

The role of the school in transitioning young people into vocational training in selected secondary schools in Gwanda District

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Abstract: This paper sought to assess the role of the school in transitioning young people into vocational training in selected secondary schools in Gwanda district. Many young people are completing secondary school education without skills needed to live independently or contribute meaningfully to society's daily demands. With the ever increasing job demands on technical skills young people need to be prepared for specialised technical jobs. The research sought to assess the role of the school system in preparing youths who can effectively compete in the labour market. The major challenge youths face is unemployment due to their unemployability. It is therefore imperative, to prepare them for vocational training and ultimately for lifelong employment. The teaching of technical and vocational subjects prepares youths for the labour market as well as increasing their chances of becoming professionals. Through the learning of technical and vocational subjects, youths are empowered to make choices for their future careers and realise the benefits of possessing knowledge of technical and vocational skills. The study evaluated the role played by the education system in preparing youths for working life. A descriptive survey was used to obtain respondents' views. The study used questionnaire, structured interview schedule and observation guide in the data collection process to promote triangulation. The study recommends the Ministry of Primary and Secondary Education to come up with a clear policy guiding the implementation of technical and vocational curricula in secondary schools. The study findings reveal that secondary schools had no suitably qualified technical and vocational teachers, thus inadequate time was allocated to technical and vocational subjects. To keep pace with global trends, the Ministry of Primary and Secondary Education should also seriously consider the use of computers/IT in the instruction of technical and vocational subjects.

Key words: *technical and vocational subjects, employment, vocational training and transition*

I. Background to the study

The advent of the political independence in Zimbabwe and the subsequent introduction of Marxist-Leninist ideology brought about a new socio-political and economic dispensation with far reaching consequences in various spheres of life. The democratisation of the education system in Zimbabwe culminated in a huge demand for school places across the broad educational spectrum. The demise of the pre-independence social-political order with its pro-European and academically oriented education system and the ushering in of the Marxist-Leninist political economy meant the introduction of education for all policy as education was deemed a basic human right. However, before long, there was an outcry that the education in the country was too academic to match both the national manpower requirements and individual needs of the school graduates. On the other hand pass rates at grade 7, Zimbabwe Junior Certificate (ZJC), Ordinary 'O' level and Advanced 'A' level were disappointingly low. In fact educational commentators were saying that 'the Zimbabwean education system had become more British than the British itself,' meaning that the education system in Zimbabwe had become too academic, catering only for the academically gifted, ignoring both the less academically gifted learners and the economic developmental needs of the country.

In light of the above assertion Bergmann (2003) cited in Chiweshe, Xavier, Cryton and Chakamba (2013) observes that, ever since the formal western type of education was introduced in developing countries, there have been complaints that the education system was too academic and did not prepare children for the life they were going to lead after school. The above concern is shared by the Marxist International Solidarity Foundation (FMSI; 2011)'s report on Zimbabwean education system which notes that; the curriculum in Zimbabwe's primary and secondary schools lack relevancy to the development needs of the child, a fact recognized by the report of the Presidential Commission of Inquiry into Education and Training. That is why there is always need for training the secondary school graduates as they finish school without any vocational skills that would enable them to survive in the world of work. Many school drop-outs and "O" level graduates

remain unemployed because the education they received did not give them the skills to enable them to obtain work after school.

The swelling discontent prompted the introduction of the vocational and technical education in Zimbabwe. Bergmann, (2003) cited in Chiweshe, et al. (2013) reports that, the Ministry of Education, Sport, Arts and Culture prescribed a set of secondary school curriculum referred to as the 'Two pathway education culture' (The Secretary's Circular Number 2 of 2006). According to this instruction, the two pathways are referred to as the general/academic and the business/commercial/technology/technical vocational. This two pathway education culture is explained by Chiweshe, et al. (2013) thus; Zimbabwe's education system consists of 7 years of primary and 6 years of secondary schooling before students can enter university. Similarly Woyo (2013) says, the education system in Zimbabwe follows a 7-4-2-3 system of education, (7 years of primary, 4 years of secondary, 2 years of advanced high school, and 3 years of college or university). Technical education is available from the last two grades in primary school through to university.

Chiweshe, et al. (2013) and Woyo (2013) concur that, the seven years of primary schooling culminate in a national Grade 7 examination in Mathematics, English, Content and an indigenous language (ChiShona/IsiNdebele/Tonga/Nambya). The Content paper is a combination of pure sciences and social sciences. Practical subjects, such as Home Economics and Agriculture are examined in the Content paper. Thus, practical subjects in Zimbabwe, begin at grass roots level in primary schools. While on paper the practical subjects are part and parcel of the curriculum in practice not much is happening as Mupinga, Burnett and Redmann (2005) cited in Woyo (2013) comment; however not all primary schools offer technical subjects in Zimbabwe.

The secondary education curriculum in Zimbabwe is explained by Chiweshe, et al. (2013) thus, secondary school education consists of three levels: Zimbabwe Junior Certificate (ZJC) which includes Forms I and II; 'O' level (Forms III and IV) and 'A' level (Forms V and VI). The ZJC core curriculum consists of 8 subjects: English, ChiShona/IsiNdebele, Mathematics, Science, History, Geography, Bible Knowledge, and a Practical Subject (Food and Nutrition, Fashion and Fabrics, Woodwork, Agriculture, Metalwork, Building and Technical Graphics). Fashion and Fabrics is taught as Textile Science and Clothing while Food and Nutrition is Food Science at 'A' level. Agriculture and Technical Graphics are other practical subjects offered at 'A' level.

