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FACTORS CAUSING LECTURERS´ RESISTANCE TO EFFECTIVE IMPLEMENTATION OF COMPETENCE BASED EDUCATION AND TRAINING IN HARARE POLY-TECHNIC COLLEGES IN ZIMBABWE.

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ABSTRACT

The purpose of this study was to find factors causing lecturers' resistance to effective implementation of competence based education and training in Harare poly-technic colleges. Qualitative research design, grounded in the interpretivist paradigm was used. The data generating instruments were observation and interview guides as well as document analysis. The findings show that most lecturers were holders of national certificate which is lower than the recommended national diploma, lecturers perceived competence based education as same as technical and vocational education, non-involvement of lecturers in planning the curriculum and shortage of machinery and equipment were major factors hampering the implementation of competence based education and training. It was recommended that poly-technic colleges should embark on staff development programs to equip lecturers with new

competences and that there is need to re-tool and equip the existing engineering workshops so that they are abreast with new technologies

Key words: competence based education and training; implementation; technical and vocational education and curriculum

Introduction

Competence based education and training is an approach which the polytechnic colleges are adopting in training the students in various skills areas. This approach is being infused in vocational technical education and training approach which seems to offer general education. The study seeks to find factors causing lecturers' resistance to the effective implementation of competence based education and training in Harare poly-technical colleges in Zimbabwe. The teaching of competence based education and training was an initiative of the Ministry of Higher and Tertiary Science and Technology development spear headed by Ministry's Department of Industrial Trade Testing. From consultations made by Industrial Trade Testing Department with captains of industries, they got the notion that industries need artisans and technicians with specific competences to perform specific tasks. Industrialists' then lobbed for a curriculum which is competence based so that graduates would meet the needs of industry.

Learning from world trends on technical and vocational education and training, the Ministry of Higher and Tertiary Education, Science and Technology Development adopted competence based education and training as strategy to produce practically oriented graduates from public and non-governmental institutions to keep abreast with world trends on technical and vocational education and training. The rationale behind competence based education and training was the purported lack of relevance of vocational education and the inability to compete within the labour market. The technical and vocational programs were alleged to concentrate on gaining of knowledge and theory at the expense of performance (it is performance which characterises competence). Technical and vocational education and training institutions were offering training programmes which were failing to develop skills required for employment within the industry and commerce. There was a difference between what was happening in industry to what was in the technical and vocational education and training colleges. There was need, to come up with responsive curriculum which could cater for the needs of the industry and commerce. The sector of skill development and vocational

education required a paradigm shift from a static framework to one that is dynamic and constantly adapting to meet industry and societal demands hence the introduction of competence based education and training (Mishra & Mehta, 2017).

In Competence based education and training, the industrialists prescribe the occupational competence standards and suggest practical assessment guidelines for evaluating graduate's performance. Most technical and vocational education and training institutions are responsible for delivering effectively training that would meet the needs of the industry and commerce. Thus, it can be noted that the competence based education and training approach therefore involves a symbiotic relationship between industry and training providers (Woyo, 2013).

Rationale and Research Question

Competence based education and training has brought radical changes in the education system in polytechnic colleges. The system has brought change in the role of lecturers and students in the teaching and learning process (Boahin & Adriaan-Hofman, 2012). The competence based education is a very objective and outcome based education. It requires the implementers to understand the dictates of the whole approach. Competence based education and training is a system which is industry driven. This education and training approach is there to equip the students with specific skills required in the labour market. Competence paradigm shift in education and training has reform agenda that would lift the workforce to productive levels regionally, continentally and internationally competitive standards. The system promotes quick realisation of educational benefits.

