



Facilitating Non-School-Based Technical and Vocational Training for Disadvantaged Youths in South Africa

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Abstract: Disadvantaged young people in Sub-Saharan Africa are the most stricken by unemployment because of their socio-economic background. Technical and vocational training programmes appear to be a remedy for their situation because the approaches of training delivery are practice-oriented. Using experiential learning theory, the article examines the enabling factors for the effectiveness of non-school-based technical and vocational training on skills acquisition. To get a full picture of the enabling factors for the effectiveness, the study used mixed methods research approach. Mixed methods research is an approach that involves a combination or association of both qualitative and quantitative approaches. The study used self-completion questionnaires, one-on-one semi-structured interviews and site observations to collect data from 512 young trainees, 24 training managers and 32 trainers. The findings reveal that the facilitation methods mostly used were the practical sessions in workshops, on-the-job training and workplace-based training. The author concludes that the practice-oriented methods were useful to empower the young trainees to acquire skills and abilities required for immediate employment. The article demonstrates how useful is the experiential learning theory in the delivery of the programmes for skills acquisition. The significant element of this article is the application of four stages of experiential learning theory to non-school-based technical and vocational training. The practical and social implications of the findings are that, while disadvantaged youths cannot access and afford higher education, public and private sectors can remedy their situation by providing non-school-based technical and vocational training to help them enter the labour market. The article is significant because youth growing up in poor households, and without access to opportunities to acquire skills, will have challenges to take care of their families in their adulthood.

Keywords: Facilitation, technical training, vocational training, non-school-based training, disadvantaged youths

1. Introduction

Unemployment of disadvantaged young people (18 to 35 years old) is one of the major challenges facing Sub-Saharan African countries today. They are the most stricken by unemployment because of their socioeconomic background. They could not attend good quality schools that are equipped with adequate human and material resources because of affordability and accessibility as they come from poor households (ILO, 2018b). In this connection, Fox, Senbet and Simbanegavi (2016, p. i6) also note that "Youth growing up in poor households, and without access to opportunities to build skills, will be at a disadvantage in making the transition to adulthood". Although they may have held a general certificate of education (equivalent to Grade 12), they lack employability and marketable skills enabling them to become

wage or self-employed in the informal sector at a low level (ILO, 2020; Eicker, Haseloff & Lennartz, 2016). In other words, the basic education programme did not prepare them in terms of soft and hard skills to become involved in the labour market. Yet these young people come from poor households and lack funding and required marks to pursue tertiary education.

Technical and vocational training programmes have been used to help disadvantaged youths to gain marketable skills. Evidence from studies shows that the programmes empower young people with relevant skills and competencies to be involved in economic activities (Bratti, Ghirelli, Havari and Santangelo, 2022; Wildschut & Kruss, 2019; Ngcwangu, 2019). In Sub-Saharan African countries, the provision of technical and vocational training programmes is intended to help unemployed youth to gain employability skills and hence facilitate their insertion into the labour market (Reddan, 2017; Rowe & Zegwaard, 2017; Smith & Worsfold, 2015). However, it is significant to note that the training programmes can be effective if the training centres have adequate resources, use appropriate facilitation approaches, and involve external stakeholders. Using the context of South Africa, this article examines the facilitation approaches of non-school-based technical and vocational training programmes. It focuses on enabling internal factors for their effectiveness in skills acquisition.

2. Background of the Study

Technical and vocational training programmes appear to be a remedy for the situation of disadvantaged and unemployed youths because the mode and approaches of delivery are practice oriented. Studies have revealed that some training managers and other stakeholders implement technical and vocational training programmes in the form of work-based learning (WBL) to help young trainees gain work experience in the industry and workplace (Drewery, Pretti & Church, 2020; Konstantinou & Miller, 2020; Mayombe, 2021). Due to the importance of technical and vocational training programmes, there is a need to examine the enabling internal factors improving the effectiveness of technical and vocational training on skills acquisition. Internal factors related to the training centres lay a good foundation for the school-to-work transition of young graduates.

The European Union countries provide technical and vocational training programmes to support unemployed youth's entry into the labour market. However, most of the programmes are school-based and implemented in the form of workplace learning (Dobrydina, Usvyat & Shipilova, 2019). Countries like Austria, Denmark, France, Germany and the Netherlands, provide vocational skills training jointly with general education during the schooling period (Mursa, Iaconbuta & Zanet, 2018). In this system, the integration of vocational skills into a general education is aimed at facilitating young graduates to become ready for the labour market after completing their basic education. The curriculum has both theoretical and practical aspects to allow young people to choose between immediate employment at the entry-level and higher education.