Similarly Woyo (2013) says the secondary education system in Zimbabwe is subdivided into three 2-year phases: Zimbabwe Junior Certificate (ZJC), Zimbabwe General Certificate of Ordinary Level ('O' level), and Zimbabwe Advanced Level Certificate ('A' Level). The first two levels of secondary education are commonly referred to as secondary school and every secondary school is supposed to offer at least one technical subject to students. Woyo (2013) continues to identify the practical subjects which are offered at secondary school level as comprising of building studies, fashion and fabrics, food and nutrition, metalwork, technical graphics, and woodwork. While the above array of practical subjects is noted by both authors, the implementation of this directive differs from region to region, district to district and school to school depending on the prevailing circumstances. For example those schools in arid regions where water is in acute shortage may find it difficult to successfully offer agriculture, the same can be said of those schools which are not electrified, cannot easily offer metal work. So the offering of these practical subjects is subject to different localities.

It is these practical subjects that are done at school which are supposed to prepare learners/young people for vocational training and ultimately into the world of work. This paper assesses the role of the school in transitioning young people into vocational training and ultimately into the world of work in selected secondary schools in Gwanda District. This is done in light of government initiative of vocationalisation of the secondary school curriculum in order to cater for individual and economic developmental needs of the country.

To this end vocational and technical education programmes at the secondary school level in Zimbabwe and elsewhere are seen to serve numerous purposes. The purposes range from narrow skills training aimed at providing individuals with occupational skills for employment in specific jobs or a cluster of jobs and to enhancing general education (Hawke, 2000; Little, 1992; Lynch, 2000 in Mupinga, et al. (2005). Furthermore Burnett, Harrison and Miller, (1984) in Mupinga, et al. (2005) indicate that traditionally, training received in high school vocational education programmes provided the skills and competencies necessary for gainful employment upon completion of the programme. The need for vocational training in schools is further acknowledged by Mupinga, et al. (2005) thus, it is often said that education is the key to national development but Technical and Vocational Education and Training (TVET) is the 'MASTER KEY' to national and economic development. Education, particularly vocational education and technical education, has been seen as a tool for servicing the developmental needs of the society.

The above discussion has highlighted the desirability for vocational and technical education and its subsequent implementation at both primary and secondary rungs of the education system in Zimbabwe, one wonders if its implementation is without challenges. Gwembire and Katsaruware (2013) observe that, for vocational education to be a success story in Zimbabwe quite a number of resources need to be availed. These include human resource, material, time and finance. A number of studies on the implementation of the vocational and technical education in Zimbabwe, for example by (Gwembire and Katsaruware, 2013; Mupinga, et al., 2005; Woyo, 2013) indicate that the main challenges showed that there was lack of training materials for the various workshops, obsolete training equipment, large classes, inadequate learning facilities, absence of industrial synergies, and poor exposure for the TVET trainees during On-the-Job-Training (OJT), weak performance of the economy, curricula and industrial expectation variances. With this host of challenges as outlined above the effectiveness of the school in transitioning young people into vocational training and ultimately into the world of work is not guaranteed in Zimbabwe; hence this study aims to explore the extent to which secondary schools in Gwanda District are achieving this role.

II. Statement of the problem

With Zimbabwe having embraced the TVET curriculum against an acute shortage of qualified teaching staff, thinly resourced in equipment, acute shortage of appropriate reading material and ultimately financial resources, it remains for the study to reveal the extent to which the secondary schools in Gwanda district are faring in transitioning young people into vocational training and ultimately into the world of work.

Significance of the study

The research study has meaningful contributions to the following stakeholders:

The students

When recommendations from the study are taken into account it is hoped the students will now be prepared to enter the world of work.

The teachers

Teachers stand to benefit from the results of the study as it would avail diverse means of assisting students to arrive at meaningful lifelong careers. This therefore means that teachers would develop new skills of handling career issues.

The educational administrators and curriculum planners

The research findings may provide school heads, education officers and curriculum planners/designers with the basis for planning, monitoring and evaluating the curriculum in relation to the role of the school in transitioning learners into vocational training and ultimately into the world of work. The fact that many young people are not finding employment after completing school could galvanise curriculum planners and designers to develop new approaches that match career aspirations of graduates and the job demands.

Industry

The industry would now be able to absorb more polished school leavers with the appropriate aptitudes and attitudes.

Other researchers

The research study could open new areas for research in vocational training. New methods, concepts, literature and theories may emerge from this study and thus would enhance operational skills in the area of vocational training.

Objectives of the study

The objectives of the study are to:

- establish how schools prepare young people for vocational training.
- identify the practical skills high schools equip students with for entrance into vocational training.
- explore the challenges faced by high schools in enabling a smooth transition to vocational training.
- establish how these secondary school curricula cater for vocational training.
- explore the use of ICT in the teaching of vocational and technical courses in secondary schools.
- suggest strategies for improved vocational and technical education services to students and teachers.