The main aim of the competence based education and training curriculum is to bridge the gap between what is taught at college and the real world of work. In 2012 and 2013 Standards Development and Research Unit (SDERU), a unit in the Ministry of Higher and Tertiary, Science and Technology development developed occupational profiles, occupational standards and skills proficiency that were produced by industrial experts from a spectrum of economic sectors and reviewed the syllabi to be used as the new curricula of competency. The competence based curriculum is a new approach which comes with new technologies and teaching methods which are humanistic in nature. The approach is learner centred and the lecturers are just facilitators in the whole learning process. Competence based education and training approach is systematic and logical in instructional materials that are used for training

the students. It promotes discovery learning and learners can progress in their training at their own pace.

The introduction of competence based education and training has faced a lot of resistance by polytechnic lecturers in technical and vocational education and training institutions resulting in lecturers being reluctant to implement the competence based education and training program. It is against this background that the researchers seek to find factors causing lecturers' resistance to effectively implement the competence based education training in polytechnic and vocational training centres. The main research question guiding this study is:

What are the factors causing lecturers' resistance to the effective implementation of competence based education and training in polytechnic colleges?

(Porter, 2004) states that teachers are curriculum implementers as well as assessors. Lecturers as implementers of competence based education and training programmes must be qualified enough so that they would be able to interpret the competence based education and training syllabus. Lecturers should understand the full package of competence based education so that the syllabus is implemented. Parker and Walters (2008); Smith (2010) note that competence based education and training requires and demands a high level of expertise which normally does not exist.

African Union (2007) argues that the quality delivery depends on the competence of the teacher. The competences are measured in terms of theoretical knowledge, technical and pedagogical skills. It means that for someone to effectively deliver the competences to the learners, the person should be highly qualified. The lecturer should be well grounded in his or her area of specialisation. Chikowore (2013) posits that learner's performance is influenced by educator's experience and level of professional training. Lecturers must upgrade their qualifications in order to equip themselves with new skills and teaching methods. Professional development assists in overcoming shortcomings which occur as lecturers deliver their duties (Jolibongo, 2012). Due to changes in technology, educators should be pragmatic in their approaches to prevailing situations. Hence, lecturers are supposed to develop themselves so that they meet the challenges of the new dimensions of the competence based education and training. This means that for the competence based education to be effectively implemented, lecturers are supposed to be highly qualified. Competence based education has brought radical changes in the role of the learner and lecturer (Bonham & Boylan, 2012). Competence based education and training and technical and vocational

education and training programmes are regarded as product oriented and too fragmented by educators (Dasmani, 2011). Porter (2014) says that learner centred approach has entailed a paradigm shift of teaching and learning approach from syllabus oriented content based transmission method of teaching to competence based education.

Research Methodology

The research design is the entire process of research from conceptualising a problem to writing research questions, and on to data generation, analysis, interpretation, and report writing (Creswell, 2007, 2013). Qualitative research is descriptive in nature, since its purpose is to unearth more about the specific phenomenon, and then provide detailed, comprehensive descriptions. It is primarily interpretive (Creswell, 2007, 2013). Qualitative research takes place in the "participants' natural environment" (Creswell, 2013, p. 175).This affords researchers an opportunity to enter the world of their participants and get the opportunity to obtain a "rich understanding of their world as they experience it" (Babbie, 2007, p. 312). Researchers working in this paradigm wants to find out what people are doing and experiencing, while taking into account the conditions (context) in which the people being studied live (Henning, Van, & Smit, 2004). As researchers, we became part of the social situation by:

> … confronting the social world under research, by raising questions about this world in order to discover relations between categories, by formulating propositions about these relations, by organizing these propositions into analytical themes and to test the questions, data, relations, propositions and analysis through renewed examination of the social world (Goodman, 1992, p. 120)

Interpretive approaches rely heavily on naturalistic methods such as interviewing and observation which we used in this study. The interpretivist approach says that individuals make meanings of the world as they interact with the environment. Interpretivists create knowledge as they make meaning through interaction with the environment. Individuals make meaning from their own frame of reference (Bryman, 2012). This paradigm considers collective social actions, beliefs, thoughts and perceptions of individuals. Data were generated by interacting with participants in the form of words and pictures rather than numbers. The population in this study consisted of heads of departments, lecturers in charge and lecturers in

automotive engineering department from two colleges. There are four colleges in Harare metropolitan region but only two were selected due to their proximity to the researchers.

