schools have you managed to visit in the district for full school inspection?

What have you observed as areas of major concern in the implementation of technical vocational education during your school inspection in the district?

What support do you give to schools as a district?

What are your suggestions on the improvement on monitoring and support systems to schools?

Funding and Material Resources

How are schools being funded in your district?

What are your views on funding of technical vocational education?

What is the role of private sector and other organizations on the funding of technical vocational education?

What are your suggestions on the funding of technical vocational education?

How is the infra-structure, furniture, equipments, text books and other learning materials in your schools?

What are the conditions of these equipments and other learning facilities?

How can the shortage of these equipments and other facilities affect the acquisition of technical skills by students?

How many of your secondary schools have computer laboratories?

How far can you say you have succeeded as a district in the implementation of technical vocational education?

APPENDIX 3

Questionnaires for school heads and heads of departments on implementation of technical vocational education in secondary schools of Khami District

General Background

Date of questionnaire distribution----------

Position of respondent----------

Subject taught by respondent ----------

Name of school ----------

What is the type of school? Government [ ] Private [ ] Rural District Council [ ]

Any other specify ----------

Location of school: Urban [ ] Peri- urban [ ] Rural [ ]

Personal and Professional Characteristics of School Head/Head of Department

Gender : Male [ ]

Female [ ]

Age: 20-29 years [ ]

30-39 years [ ]

40-49 years [ ]

50-59 years [ ]

60-69 years [ ]

What is your academic qualification?

275'O' level	
Grade 11	
'A' level	
Bachelor of science	
Other specify	

What is your highest professional qualification?

Certificate in education	
Diploma in education	

Bachelor of education	
Honours in education	
Masters in education	
Other specify----------	

What is your experience as a head/head of department?

Less than 1 year	
1-5 years	
6-10 years	
11-15 years	
16-20 years	
20 years and above	

How long have you been head /head of department of this school?

Less than 1 year	
1-5 years	
6-10 years	
11-15 years	
Above 15 years	

Selection of Students

Which technical vocational subjects are done by your students?

At what level do you select your students to do technical vocational education?

How do you select them and why do you use that method?

Are students given guidance and counseling before they are selected? Yes [ ] No [ ]

If yes who does it? ----------

If no why is it not done?----------

Do parents have a say in the selection of their children to tech/voc classes? Yes [ ] No [ ]

If yes, what role do they play----------

Are your students consulted on their selection to tech/ voc classes? Yes [ ] No [ ]

If no please explain ----------

Generally what is the attitude of students and parents towards technical vocational subjects? Positive [ ] neutral [ ] Negative [ ]

What have they done to show that attitude?----------

Generally what would you say is the attitude of teachers towards tech/voc subjects? Positive [ ] neutral [ ] negative [ ]

Capacity of teachers

What is your staff compliment of technical vocational teachers? male [ ] female [ ]

How can you describe your staff compliment? Adequate [ ] inadequate [ ]

If inadequate please explain? ----------

Are all your teachers qualified as per Ministry's requirements? Yes [ ] No [ ]

Which syllabus are you using in your school? New tech/voc syllabus [ ] old vocational syllabus [ ] we mix some elements of the old and new syllabus [ ]

Please explain on your choice? ----------

What is the average pass rate in the technical vocational education in the past 5years department? In 2004 [ ] in 2005 [ ] in 2006 [ ] in 2007 [ ] in 2008 [ ]

What do you think are the causes of such results? ----------

Generally what is the performance of your teachers? Good [ ] average [ ] below average [ ] poor [ ]

What support mechanism do you have for improving teacher performance? -------

Which INSET/training workshops programmes are in place to improve teachers' teaching skills? ----------

---

How often are these INSET/workshops held?

Who conducts those workshops?

How long do they take?

What are the teaching methods used by teachers in your school? Lecture method [ ] group methods [ ] project methods [ ] child- centred methods [ ]

How would you rate your staff turnover in the past 5years? Low [ ] Normal [ ] High [

If it is high what are the causes?

How would you describe the working conditions, salaries and remunerations of teachers?

What effects do you think these have on the learning situation?