Research questions

The study was executed through the following questions:

- to what extent do secondary schools in Gwanda District comply with vocational and technical education policy?
- how are secondary school graduates from Gwanda District equipped to enter vocational training centres?
- how does the secondary school curriculum cater for vocational training?
- in which way do secondary schools in Gwanda District use ICT in the teaching of technical and vocational subjects to learners?
- what are the challenges faced in the teaching/learning of technical and vocational subjects in secondary schools in Gwanda District?
- what strategies can be used to improve technical and vocational education services to secondary school students and teachers in Gwanda District?

Assumptions of the study

The study assumed that:

- sound vocational and technical curriculum courses effectively prepare young learners for vocational training.
- fulfillment of secondary school curriculum requirements translate into adequate preparation for vocational training of young people.

Limitations

The researchers experienced a handful of constraints which were likely to impact negatively on the generalisability of the study and reliability of findings. The following were acknowledged:

- Whilst the choice of convenience sampling is reliable in terms of accessibility of the selected schools, it should be conceded that this choice compromises the generalisability of the study findings.
- Whereas the study assumes that fulfillment of the requirements of the official curriculum/syllabus translates to adequate preparation of the young adult, there is no guarantee that the vocational training and industry will concur.

Delimitations

The study was carried in selected secondary schools from Gwanda District focusing on the teaching and learning of technical and vocational subjects.

Methodology

This study used a mixed methods approach. Creswell and Plano Clark (2007) define mixed methods as a research design based on assumptions that guide the collection and analysis of data through the mixture of qualitative and quantitative approaches. The study used the mixed methods approach to compensate for method weaknesses, capitalize on method strengths and thus offsetting method biases (Greene, 2007). The use of the mixed methods approach helped reveal the processes secondary schools engage in transitioning young people into vocational training. The qualitative methods were used to contextualise numeric findings while quantitative approaches were used to understand the generalisability of narrative findings (Creswell and Plano Clark, 2011) thereby making the research problem more understandable.

I. Populations

The study was drawn from a population of twenty four secondary schools, school heads and teachers engaged in the teaching and learning of technical and vocational subjects in Gwanda District.

The sample and sampling procedures

Research design

The researchers used a convenience sampling procedure to select seven secondary schools. The researchers also used convenience sampling to select school heads and teachers engaged in the teaching and learning of technical and vocational subjects in the Gwanda District.

Data collection instruments

Observation

Observation involves watching behaviour, events, and or noting physical characteristics in their natural setting (Gorman and Clayton, 2005). The study used an observation guide to record observations in order to capture first hand information for data triangulation. The researchers also used the interview schedule to extract narrative data from the respondents as well as the questionnaire to gather numeric data.

II. Data Presentation

The data was presented in tables.

Theoretical framework of the study

A holistic approach to education would be relevant to prepare students for vocational training. Somavia (2011) suggests that a holistic approach is relevant as it begins with learning from pre-school and primary education adequately preparing young people for secondary and higher education and vocational training. This approach goes on to provide career guidance, labour market information and counselling young people to move into the labour market. Workers and entrepreneurs are offered opportunities for continuous learning thereby upgrading their competencies and learn new skills throughout their lives. This study is anchored on the holistic approach as it assesses the role of the school in transitioning young people into vocational training in selected secondary schools in Gwanda District.

III. Review of related literature

The role of the school in preparing young people into vocational training

The school plays a crucial role in preparing young people for vocational training. First and foremost young people enter school with a lot of potential which are identified and refined by the school especially at the secondary level of education. In terms of vocational training, the starting point is the curriculum that has to be interrogated. The education systems of many African countries have been modeled on the western values which advocated for white collar jobs at the expense of vocational and technical training. Vocational and technical education is premised on the philosophy of self-reliance, a marriage of theory and practice. Mhewa (2014) says someone who is able to realise himself not only physically and mentally but also morally, socially and emotionally can be regarded as a self-reliant person. Nyerere viewed self-reliance as the ability of people to think for themselves, to make judgements on all issues affecting them and implement in light of local circumstances.

In light of the above philosophy the curriculum of secondary schools should be in tandem with the vocational and technical education by incorporating productive or practical activities in which students take a leading role in discussion. Hence Mhewa (2014) posits that the provision of education needs also to be restructured in such a way that there is a link between community and schools through provision of knowledge and skills necessary for graduates to be well prepared for wage and or self-employment in their respective areas. With the need to equip the students with knowledge and skills in sync with the vocational and technical training the secondary school curriculum has to be biased along agricultural, commercial and domestic science lines. In this vein, Mupinga ,et al. (2005) advocate for a vocational curriculum by saying in primary and secondary schools the technical subjects on offer should include building studies, fashion and fabrics, food and nutrition, metal work, technical graphics, woodwork, agriculture, fine arts and music.

It will however be naïve to leave out computer studies, woodwork and business studies among the list of skills which school graduates have to acquire at school as entrepreneurial skills based on ICT have become the ideal mode of doing business. Besides the provision of occupational skills and competencies necessary for gainful employment upon completion of the programme, (Alpam, 1997; Clagett, 1997 cited in Mupinga, et al., 2005) add a new dimension to these skills thus, employers now require vocational and technical graduates to have soft and non-technical skills. These skills include knowing how to learn competencies in reading, writing and computation; effective listening and oral communication skills, adaptability through creative thinking and problem solving; personal management with strong self-esteem and imitative, interpersonal skills, the ability to work in teams or groups and leadership effectiveness (McNabb, 1997; Murnane and Levy, 1996; Oliver, et al. as cited in Mupinga, et al., 2005).