We purposively chose heads of departments, lecturers in charge as well as lecturers who were known to demonstrate the knowledge required by the researchers for this study. The total number of participants in this study was forty-four. There were twenty students, ten lecturers, eight lecturers in charge and six head of departments from two colleges to form a sample. The interview guides were very appropriate because it has a high response rate. Documents like national certificate syllabi and proficiency schedules in automotive engineering were used to find the qualifications of lecturers, experience, machinery and equipment, text books recommended, student activities, teaching methods, experience of lecturers and lecturers' activities. Bogdan and Biklen (2005) argue that classroom observation involves the systematic noting and recording of behaviours and events in a social environment for study purposes. We observed the lecturers interacting with students in the workshops and classrooms. With participant observation, the researchers could get first-hand information from participants and recorded as events occurred.

The researchers maintained the participants right to confidentiality and privacy. Some of the ethical considerations that were upheld in this study include protection from harm and deception (Creswell, 2014). Pseudonyms were used for all the participants for anonymity and confidentiality. Trustworthiness was ensured by drawing on credibility, transferability, dependability and confirmability (Guba & Lincoln, 1994). We reflected and reframed our thinking to the study to minimize our bias. Additionally, many hours were spent on data generation and analysis, and this enabled deep engagement with the study (Creswell, 2013). Furthermore, we worked ethically with the participants from the outset of the study to the end. Issues of written and signed informed consent were upheld.

Analysis of Results and Discussion

Biographic data is presented first

Table 4.1 Biographic data of participants

Category	Students	Lecturers	Lecturers in charge	Heads of departments
Gender	5 females	3 Females	2 Females	I female

	15 males	7 males	6 males	5 males
Age	3 females 18 years 2 female 20 years 10 males 22years 3male 24 years 2male 25 years	1female 30 years 2females 24 years 3males 32 years 4males 42 years	1female 35years 1female 36 years 2males 34 years 4males 38 years	1female 39 years 5males 42 years
Experience		3females 6years 5males 5years 2males 6years	2females 5years 2males 6years 4males 8years	1 female 8years 3males 10 years 2males 12 years
Qualifications		2female: national certificate 5males national certificate 1female: national diploma 2males: national diploma	2females: national certificate 4 males: national certificate 2male: national diploma	3males: national certificate 2males: national diploma 1famale: national diploma

Factors causing lecturers' resistance to the effective implementation of competence based education and training in polytechnic colleges

From the generated data, five themes emerged as outlined in the following section.

1. Lecturer Qualification and Experience

The ages of the students (Table4.1) indicate that they are mature enough to do competence based education and training programmes. The table also shows that most of the participants

were males. This indicates gender in balance in engineering courses. Most students were late adolescents who needed guidance from their teachers. The lecturers and teachers in charge were mature enough to guide the students and the heads of department were also mature to supervise lecturers and teachers in charge.

From the semi- structured interviews carried out, seven out of ten lecturers (70%) have national certificate and well experienced. Only three out of ten (30%) said that they were holders of national diploma which is recommended (Table 4.1). The interviews with lecturers in charge indicated that six out of eight lecturers in charge (75%) have national certificate with six years' experience whilst two out of eight lecturers in charge (25%) indicated they were holders of National Diploma with five years' experience.

Five out of six heads of departments (83.3%) said that they had a national certificate and journeyman class one in their relevant areas of specialisation. Only one out of six heads of departments (16.7%) said she is a holder of national diploma in Automotive Engineering with over eight years' experience. All the six heads of departments (100%) supported what teachers in charge and lectures said concerning their qualification and experience.