Funding and Material Resources

Who are the school's major funders? ----------

2. Are the funds adequate or in adequate for the school operations?
3. Besides the major funders does the school have any other sources of funding?

Does the school have enough classes to cater for the good learning environment? Yes [ ] No [ ]

If no how do you manage these shortages to ensure effective teaching and learning? ---

---

How could you describe the availability of furniture-desks, chairs, equipments, text books and other learning materials? Adequate [ ] more adequate [ ] inadequate [ ]

To what extent do shortages of materials affect acquisition of relevant skills in practical subjects? To lesser extent [ ] not at all [ ] to greater extent [ ]

Are the parents forth coming in terms of buying school equipments and learning materials for their children? Yes [ ] no [ ]

If no please explain ----------

What are your suggestions on funding which could assist in implementing tech/voc education?

Monitoring and Support Systems

How often do district education officers make school full inspection? Once a year once in two years [ ] once in 3 years [ ] once in 4 years [ ] once in more than 5 years [ ]

Were you satisfied with what they did? ----------

If no please say why? ----------

What support do you get from the district off[illegible]? ----------

---

Are you satisfied with the support? ----------

On average how many class visits and exercise books inspection do you make per term? ----------

Is the number of class visits and books inspection the same for junior and senior teachers? ----------

Please explain your answer? ----------

What suggestions do you have on the implementation of tech/vocational education?

Skills Development

What items do students produce? ----------

Are your students able to produce quality and marketable items?

Have you ever sold those items? Yes [ ] no [ ]

If yes to whom were they sold? ----------

In the past 5 years how could you describe the number of your school graduates who have managed to open self-help projects? Many [ ] a few [ ] none [ ]

If there are few or none please explain why? ----------

How many of your students in the past 5years have managed to get employed in jobs where they use tech/voc skills? Quite many [ ] a few [ ] not sure [ ] none [ ]

1n your own view is the Nziramasanga (1999) two path-way system being successfully implemented by schools with reference to tech/voc education?----------

---

What are your views regarding the implementation of tech/voc?----------

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APPENDIX 4

QUESTIONNAIRES FOR FORM FOUR STUDENTS ON IMPLEMNTATION OF TECHNICAL VOCATIONAL EDUCATION IN KHAMI DISTRICT SECONDARY SCHOOLS

Section A: Background Information

What is your age? ----------

Sex: female [ ] male [ ]

Form/class: ----------

Section B: Selection of students

What is your favourite job? ----------

Which subjects do you study in your class? Please list them ----------

Please list 4 of your favourite subjects ----------

Why did you choose them? ----------

Which other subject did you want to do but you are not doing it? ----------

Give reason for preferring that subject? ----------

In your on opinion should students be consulted in choosing subjects to do? Yes [ ] no [ ]

Please give reason for your answer ----------

Were you given a chance to choose the subjects? Yes [ ] no [ ]

If no, who chose it for you? ----------

Are you pleased with the class you were put in? yes [ ] no [ ]

If no, please explain----------

Are your parents happy with the subjects you are doing? Yes [ ] no [ ]

If no please explain why? ----------

In your own opinion, should your parents be consulted in the selection of students' subject? Yes [ ] no [ ]

Please explain your answer ----------

Were you given guidance and counseling before you were put in this class? Yes [ ] no [ ]

If yes, who did it? ----------

What suggestions would you want to make on selection of students to technical vocational education? ----------

Section C: Teacher Capacity

What have you benefited from technical vocational education subjects? ----------

---

What skills have you learnt which you can use at home or work place? ----------

---

Do you have a chance to practice what you learnt from theory? Yes [ ] no [ ]

If no, please explain why ----------

What articles have you made during your practical subjects?