To sum it up, besides the provision of skills and competencies based on the above vocational and technical curriculum the school should also provide the positive attitudes towards work to young people in order to de-school them from the mentality of white collar jobs that make them job seekers instead of job creators. A skilled school graduate with negative attitudes towards labour is as good as unskilled as he / she cannot make any meaningful contribution in the employment dynamics. Similarly there is also need for the school to provide young people with business management skills so that they can both create and manage their business ventures as is the norm with the self-reliance philosophy.

Availability of infrastructure and resources in equipping students with practical skills to enter the job market

For schools to discharge their mandate of equipping students with knowledge in general and practical skills in particular, they have to have at their disposal the requisite infrastructure and resources. Ayeni and Adelabu (2012) report that the school learning infrastructure refers to the site, building, furniture and equipment

that contribute to a positive learning environment and quality of education for all students. In addition to the above, more resources encompassing human, financial, material, time and other hard and software equipment of the ICT world is indispensable. It is these and other infrastructural resources that have to be in place and in appropriate quantities and qualities to enable schools to equip students with practical and productive skills which are of paramount importance in the world of work. Hence Ayeni and Adelabu (2012) argue that the quality of learning facilities available within an educational institution has positive relationship with the quality of teaching and learning activities which in turn lead to the attainment of goals set.

Boateng (2012) identifies the infrastructure that learning institutions require which includes workshops, tools, equipment and materials. To this list one would add specialised rooms, laboratories and equipment including computers. It is these facilities that contribute to quality instructional processes in equipping school leavers with the relevant practical and productive skills which the graduates will find handy in the world of work. However, the supply and availability of these facilities on their own cannot make learning happen but the human resource needs to put them into good use for learning to happen.

Boateng (2012); Gwembire and Katsaruware (2013); Ayeni and Adelabu (2012) see the human resources as the determining factor in schools' ability to equip students with practical skills. They argue that vocational and technical education requires skilled and proficient teachers. These teachers according to Boateng (2012) need constant in-service training to upgrade their skills in order to ensure that they are abreast with technological changes in industry. Similarly Holinshead (1990) cited in Gwembire and Katsaruware (2013) posits that with specific reference to vocational education more specialised teachers are needed than in general education, suggesting that the vocational teacher occupies a most important place in modern society.

Haves (1979) cited in Gwembire and Katsaruware (2013) argues that correct syllabus interpretation as a result of professional training of teachers helps teachers to determine the concepts to be taught, skills to be developed, approaches to be used and depth of the matter at various levels. For these specialised teachers to remain productive in their assignments they need to be motivated. This motivation can only be realised through financial empowerment in the form of salaries and allowances.

Kanyongo (2005) cited in Chiweshe, et al. (2013) observes that lack of resources to adequately fund the education system in Zimbabwe is the main challenge and will remain so for a long time. Failure to fully provide the financial resources to fund various school activities for instructional materials compromises the quality of skills to be acquired by students which eventually has a huge bearing on the quality of graduates produced by schools. It is therefore important that schools are fully resourced so that they can fully equip themselves in order to achieve the set goals. So all in all schools need infrastructure and resources which comprise of workshops, laboratories, libraries, equipment, textbooks, computers, teachers (human) capital and financial resources in order to produce knowledgeable, skilled and technically relevant graduates for the world of work.

Current trends in Technical and Vocational Education and Training (TVET)

Notwithstanding the apparent lack of clarity on the Government's official view, a number of interesting perspectives in TVET have been proffered. Mupinga, et al. (2005) write that education, particularly vocational education (career and technical education) has been viewed as a tool for servicing the developmental needs of society. Alpam and Clagett (1997), cited by Mupinga, et al. (2005) assert that employers now require vocational and technical graduates to have soft or non-technical skills. These non-technical skills include "knowing how to learn; adaptability through creative thinking and problem solving." This clearly represents a paradigm shift from the traditional "labour-specific craft programs" to the technical education of a general nature.

Brand (1992) as cited by Mupinga, et al. (2005) contends that, the demand for a workforce that is multi-skilled and capable of learning new skills more rapidly has changed the traditional purpose and implementation of vocational education. The view by McGrath (2005) that TVET is supposed to prepare the youth for "international competitiveness in skills development towards current and projected opportunities and challenges" fits in very well with the above sentiments.

Mandebvu (1994); Nicholson (1988); Pretorius (1993) cited in Chinyamunzore (1995) subscribe to the above trend in TVET by observing that "trends in the developed world favour a type of education that emphasises the development of quality rather than specific skills." Indeed, the stark reality that what is in the school shall always lag behind what the school leavers have to do in the real world of work, lends credence to the thinking that it will be an exercise in futility to try and teach specific technical skills in place of 'non-technical skills' such as "knowing how to learn."