Document analysis of the lecturers' files supported what had been said by the all the participants. The syllabus also revealed that a lecturer should have a minimum of National Diploma and two years of experience. The competences are measured in terms of theoretical knowledge, technical and pedagogical skills. The common National Certificate qualification of lecturers was not in tandem with National Diploma recommended by the syllabus. The lecturers should be well grounded in his or her area of specialisation. He or she should also have teaching skills which are in line with competence based education approach which regards a step by step approach of training the students. From the presented data, (Table 4.1) all the participants had five or more years' experience. Therefore, qualification and not experience was a factor causing lecturers' resistance to the effective implementation of competence based education and training in Harare poly-technical colleges in Zimbabwe. The lower qualification of lecturers could hinder the effective implementation of competence based education and training. This is supported by Chikowore (2013), who said learners' performance is influenced by educators' experience and level of professional training. This means that for the competence based education to be effectively implemented, lecturers are supposed to be highly qualified as advocated for by Mishra (2014) who says highly qualified teachers improve students' achievement.

2. Lecturers' Perception towards Competence Based Education and Training.

The interviews we conducted, seven out of ten lecturers (70%) who were holders of the national certificate said that competence based education and training is the same as the technical and vocational education and training. Three out of ten lecturers (30%) highlighted that competence based education is not a good approach to training. Five out of eight lecturers in charge (62.5%) said that competence based education and training was not different to the traditional technical and vocational education and training. Three out of eight lecturers in charge eight (37.5%) also revealed that lecturers were regarding the implementation of competence based education as difficult due to its teaching methods and assessment procedures. From the interviews conducted, four out of six heads of departments (66.67%) indicated that competence based education and training is industry-driven such that lecturers felt that they were not part of it. Two out of six heads of departments (33.3%) said that lecturers found the competence based education and training very difficult to implement.

During classroom observations and as we interacted with lecturers we noted their negative attitudes towards competence based education and training because they perceived it as an unnecessary burden. Lecturers were making comments like:

The competence based education and training is the same as technical and vocational education and training approach. It is just a repetition of the same approach.

Other lecturers said:

Competence based education is the less important than technical and vocational education and training. The new approach is watered down; it does not cover the whole course aspects

They viewed the new approach as duplicate of the technical and vocational education though they said that the competence based education is not encompassing all that is involved in technical and vocational education.

From the presented data, the participants perceived the competence based education and training approach (which they said is industry driven) same as the technical and vocational education and training. This failure by the lecturers to differentiate competence based education and training from technical and vocational education and training could be factor hindering the effective implementation of competence based education and training. The incorrect perception by lecturers could result in them failing to implement the competence based education approach. This misconception was noted by Mbizvo (2013), when he said

lecturers are acknowledging the contribution by the new approach - competence based education and training, but some lecturers in technical vocational education and training institutions are determined to preserve the traditional approach. The researchers observed that there was lack of understanding of what the new approach was all about. Ashford (2013) says lecturers have the divergent view that business studies programmes are not regarded as vocational. With the mixed feeling about competence based approach, lecturers may not effectively implement the approach since they have the notion that it is suitable for the engineering courses. This is supported by Dasmani (2011) who argues that competence based education and training is regarded as program which is too fragmented by educators. In the fragmentation process of the programme essential knowledge is left out.

3. Teaching and Learning Resources

From the interviews which were carried out, all the ten lecturers (100%) indicated that the absolute equipment and machinery in the workshops was a major factor contributing to poor implementation of the new approach to training, competence based education and training. Two out of ten lecturers (20%) added that there were very few new machines to implement the competence based education and training. All the eight lecturers in Charge (100%) supported what lecturers said. The six heads of departments (100%) said that the equipment and machinery is very old and out-dated, such that even if the lecturers wanted to implement the new program, the inadequacy of machinery could hamper the whole exercise. In other words, they said that there were few new machines in the workshops which were suitable to implement the competence based and training.

The classroom observations showed that most of the equipment and machinery was very old and out-dated. Most of the machines were procured way back when the polytechnic colleges were established. Students were sharing tools and machines in the ratio of three students per machine which was contrary to the recommend one as to one in the syllabus. The researchers could observe lecturers having difficulties in demonstrating skills like valve timing since they were no live engines to use.