Does the school ever sell some articles ma[illegible]nts? Yes [ ] no [ ]

If no, please explain ----------

Do you think the skills you have learnt can assist in starting your own business? Yes [ ] no [ ]

If no, please explain ----------

What do you suggest to be done to improve your learning in technical vocational subjects? ----------

---

Are you satisfied about the way your teachers teach technical subjects? Yes [ ] no [ ]

If no please explain ----------

Section D: Resources and Funding

Does the school have adequate or inadequate classrooms and workshops? adequate [ ] inadequate [ ]

If inadequate where do you learn explain ----------

How could you describe the availability of furniture-desks, chairs, equipments and text books? Adequate [ ] inadequate [ ]

What is the student text book ratio? No text [ ] 1:3 [ ] 1:4 [ ] 1:5 [ ] over 1:6

What is the quality of equipment you are using? Good [ ] average [ ] very poor [ ] too old [ ]

What is the availability of materials during lessons? Always available [ ] sometimes available [ ] always unavailable [ ]

Do parents buy school equipment and learning materials for you? Yes [ ] no [ ]

If no please explain ----------

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APPENDIX 5

An assessment of implementation of technical vocational education in secondary schools in Khami District.

Observation Sheet

The researcher will observe the following:

The school climate.

The availability of classrooms, workshops and their quality.

The availability of furniture, equipments, facilities and tools used by students.

The quality and the state of machinery or tools used by students.

The availability of items produced by students as well as their quality

The marketability of items produced by students.

Check on the sitting arrangements-desks, chairs and benches.

How many learners are in the class?

Are the tools and materials adequate for the students?

What teaching methods or strategies are used by the teachers?

How students interact with teachers during teaching and learning process.

How students respond or react to teachers' instructions.

Are students actively involved during teaching and learning process?

Are they following instruction to do assigned task.

How are teachers managing their classes?

Is the teacher able to accommodate every learner in his/her teaching?

How are the slow learners accommodated?

How do slow learners react in class i.e. their participation?

Do slow learners receive special assistance from educators?

APPENDIX 6

QUESTIONNARES FOR SDC/SDA ON IMPLEMENTATION OF TECH/VOC EDUCATION IN KHAMI SECONDARY SCHOOLS

Personal Characteristics of SDC/SDA Committee

Sex: male [ ] female [ ]

Age: below 30years [ ] 30-39 years [ ] 39-49 years [ ] above 49 years [ ]

What is the level of your education: below grade7 [ ] grade7 [ ] Form 1-2 [ ] Form 3-4 [ ] Form 5-6 [ ]

What is your work if employed? ----------

What is your position in the committee? Chairman [ ] secretary [ ]

When were you elected to that post? In 2009[ ] in 2008 [ ] in 2007 [ ] any other specify ----------

As SDC/SDA chairperson/secretary did you receive any training? yes [ ] no [ ]

If yes who trained you?

How long was the training? 1-3 days [ ] 4-6 days [ ] 1 week [ ] other specify ----

Selection of Students

Are parents consulted on students' selection to tech/voc education? Always consulted [ ] sometimes consulted [ ] not consulted at all [ ]

Are you pleased about the way it is done? Yes [ ] no [ ]

If no please explain? ----------

Generally what are the feelings of parents towards technical vocational education? ------

---

Teacher Capacity

Does your school have adequate teachers? Yes [ ] no [ ]

If no please explain ----------

Have you ever employed teachers as an SDC/SDA? Yes [ ] no [ ]

If no please explain ----------

Are parents pleased with the results in technical vocational education subjects? Yes [ ] no [ ]

If no please explain ----------

In your own opinion are students learning relevant skills in technical vocational education? yes [ ] no [ ]

Can these skills assist them to make self-help projects? Yes [ ] no [ ]

If no please explain----------

What is your suggestion on the implementation of technical vocational education? -------

---

Funding and Resources

Which is the school's main source of funding? Parents [ ] donors [ ] government [ ] any other specify ----------

Are the parents having any problems in the payment of school levies? Yes [ ] no [

If yes please what are the problems please explain ----------

---

Are funds collected by SDC/SDA adequate or inadequate for school operations? Adequate [ ] inadequate [ ]

If they are not adequate how do you supplement?

Who is responsible for building classrooms and workshops at your school? Parents [ ] government [ ] donors [ ] parents and government [ ] any other specify ----------

---

What equipment and facilities for tech/voc education have you bought in the last five years as an SDC/SDA? ----------

---

If you didn't buy anything please explain ----------

--

What are your suggestions on how to improve school's funding?