The need to connect TVET to industry

Mupinga, et al. (2005) note that there appears to be a great variance between what institutions are producing and what industry and commerce demands due to the fact that there is no symbiotic relationship between the two in Zimbabwe. Atchoarena and Esquieu (2002) go on to explain that this is the reason why public TVET institutions continue to attract a great deal of criticism. Woyo (2013) argues that in Zimbabwe, the TVET institutions have not been able to adapt to the new demands of the job market because they lack autonomy as they are directly controlled by the Ministry of Higher and Tertiary Education. This has made it difficult for TVET institutions to realign training according to ever-changing job requirements. Woyo (2013) recommends that the Ministry of Higher and Tertiary Education must make TVET institutions autonomous while it assumes the monitoring role and providing visionary leadership. TVET institutions must forge synergies with industry and vigorously promote On-the-Job-Training (OJT) as a way of enhancing competencies of graduates. The Ministry of Youth, Indigenisation and Economic Empowerment should focus its energies on creating an environment for promoting entrepreneurship of the TVET graduates (Woyo, 2013).

In light of the above, it is heartening to note that the Ministry of Higher and Tertiary Education (MHTE) has since developed and is implementing the Competence Based Education and Training (CBET). The CBET is a credit-based practical skills aspect. In addition, industrial attachment has been instituted. Industrial attachment also referred to as On-the-Job-Training (OJT), has been designed to deepen the TVET trainee's skills acquisition to meet occupational standards. MHTE, through SDCRU has developed modules, standards and occupational profiles. In the CBET and Modular Based Training (MBT), the industrialists prescribe the occupational competency standards and thus suggest practical assessment guidelines for evaluating the TVET graduates performance. In the same vein, Chinyamunzore (1989) acknowledges that the introduction of the industrial attachment component to training helps to link education in the classroom to reading in the workplace and expose the trainee to reality. Today, institutions offering TVET, including universities underscore the importance of industrial attachment.

Chinyamunzore (1995:131) duly draws attention to a fast growing economic sector-the informal sector: "it is the formal industrial sector of employment by commerce and industry which is what education has traditionally trained for. The informal sector in Zimbabwe is made up of a wide range of small-scale self-employed and low capital businesses. Traditionally, education has not trained for this type of work." Again MHTE is responding by trying to compromise and cater for both the formal and the informal industrial sector. Courses in secondary schools are trying to incorporate elements of entrepreneurship studies because enterprising skills have been left out in traditional skills training with such interventions, economic empowerment and indigenisation may become a reality.

The relationship between secondary school subjects and vocational training

The primary objective of all technical and vocational education and training programmes is the acquisition of relevant knowledge, practical skills and positive attitudes for gainful employment in a particular trade. Subjects to be studied by students should not just be imposed on them. Mandiudza, Chindedza and Makaye (2013) suggest that students should be allowed to make choices that suit their conditions so that they are receptive to the vocational knowledge they receive. Students need to be exposed to practical skills such that they gain skills demanded in the world of work.

Mandebvu (1996) cited in Gwembire and Katsaruware (2013) recommends that business-school partnership need to be created. The partnership could include career guidance, holiday job opportunities, attachments of teachers and students to industry and business, the financing of problem solving competitions by the business world and joint curriculum development. This means that teachers would get an opportunity to update the curriculum so that it meets the needs of industry. Japan has a long history of apprenticeship in which schools and employers cooperate in placing school graduates directly into jobs. This means that schools play an active role in the selection process by recommending students for particular apprenticeship positions. Secondary education should strike a balance between technical, vocational and general subjects to ensure that these subjects build on foundation skills and hence make it easier for the school to work transition (Education for All Global Monitoring Report, 2012). Therefore, schools need to offer curriculum that caters for all students, irrespective of ability, sciences, language, social studies and practical subjects. Students would be able to master particular trades through engagement in practical subjects and thus enhancing chances for employment.

The use of ICT in the teaching of technical and vocational courses in secondary schools

Information and Communication Technology (ICT) can be used as a tool for teaching and learning in secondary schools. Oguzor (2011) states that ICT is used as a teaching and learning tool as part of a subject, and

as a subject itself. Bauer and Kenton, (2005) cited in Oguzor, (2011) suggest that schools integrate computers and ICT into the curriculum with provision of hardware and software. This implies that the use of computers and ICT would become essential for teacher preparation programs. As a teaching tool, teachers use computers and ICT to prepare handouts, search on the Internet for course content and make presentations. As a learning tool, teachers reinforce students' understanding of the course through carrying out tasks in laboratories or workshops as well as experimenting (Mumcu and Usluel, 2010). The use of computers and ICT tools supplements and enhances instruction in the case of Computer Aided Designing (CAD). Therefore, the use of computers and ICT is important for tutorials, analysing data, managing learning and other vocational education and training activities (Bauer and Kenton, 2005 cited in Oguzor, 2011).

Through the use of computers and ICT students receive skills needed to perform specific tasks. The uses of computers assist students gain computer literacy and enter a workforce where computer literacy is in demand. ICT in vocational education and training can be useful as learners interact individually or in groups for learning purposes, easy delivery of a lesson by the teacher (Dike, 2002) cited in Oguzor (2011). Therefore, learners will be expected to demonstrate the computer skills they acquired to promote local production in their communities. The use of ICT enables students and teachers to interact virtually without physical contacts (Saud, Shu'aibu, Yahaya and Yasim, 2011). Thus is how ICT ensures attainability of employability skills for skilled graduates.