In Middle East countries, the implementation of technical and vocational training programmes for youths faces challenges. The inadequacy of material and human resources and obsolete curricula at training institutions hamper the delivery of technical and vocational training programmes (United Nations, 2020). These challenges have a direct impact on the facilitation methods of technical and vocational training. The curriculum in colleges is not adequately implemented due to a lack of resources and qualified trainers (UNICEF and International Labour Organisation [ILO], 2016). Many colleges use teacher-centred approaches which lack problem-solving, on-job-training and experiential learning elements.

In many Sub-Saharan Africa (SSA) countries, most technical and vocational training programmes are school-based and target both formal and informal sectors of the economy. Like in European countries, SSA countries implement programmes in accredited technical and vocational education and training (TVET) colleges having secondary and post-secondary levels. The academic level (whether secondary or post-secondary level) depends on the national qualification framework of a country¹. However, SSA countries' technical and vocational training programmes are located mostly at the secondary school level. They can extend to higher education levels based on curriculum and credits (Akoojee, 2019; Eicker, *et al*, 2016; Papier, 2016). The provision at both levels has a unique purpose to help young people acquire marketable skills and gainful wages or self-employment.

There is important literature on technical and vocational training but focusing on school-based programmes (institution-based formal training programmes). Some studies examined the challenges facing the training colleges in implementing vocational and education training programmes for youth (Lolwana, 2016; United Nations, 2020). Other studies examined the contributions of TVET to the work readiness and employability of the trainees (Reddan, 2017; Rowe & Zegwaard, 2017; Smith & Worsfold, 2015). However, little is known about the facilitation or delivery of non-school-based technical and vocational training (non-institution-based formal education and training programmes) for disadvantaged youths. To fill the gap, this article examines the resources for the programmes and methods of facilitating training courses influencing their effectiveness on skills acquisition.

Concerning the context of the present study, this article is part of a research project on non-school-based technical and vocational training programmes offered to unemployed and disadvantaged youths in KwaZulu-Natal province, South Africa. The programmes catered to short-course curricula for unemployed and disadvantaged youths coming

¹ See the example of South Africa, all skills training programmes including training colleges and Adult Education and Training centres fall under the Ministry of Higher Education and Training. For more detail, consult the Department of Higher Education and Training (DHET). (2012). *Green Paper for Post-School Education and Training*. <http://www.dhet.gov.za/portals/Documents/Publications/Green Paper.pdf>.

from poor socio-economic backgrounds (KwaZulu-Natal Province [KZN], 2016; Mayombe, 2018). The programmes also targeted recent school leavers. It is significant to note that the non-school-based technical and vocational training programmes for disadvantaged youths are officially accredited by Sectoral Education and Training Authority (SETA), regulated by the Department of Higher Education and Training of South Africa.

3. Problem Statement and Study Objectives

Despite good results yielded by non-school-based technical and vocational training programmes for disadvantaged youths, their delivery faces some challenges. The challenges are linked to the design, the lack of practical relevance, inadequate facilities and instructional materials, inadequate number of qualified trainers, facilitation methods and extremely low throughputs (Lolwana, 2016; Da Costa, 2016; Papier, 2016). For example, in the context of Mozambique, Manuel, Van der Linden and Popov (2017) reported the lack of resources hampering the effectiveness of the training programmes. Furthermore, Bratti *et.al.* (2022) found in their study that the programmes did not have positive effects on the labour market outcomes of disadvantaged young people because the methods of training facilitation were classroom-oriented instead of on-the-job training.

Therefore, the purpose of the article is to examine the enabling internal factors for the effectiveness of non-school-based technical and vocational training programmes for disadvantaged youths in skills acquisition in South Africa. The research objectives are:

- To examine the adequacy of material resources for the programmes;
- To examine the adequacy of human resources for the programmes
- To establish the facilitation methods mostly used in the non-school-based technical and vocational training programmes;
- To examine the effectiveness of technical and vocational training on skills acquisition.

In South Africa and according to the National Youth Commission Act, No. 19 of 1996, "youth" refers to persons between the ages of 14 and 35 (Republic of South Africa, 1996). In this study, the term 'disadvantaged youth' refers to young people who completed grade 12 without employability skills and could not enrol at universities or TVET colleges afterwards due to the socio-economic conditions of their families. The article is significant because youth growing up in poor households, and without access to opportunities to acquire skills, will have challenges to take care of their families in their adulthood.