From document analysis, we noted that the resources recommended by the syllabus were not there in the workshops. These were car lifters, electronic boards, for fuel injection and live engines and exhaust gas analysers. The sharing ratio of 1 is to 1 of text books and machines was not adhered to. The text books recommended by the syllabus were not available for use

by both lecturers and students. The data from both observations and interviews also revealed that there were no new equipment and machinery in the workshops.

From the presented data from all the participants (lecturers, lecturers in charge and heads of departments) we noted that the equipment and machinery in the workshops were absolute, old and inadequate. Therefore, it was difficult for lecturers to implement the competence based education and training. Lecturers had problems in carrying out demonstrations due to shortages of equipment and students were carrying out their work in groups as opposed to the recommended individual work on certain competences to be mastered. The shortage of resources hampered the effective implementation of competence based education and training. This is supported by Jobolingo (2012) who says successful implementation of curriculum instruction requires adequate resources. These resources range from materials to physical structures. Muranda (2012), argues that physical learning environment rage from relatively modern and well equipped building to open air meeting places. During observation visits, the researchers discovered that there were very few modern machines, like the 3D wheel alignment machines. The competence based education and training comes with a new curriculum package which should be fulfilled for the realisation of the specific competences in the training programmes. The competence based education programmes are practically oriented hence, polytechnic colleges should have equipment in the workshops for lecturers' use when training the students. The institutions should have the recommended text books and training manuals for the use by the students. Shortage of resources is one of the factors causing lecturers' resistance to effective implementation of competence based education and training.

4. Lecturer Participation in Curriculum Planning

From the interviews carried out, nine out of ten lecturers (90%) indicated that they were not invited to participate in planning the curriculum for competence based education and training. One out of ten lecturers (10%) highlighted that at times lecturers were invited to participate in curriculum planning. Six out of eight lecturers in charge (75%) said that lecturers were rarely invited to participate in planning the curriculum. Two out of eight lecturers in charge (25%) pointed out that at times the lecturers could attend some workshops on curriculum planning. Four out of six heads of department (66.67%) said that lecturers were not invited to participate in curriculum planning. They said that lecturers only implement the syllabus as it comes from curriculum research and development unit (CRDU). Two out of six heads of

department (37.33%) argued that lecturers were only asked to provide test items to the examination department.

From classroom observations and when the researchers interacted with institutional administrators, negative comments like:

Some lecturers have lower qualifications such that they have nothing to take on board

The sentiment above revealed that no invitation of lecturers to participate in curriculum planning at national level and indicated a negative regard by the institutional administration towards lecturers. The data from lecturers, lecturers in charge, and heads of departments showed that they were not invited to participate in curriculum planning. During the interactions with lecturers, the researcher noted that lecturers were very much interested to take part in curriculum planning. They indicated that they wanted design and develop the curriculum together with industry. African Union (2007) argues that it is necessary to establish a national agency to coordinate the technical and vocational education system. Coordinating agency should include representatives from all relevant stakeholders including employers and public and private training providers. Harden (2009) also says that members of staff should identify with the curriculum planning process to minimise lecturers' resistance.

The responses from heads of departments showed that competence based education and training is industry driven. This means that industry is the major contributor in the planning of competence based education curriculum programmes. Heads of departments were saying lecturers perceived the new approach as a package from the industry imposed on lecturers to implement without their input. This is supported by Smith (2010), who said the competence based education and training is controlled by the interest of industry. This disadvantages learners and lecturers. The data illustrates that lecturers are not involved in coming up with competence based education and training programmes in Zimbabwe. Industry dictates what they require learners to acquire from the poly technic institutions. Some lecturers said the captains of industries were supposed to involve lecturers in the curriculum development process and not just imposing their curriculum to be implemented. This in a way results in lecturers' resistance because they would not be identifying themselves with the innovation and hence they may misinterpret what the designers intended.