Strategies for improving vocational and technical education services offered to students and teachers

There is need to improve the quality and competences of teachers, trainers and school leaders by introducing flexible pathways between all education levels as well as increasing public awareness of the possibilities that vocational and technical education offers. The European Union report of (2011) suggests that encouraging practical activities and providing high quality information as well as guidance may enable young people in compulsory education and their parents to become acquainted with different vocational trades and career possibilities. In addition to that, highly qualified teachers and trainers would bring in innovative learning methods thereby increasing the quality of vocational education and adapt it to the economic environment.

Strengthening cooperation between schools and industry would ensure work placements and provisions of adequate equipment for schools. Elford (2011) views it proper for vocational education and training to partner with industry as this leads to stronger collaborations. In the same vein (Osuala, 2004; Umunadi, 2011) state that adequately equipped vocational and technical education workshops, laboratories, machines, tools and working environment help reflect the standard of a workplace environment. This environment also assists the teacher to observe, monitor and correct the students as they work, hence enabling the student to truly and successfully acquire the technical skills. Students would be more likely to improve performance, develop key competences along with vocational skills and thus reflect on the actual working environment. The financial support obtained from industries by vocational and technical education for training programmes would be vital as industries are the main consumers of vocational graduates. Umunadi (2011) suggests that vocational education and technical teachers should be retrained; attend seminars and workshops to enable them to gain current knowledge of new devices and equipment to improve service delivery. This should go on to attract highly qualified specialists to work in secondary schools.

Research findings and discussion

Data presentation

Responses from teachers

Teacher qualifications in secondary schools

Table 1: Distribution of technical and vocational teachers by qualifications (N=20)

Qualification	Frequency	Percentage %
Degree	4	20
Diploma in Education	4	20
National Diploma	5	25
National Certification	2	10
Certificate in Education	3	15
Advanced level	2	10
Total	20	100

The qualifications of respondents were distributed as follows: twenty-five percent (25%) were National Diploma holders, twenty percent (20%) were Degree holders, and twenty percent (20%) were holders of Diploma in Education, fifteen percent (15%) had Certificate in Education, ten percent (10%) had National Certificate and the other ten percent (10%) had attained Advanced level. The teachers are fairly qualified as is indicated by a combined percentage 55% (Degree-20%, Diploma in Education-20% and Certification in Education holders-15%) whereas the other portion of forty-five percent depicts holders of (National Diploma-25%, National Certificate-10% and Advanced Level-10%) which are non-teaching qualifications.

Technical and Vocational and practical subjects offered in secondary schools.

Table 2: Respondents by technical and vocational subjects and practical subjects offered in secondary schools

N=20			N=13		
Technical and Vocational subjects	Frequency	Percentage %	Practical subjects	Frequency	Percentage %
Ornamental Horticulture	2	10	Agriculture	4	31
Computer Operations and Packages	4	20	Building Studies	3	23
Food and Nutrition	2	10	Fashion and Fabrics	6	46
Home Management	1	5			
Food Science	1	5			
Bakery Studies	1	5			
Brick and Block Laying	3	15			
Garment Construction	4	20			
Book Keeping	2	10			
Total	20	100	Total	13	100

On the technical and vocational subjects offered in selected secondary schools in Gwanda district, twenty percent (20%) of the respondents taught Computer Operations and Packages, another twenty percent (20%) taught Garment Construction, fifteen percent (15%) taught Brick and Block Laying, ten percent (10%) taught Ornamental Horticulture, another ten percent (10%) taught Food and Nutrition, and the other ten percent (10%) taught Book Keeping, Home Management accounted for five percent (5%), Food Science five percent (5%) and Bakery Studies also accounted for five percent (5%) of the respondents. On the practical subjects taught, forty-six percent (46%) taught Fashion and Fabrics, thirty-one percent (31%) taught Agriculture and twenty-three percent (23%) taught Building Studies. The research findings to a large extent concur with Mupinga, et al. (2005) who advocated for a vocational curriculum in primary and secondary schools with technical subjects such as building studies, fashion and fabrics, food and nutrition, metal work, technical graphics, woodwork, agriculture, metal work, fine arts and music. The respondents pointed out that the teaching and learning of technical and vocational subjects in secondary schools was a preparatory stage for further skills training. The respondents further indicated that technical and vocational subjects strengthen technical skills of the students, thus the students would be technically skilled for sustainable livelihood.

Teachers qualified to teach technical and vocational subjects and practical subjects.

Table 3: Respondents by qualifications to teach technical and vocational subjects and the practical subjects

N=20			N=14		
Technical Vocational subjects	Frequency	Percentage %	Practical subjects	Frequency	Percentage %
Ornamental Horticulture	2	10	Agriculture	3	21
Computer Operations and Packages	6	30	Building Studies	5	36

Plastering	1	5	Fashion and Fabrics	6	43
Geometrical Building Drawing	1	5			
Food science	1	5			
Brick and Block laying	3	15			
Garment Construction	4	20			
Plumbing and Drain Laying	2	10			
Total	20	100	Total	14	100

The data on table 3 above reveal that thirty percent (30%) of the respondents were qualified to teach Computer Operations and Packages, twenty percent (20%) were qualified to teach Garment Construction, fifteen percent (15%) for Brick and Block Laying, ten percent (10%) for Ornamental Horticulture, and another ten percent (10%) for Plumbing and Drain Laying, five percent (5%) for Plastering, five percent (5%) for Geometrical Building Drawing and the other five percent (5%) for Food Science. On practical subjects forty-three percent (43%) of the respondents indicated that they were qualified to teach Fashion and Fabrics, thirty-six percent (36%) were qualified to teach Building Studies and the other portion of twenty-one percent (21%) were qualified to teach Agriculture. The data shows that teachers for both technical and vocational and practical subjects are poorly qualified. This could compromise the quality of education in general and acquisition of skills by students in particular.