4. Theoretical Framework and Literature Review

There are several student-centred and active learning approaches used in technical and vocational training, such as adventure learning, cooperative learning, apprenticeship and experiential learning (Bates, 2019, Sangwan & Singh, 2022). Experiential learning theory (ELT) is suitable for the article because it helps to understand the enabling internal factors for the effectiveness of non-school-based technical and vocational training on skills acquisition. Experiential learning is defined as "learning through reflection on doing" (Sampietro, 2019, p.721). According to Kolb (1984, p.41), ELT perceives learning as "the process in which knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience". The experiential learning theory emphasises the important role that experience plays in the learning process of adults (Kolb, Boyatzis & Mainemelis, 1999; Herod, 2012). These two statements suggest that, by participating in real-life activities during the skills training, young trainees can competently transform the knowledge learnt from the classroom and training manuals into their understanding.

Furthermore, the theory is suitable for this article because it focuses on acquiring knowledge through practice-oriented strategies of teaching and learning. In the present study, ELT is used for learning approaches that are based on "learning by doing, experiencing and reflecting". Kolb (1984) supports that learning is more effective when adult learners are more directly involved rather than passively receiving knowledge transmitted by facilitators. Therefore, experiential learning theory is suitable for disadvantaged youths involved in non-school-based technical and vocational training because it is characterised by learning by doing or hands-on learning. Kolb (1984) developed the "experiential learning cycle" which sheds more light on how facilitators can make technical and vocational training relevant to disadvantaged and unemployed youths. He distinguished four stages of learning. All stages are required for learners to learn effectively and there is no order for the starting of the stage of the cycle (Herod, 2012). Fig. 1 presents four stages of active learning (Kolb, 1984, p.41).

As Fig. 1 reveals, learning is a continuous process and does not limit the achieved outcomes. In the context of adult learners, Dewey (in Kolb & Kolb, 2011, p.43) states that to improve learning in education, the primary focus should be on engaging learners in a process that best enhances their learning. Below are the explanations of each stage of learning.

Concrete experience (CE): During this stage, the learning experience involves tangible matters; it consists of active learning as opposed to passive receiving of knowledge from a facilitator (Herod, 2012; Kolb, 1984). The learner participates in learning activities (i.e., learning about car engines directly by being involved in the repair process rather than learning about it). In the context of the study, the author examined how the training centres and partner institutions facilitated the provision of "hands-on" training and work-based learning for disadvantaged youths to gain concrete experience. The learners may ask the facilitator questions such as:

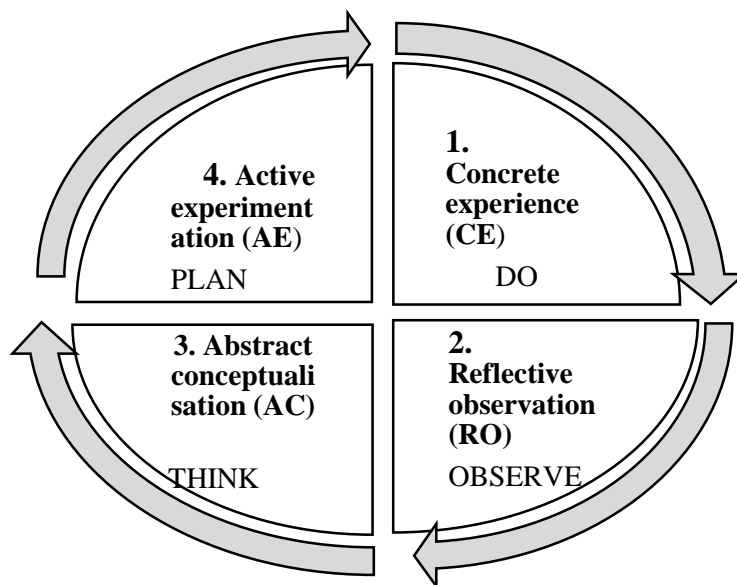


Fig. 1 - Experiential Learning Cycle (Kolb, 1984)

- What did I do? Where? When? For how long? Why?
- What techniques, methods, and procedures did I employ?
- What resources did I use?

Reflective observation (RO): This stage involves thinking critically about the experience. The learner is thoroughly reflecting on that experience (Kolb, 1984; Kolb, *et al.*, 1999). The learners may ask him/herself questions such as:

- What were the important and unique components of the experience?
- What worked for me and what didn't?
- What conclusions can I reach as the result of my reflection?

Abstract conceptualisation (AC): This stage consists of linking the experience to the theory or concepts learnt in the classroom (Kolb, *et al.*, 1999). The learner is being presented with/or trying to conceptualise a theory of what is (to be) observed. Based on the observations and reflections about the experience, the learner begins to generalise and form abstract concepts about it.