Lecturers as implementers of the competence based education and training have the knowledge and methods of imparting skills to the students. (Kelly, 2009) says that teachers have great depth understanding of curriculum theories and models. Successful curriculum

planning process should involve many stakeholders both inside and outside the university specially the lecturers (Mälkki & Paatero, 2014). The non-involvement of lecturers by the curriculum development agency is one of the factors causing lecturers' resistance to effective implementation of competence based education and training programme in polytechnic institutions.

5. Assessment Procedures

The responses during the interviews indicated that seven out of ten lecturers (70%) said that the assessment procedures of competence based education and training was very objective such that it could not promote creativity from lecturers. Three out of ten lecturers (30%) highlighted that lack of knowledge about the competence based education and training paradigm shift was a factor causing lecturers to resist implementation of competence based education and training. Six out of eight lecturers in charge (75%) cited that the assessment approaches of competence based education and training were difficult to be implemented by lecturers. Lastly, two out of eight lecturers in charge (25%) said that lecturers lacked training in the new approach of teaching the students. From interviews, five out of six heads of department (83.33%) indicated that lecturers could not understand the ways of assessing the students during practical lessons. One out of six heads of departments (16.67%), said that lecturers were able to effectively assess the students during the lessons.

The researchers observed lecturers conducting practical lessons in their workshops and noted the following: -

Lecturers had challenges assessing students due to proficiency assessment schedules which were difficult to interpret. Lecturers were combining assessments which were supposed to be done separately.

The document analysis data indicated that assessment procedures recommended by the syllabus were not in tandem with what the lecturers were doing. From the responses made by the participants it was noted that assessment procedures were not easy to implement hence hampering the effective implementation of competence based education and training. This supported is by Slayton (2013)) who explains that while efforts to expand competence based education within the main stream education system seems not to go well; resistance is likely to be met. Concerns have been raised against some competence based education and training programmes which seem to use direct assessment approaches which is different from the general education system. Poor understanding of the assessment process is one of the factors

causing lecturers' resistance to implement the new approach in training the students. The competence based education and training required assessment procedures which lecturers could not understand.

CONCLUSION

Seventy percent of the lecturers had national certificate and skilled worker class one but they had more than five years working experience. Seventy percent of the lecturers perceived competence based education and training and technical and vocational education and training as the same. They argued that it was very objective such that it did not promote creativity on both lecturers and students. They could not differentiate the two approaches when teaching the students. This study established that there were shortages of machinery and equipment to use in the implementation of competence based education and training. These were very old and obsolete. This shortage of learning resources affected the teaching and learning process resulting in lecturers resisting implementation of competence based education and training. The data showed that lecturers were not involved in planning the competence based and education and training curriculum. Lecturers resisted the implementation of the competence based education and training curriculum in poly-technic colleges in Zimbabwe. Lecturers were not comfortable with new assessment procedures of competence based education and training because they were not easy to implement since they lacked understanding.

RECOMMENDATIONS

There is need for Poly-technic colleges to embark on lecturer staff development programmes to equip them with new competencies required by the new approach. There is great need to re-tool and equip the existing engineering workshops in poly-technic colleges so that they are abreast with new technologies. The industry and commerce should involve lecturers in training institutions in coming up with new curriculum programmes to enable lecturers to have ownership of the curriculum to be implemented. Poly-technic colleges should have e-learning software programmes so that both lecturers and students can be assisted with programmed demonstrations. There is need to furnish poly-technic colleges' libraries with specific learning resources for competence based education and training.

REFERENCES

[1] African Union. (2007). *Strategy to revitalise technical and vocational education and training (TVET) in Africa*.

[2] Ashford, E. (2013). New courses stress competency to meet workforce needs *Community College Daily*. http://www.ccdaily.com/Pages/Workforce-Development/New-courses-stresscompetency-to-meet-workforce-needs.aspx

[3] Babbie, E. (2007). *The Practice of Social Research* (11th ed.). Belmont, CA: Thomson Wadsworth Publishing Co.