Table 4: Distribution of respondents by teaching and learning of technical and vocational subjects in compliance with the official requirements (N=20)

Factor	Frequency	Percentage %
Yes	16	80
No	4	20
Total	20	100

On compliance of the official requirements of technical and vocational subjects, eighty percent (80%) of the respondents indicated that teaching and learning of technical and vocational subjects was in compliance with the official requirements, whereas twenty percent (20%) was not compliant. The teachers, [eighty percent (80%)] revealed that they were adhering to the requirements of the Ministry of Primary and Secondary Education by following the national syllabus unlike teachers twenty percent (20%) whose schools were not allocating enough time for technical and vocational subjects as per the official requirements by the Ministry.

Table 5: Respondents by adequacy of facilities for the teaching and learning of technical and vocational subjects (N=20)

Adequacy of facilities	Frequency	Percentage %
Yes	13	65
No	7	35
Total	20	100

Sixty-five percent (65%) of the respondents said that facilities for the teaching and learning of technical and vocational subjects were adequate while the other thirty-five percent (35%) indicated that facilities were inadequate. Although physical structures such as workshops and laboratories were available in some secondary schools, teachers cited critical shortages in tools and equipment in Garment Construction and Ornamental Horticulture leading to students sharing thereby compromising the quality of education. It was also reported that computers for Computer Operations and Packages were not enough and students had little time to use computers due to power cuts. In some schools it is either the unavailability of computers or power supply that prevented the teaching of Computer Operation and Packages course. The teachers said that they had inadequate tools and working space to train students.

Table 6: Respondents on the extent to which technical and vocational subjects prepare students for further training (N=20)

Factor	Frequency	Percentage %
Students are introduced to industrial work at school	7	35
Students have background knowledge on technical and vocational subjects	5	25

Students can now apply theory to practice	4	20
Resource challenges	4	20
Total	20	100

Thirty-five percent (35%) of the teachers revealed that students were introduced to industrial work, twenty-five percent (25%) of the respondents said that students had background knowledge on technical and vocational subjects, twenty percent (20%) of the respondents revealed that students were able to apply theory to practice and the other twenty percent (20%) of the respondents cited some challenges in resources. The respondent indicated that students were exposed to some background knowledge on the technical and vocational subjects as they were introduced to industrial work, thus linking theory to practice. Although inadequate resources were hindering the process of preparing students for further training, indeed teachers were assisting students to prepare for their future lives.

Table 7: Respondents by use of Information Communication and Technology (ICT) or computers in the teaching and learning of technical and vocational subjects (N=20)

Factor	Frequency	Percentage %
Used for research purposes	8	40
Some programmes for some subjects were not fully installed for e-learning	6	30
Computers were not fully utilised	5	25
IT labs were fully equipped with computers	1	5
Total	20	100

Forty percent (40%) of the respondents said that computers were used for research purposes, thirty percent (30%) of the respondents indicated that some programmes for some subjects were not fully installed for e-learning, twenty-five percent (25%) of the respondents revealed that computers were not fully utilised and the other five percent (5%) said that IT labs were fully equipped with computers. Despite the IT labs being fully equipped with computers, challenges were cited in some programmes not fully installed for e-learning thus computers were not adequately used.

Table 8: Respondents by challenges encountered in the teaching and learning of technical and vocational subjects in schools (N=20)

Factor	Frequency	Percentage %
Inadequate resources	10	50
There are few lessons allocated for technical and vocational subjects	4	20
Materials and resources are too expensive	3	15
Some students have negative attitudes towards technical and vocational subjects	3	15
Total	20	100

Data on table 8 indicate that fifty percent (50%) of the respondents indicated that there are challenges on resources, twenty percent (20%) of the respondents revealed that there were few lessons allocated for technical and vocational subjects, fifteen percent (15%) said that materials and resources were too expensive and the other fifteen percent (15%) revealed that some students had negative attitudes towards technical and vocational subjects. The challenges were negatively affecting the smooth teaching and learning of technical and vocational courses in secondary schools. The results are however in sharp contrast to Boateng (2012)'s suggestion that technical and vocational subjects needed to be allocated sufficient time to satisfy their practical goals. The respondents revealed that technical and vocational subjects needed adequate time such that students would be fully equipped with technical skills. Mandiudza, Chindedza and Makaye (2013) further say that vocationalisation of schools cannot be achieved if practical subjects are taught like academic subjects. The researchers found it proper that students should be fully exposed to practical subjects so that they gain skills demanded in the world of work.