Monitoring by SDC/SDA

How many SDC/SDA committee meetings do you have per term? Once [ ] twice [ ] three times [ ] nil [ ]

As an SDC /SDA committee do you have inventories for all the items you buy? Yes [ ] no [ ]

If no could you please explain why? ----------

Who monitors the classrooms and other school facilities? SDC/SDA alone [ ] school head alone [ ] SDC/SDA and school head [ ] no one [ ]

How often do you monitor the condition of school facilities? Once a term [ ] twice a term [ ] three times a term [ ] never [ ]

What are your views about technical vocational education? ----------

APPENDIX 7

LETTER OF CONSENT FOR ALL RESPONDENTS

I am Mabhena Mpofu a PhD. candidate at the University of Fort Hare, School of Post-Graduate Studies, as a part of my academic programme; I am conducting research on Assessment on Implementation of Technical Vocational Education in Khami District Secondary Schools. As part of this process, I am inviting you to participate in an interview/questionnaire survey.

Should you consent, I wish to guarantee you that any information that you may provide will be confidential. At no time your identity will be divulged or made available to anybody other than the researchers.

Thank you.

Researcher's signature Date

…… ……

I……here by give consent to participating in the study on Assessment on implementation of Technical Vocational Education in Khami District Secondary Schools. I understand that I am participating freely without being forced in any way. I also understand that I can stop participating in the study and my decision to do so will not affect me negatively.

Participant's signature: Date

…… ……

APPENDIX 8

University of Fort Hare

FACULTY OF EDUCATION

Alice (main) Campus:
Private Bag X1314, King William's Town Rd, Alice, 5700, RSA
Tel: +27 (0) 40 602-2412 • Fax: +27 (0) 40 602-2448

University of Fort Hare
Together in Excellence

28 November 2008

To whom it may concern

RE. APPLICATION FOR PERMISSION FOR MPOFU MABHENA STUDENT NUMBER 200804855 TO CARRY OUT A RESEARCH IN BULAWAYO ME[illegible]PROVINCE.

The above mentioned is a student pursuing his PhD studies in the Faculty of Education at the University of Fort Hare. I am his supervisor. The title of his study is "**An Assessment of the Implementation of Technical Vocational Education in Khami District Secondary Schools in Bulawayo Metropolitan Province of Zimbabwe**". He has completed his proposal and is now required to collect data from schools. He will be distributing questionnaires, and conduct interviews and focus group interviews as well as make some observations and also analyse some relevant documents such as: log books, students exercise books and cloaking registers.

I would be grateful if you allow him to collect data in your schools. I would like to ensure you that every information will remain confidential. Thanking you in anticipation.

Yours Sincerely
Dr S. Rembe.

UNIVERSITY OF FORT HARE
Faculty of Education
2 8 NOV 2008
Signature

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APPENDIX 9

all communications should be addressed to
"The Regional Director"
Telephone: 09-69511/69942
Telegraphic: "SCHOLASTIC"
Telex: 50531 MPSEMN ZW
Fax: 09-77027

ZIMBABWE

Ref No. P/Mpofu, M
EC. No. 0226830 L

Ministry of Education Sport and Culture
Bulawayo Metropolitan Province
P.O Box 555
Bulawayo
Zimbabwe

19 January 2009

Mr M Mpofu
University of Fort Hare
Faculty of Education
Private Bag X 1314
King Williams Town Road
Alice 5700
RSA

RE: **PERMISSION TO CARRY OUT RESEARCH ON AN ASSESSMENT OF THE IMPLEMENTATION OF VOCATIONAL EDUCATION IN KHAMI DISTRICT SECONDARY SCHOOLS IN ZIMBABWE**

With reference to your application to carry out research on the above mentioned topic in the Educational Institutions under the jurisdiction of the Bulawayo Province, permission is hereby granted. However, you should liaise with the Heads of the Institutions/Schools for clearance before carrying out your research.

It will also be appreciated if you could supply the Bulawayo Province with a final copy of your research which may contain information useful to the development of education in the province.

MINISTRY OF EDUCATION AND CULTURE CULTURE DIVISION 20 JAN 2009 MAT. NORTH REGION P.O. Box 555, BULAWAYO

For: PROVINCIAL EDUCATION DIRECTOR – BULAWAYO METROPOLITAN PROVINCE