[4] Boahin, P., & Adriaan-Hofman, W. H. (2012). Implementation of innovations in higher education: the case of competency-based training in Ghana. *International Journal of Education, 49*(3), 20-27.

[5] Bogdan, R. C., & Biklen, S. K. (2005). *Qualitative Research foe Education: An introduction to theory and methods*. Boston: Allyn & bacon.

[6] Bonham, B. S., & Boylan, H. R. (2012). Developmental Mathematics: Challenges, Promising Practices, and Recent Initiatives. *Journal of Developmental Education, 36*(2), 14-21.

[7] Bryman, A. (2012). *Social research methods* (4th ed.). Oxford.: Oxford Press.

[8] Chikowore, T. (2013). *The school head as an instructional leader*. Harare: University of Zimbabwe.

[9] Creswell, J. W. (2007). *Qualitative Inquiry and research design: Chosing among five approaches*. London: Sage Publications.

[10] Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing amoung five approaches (3rd edn)*. London: SAGE Publications.

[11] Creswell, J. W. (2014). *Qualitative Inquiry and research design: Chosing among five approaches*. London: Sage Publications.

[12] Creswell, J. W., & Plano, C. V. L. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage.

[13] Dasmani, A. (2011). Challenges facing technical institute graduates in practical skills acquisition in the Upper East Region of Ghana. *Asia Pacific Journal of Cooperative Education, 12*(2), 67-77.

[14] Goodman, J. (1992). Theoretical and Practical Considerations for School-Based Research in a Post-Positivistic Era. . *Qualitative Studies in Education, 5*(2).

[15] Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage.

[16] Harden, R. M. (2009). AMEE guide no. 21: Curriculum mapping: a tool for transparent and authentic teaching and learning. . *Medical Teacher, 23*(1).

[17] Henning, E., Van, R., & Smit, B. (2004). *Finding your way in qualitative research*. Pretoria: Van Schaik Publishers.

[18] Jolibongo, D. (2012). *Teaching for Critical Thinking*. Harare: Zimbabwe Publishing House.

[19] Kelly, A. V. (2009). *The Curriculum: Theory and Practice*. London: Sage.

[20] Mälkki, H., & Paatero, J. V. (2014). Curriculum planning in energy engineering education. *Journal of Cleaner Production, 5*(2).

[21] Mbizvo, W. (2013). *Historical perspective of human capital development in Zimbabwe*. Paper presented at the National Manpower Advisory Council Stakeholders Conference, Pandhari Lodge, Harare.

[22] Mishra, M. (2014). *Vertically integrated skill development and vocational training for socioeconomically marginalized youth: The experience at Gram Tarang and Centurion University*. New Delhi: Springer.

[23] Mishra, P., & Mehta, R. (2017). What We Educators Get Wrong About 21st-Century Learning: Results of a Survey. *Journal of Digital Learning in Teacher Education, 33*(1), 6-19.

[24] Muranda, R. (2012). *Poor Performance by Rural Schools*. Harare: Zimbabwe Open University.

[25] Parker, B., & Walters, S. (2008). Competency based training and National Qualifications Frameworks: Insights from South Africa. *Asia Pacific Education Review, 9*(1), 70-79. doi: DOI: 10.1007/BF0302582

[26] Porter, S. R. (2004). *Competency based education and students' aid*. San Diego: San Diego Press.

[27] Porter, S. R. (2014). *Competency based education and students' aid*. San Diego: San Diego Press.

[28] Slayton, A. (2013). Democratic limits of "customized." Inside Higher Ed. Retrieved from Retrieved from http://www.insidehighered. Com/views/2013/08/08/competency-based-education-puts-efficiency-learning-essay website:

[29] Smith, E. (2010). Competency based education and training (CBET) *International Journal of Training and Development, 14*(1), 54-64.

[30] Woyo, E. (2013). Challenge facing technical and vocational education and training institutions in producing competent graduates in Zimbabwe *Open Journal of Education, on the job education and training, 1*(7), 182-189.