Responses from school heads

Table 9: Respondents on the compliance of the technical and vocational curriculum policy (N=7)

Factor	Frequency	Percentage %
Each student takes one subject	3	43

Technical and vocational subjects are not equivalent to O' level courses	2	29
Technical and vocational subjects are inclined to self-employment	1	14
Document not in place	1	14
Total	7	100

On the implementation of the technical and vocational curriculum policy, forty-three percent (43%) of the school heads said that a student was encouraged to take one technical and vocational subject, twenty-nine percent (29%) of the respondents indicated that technical and vocational subjects were not equivalent to 'O' level courses, while fourteen percent (14%) of the school heads explained that the policy document states that technical and vocational subjects were inclined to self-employment and the other fourteen percent (14%) revealed that they did not possess the policy document. The school heads indicated that they were following the requirements of the technical and vocational curriculum policy document though fourteen percent of the school heads did not possess the policy document.

Table 10: Respondents by how schools channel students into technical and vocational subjects (N=7)

Factor	Frequency	Percentage %
School advises students to choose technical and vocational subjects	4	57
Students choose their technical and vocational subjects	3	43
Total	7	100

Data on table 10 indicate that fifty-seven percent (57%) of the respondents said that they advise students to choose technical and vocational subjects and forty-three percent (43%) revealed that students were free to choose their own technical and vocational subjects. The research findings closely link with a report from (Education for All Global Monitoring Report, 2012) which encourages schools to play an active role in the selection process of technical and vocational courses by recommending students for particular apprenticeship positions. Mandiudza, Chindedza and Makaye (2013) suggest that students should be allowed to make choices that suit their conditions so that they are receptive to the vocational knowledge they receive.

Table 11: Respondents by activities schools engage students for further training (N=7)

Factor	Frequency	Percentage %
Teachers give students more time to have hands on skills in technical and vocational subjects	5	71
Teachers take students on visit to industry to familiarise with industrial work	2	29
Total	7	100

The majority of the respondents seventy-one percent (71%) said that teachers give students more time for hands on skills, and twenty-nine percent (29%) of the respondents indicated that students visit industries to familiarise with industrial work. The study findings compare well with Elford (2011) who views it proper for vocational education and training to partner with industry as this leads to stronger collaborations. The researchers observed that strong cooperation between schools and industry would ensure work placements and provision of adequate equipment for schools. In addition to the researchers' observations, Elford (2011) points out that those students would be more likely to enhance their performance thereby developing key competences along with vocational skills that reflect the actual working environment.

Table 12: Respondents by challenges encountered in the teaching of technical and vocational subjects (N=7)

Factor	Frequency	Percentage %
Inadequate time allocated to technical and vocational subjects	3	43
Negative attitudes by students towards technical and vocational subjects	2	29
Teachers are not qualified enough to teach technical and	1	14

vocational subjects		
There are not enough computers	1	14
Total	7	100

Table 12 depicts that forty-three percent (43%) of the respondents indicated that there is inadequate time allocated to technical and vocational subjects, twenty-nine percent (29%) of the school heads said that some students have negative attitudes towards technical and vocational subjects, fourteen percent (14%) of the respondents revealed that some teachers were not qualified enough to teach technical and vocational subjects and lastly fourteen percent (14%) of school heads said that computers were not enough for the teaching and learning of Computer Operations and Packages course. The research findings compare well with Boateng (2012); Gwembire and Katsaruware (2013) and Ayeni and Adelabu (2012) who say that vocational and technical education requires skilled and proficient teachers. The inadequacy of tools for learning may hinder the learning activities in schools. However, Osuala (2004) and Umunadi (2011) are of the view that adequately equipped vocational and technical education workshops, laboratories, machines; tools and working environment help reflect the standard of a workplace environment. However, the school heads were largely relying on untrained teachers as there is a severe shortage of local teachers trained to teach vocational subjects, thereby compromising the quality of the products. The situation was even worse as less time was allocated for technical and vocational subjects since teachers were also loaded with academic subjects. The researchers point out that an adequately equipped environment also assists the teacher to observe, monitor and correct the student as they work, hence enabling the student to truly and successfully acquire the technical skills.

Table 13: Respondents by the relevance of ICT in the teaching of technical and vocational subjects (N=7)

Factor	Frequency	Percentage %
Computers are used for teaching and learning purposes	3	43
Computers are used for research purposes	3	43
Computers are used for preparing examinations	1	14
Total	7	100

Forty-three percent (43%) of the respondents revealed that computers are used for the teaching and learning of technical and vocational subjects, another forty-three percent (43%) of the respondents said that computers are used for research purposes and the other fourteen percent (14%) indicated that computers are used for preparing examinations. An analysis of the research findings closely links with Oguzor (2011) who stated that ICT is used as a teaching and learning tool as part of a subject, and as a subject itself.

Recommendations

In light of the above findings the study recommends that:

- The Ministry of Primary and Secondary Education should come up with a clear policy guiding the implementation of technical and vocational curricula in secondary schools.
- The Ministry of Primary and Secondary Education should equip the secondary schools with appropriate equipment and facilities both in quantitative and qualitative terms.
- The Ministry of Primary and Secondary Education should train and recruit suitably qualified technical and vocational teachers.
- The technical and vocational subjects should be upgraded to ZIMSEC ‘O’ level status.
- There is need to provide and install suitable software in computers for the teaching and learning of the technical and vocational subjects such as Computer Aided Design (CAD). This will enable smooth transition of students as most of technical colleges’ and industries’ operations are computerised.

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