Active experimentation (AE): This stage entails applying one's learning experience in new workplace environments (Kolb, 1984; Kolb, *et al.*, 1999). The learner is trying to plan how to test a model or theory or plan for a forthcoming experience. The next paragraphs present findings on studies that used ELT.

Sangwan and Singh (2022) examined how ELT can improve the problem-solving skills (PSS) of engineering graduates. The findings revealed that experiential learning techniques are highly effective in developing and improving PSS in engineering graduates. The study suggests that there is a need to develop an integration of the theory (concept) and practice (process) of PSS in the context of experiential learning (EL). Similarly, Lantu *et al.* (2022) assessed the role of ELT in improving entrepreneurial values through internship programmes. The finding showed that the application of experiential learning through a start-up internship programme that the university carried out effectively improved entrepreneurial value on stakeholders. In other words, experiential learning enhanced internship programmes and entrepreneurial values because the students experienced working in a real business setting that pursued entrepreneurial values, such as start-ups (Lantu *et al.*, 2022). In the context of Malesia, Abdullah, *et al.* (2019) compared students' experiential learning in a traditional classroom and transformative or modern learning by adopting modern learning for technical and vocational students. The result revealed that "learning outcomes have a practical

influence on the student's experiential learning" (Abdullah, et al., 2019, p.8). An analysis of the previous studies on the application of ELT in technical and vocational training suggests that the theory yields good results in the process and outcome of learning.

Concerning the literature review on TVET, the available few studies specifically related to the present topic highlight some challenges facing institutions in implementing technical and vocational training programmes for youths. In the context of Middle East countries, the United Nations (2020) note three major challenges facing the delivery of the programmes, namely, obsolete curriculum and inadequate existence of material and human resources at training institutions. These three challenges have direct implications on the methods of facilitating technical and vocational training for skills acquisition. Similarly, UNICEF and International Labour Organisation (2016) point out that the curriculum in colleges is not efficiently implemented due to a lack of resources and qualified trainers. Very few colleges use student-centred strategies such as problem-solving, on-job-training and experiential learning.

In Sub-Saharan Africa (SSA), key challenges are the lack of practical relevance to the needs of the current labour market, inadequate facilities in institutions, instructional materials and the number of qualified trainers (Lolwana, 2016; Da Costa, 2016). In some instances, the delivery of training courses within the curriculum has remained the same for many years and is characterised by institution-based approaches. In the context of Botswana, Rudhumbu (2021) examined challenges faced by TVET colleges and facilitation strategies used to deliver the curriculum. The findings revealed that the training courses were mostly delivered using lecturer-centred teaching strategies. Rudhumbu (2021) points out that there was very little use of innovative student-centred strategies such as the use of problem-solving, project-based training and experiential learning.

As stated in the introduction, there is significant literature on the contributions of TVET to the employment of young people but focuses on school-based programmes. Few studies were conducted on non-school-based technical and vocational training for disadvantaged and unemployed youths. The facilitation approaches and learning systems in the latter differ in curriculum designs. Therefore, using experiential learning theory, this article covers the gap in knowledge by examining the effectiveness of facilitation methods used in non-school-based technical and vocational training programmes for skills acquisition.

5. Research Methods

The article is confined to examining the enabling internal factors for non-school-based technical and vocational training effectiveness on skills acquisition only. The research design entailed a combination of both quantitative and qualitative research techniques to help the researcher to view a phenomenon from more than one perspective (Creswell, 2013). The reason for using the quantitative design was to make a comparison across types of resources for the training programmes, the facilitation methods and the effectiveness of technical and vocational training on skills acquisition. On the other side, the qualitative design allowed the researcher to view the reality as is experienced from the inside out by the graduates on a particular and important finding for a thorough understanding (Fouché & Bartley, 2011; Nieuwenhuis, 2012).

To get a full picture of the enabling factors for the effectiveness, the study used mixed methods research approach. Mixed methods research is an approach that involves a combination or association of both qualitative and quantitative approaches (Creswell, 2014; Rahman, 2017). There were three reasons for using the mixed methods research approach. Firstly, the characteristic of the experiential learning theory (ELT) as the theoretical framework and the sources of the data required the use of quantitative and qualitative methods. Secondly, there was a need for complementing quantitative with qualitative data so they may support each other. Thirdly, the complexity of the research problem could not be addressed from one method (Creswell, 2014; Ponce and Pagán-Maldonado, 2015). For this purpose, the researcher used written survey questionnaires semi-structured interviews and site observations to complement or support each other.

5.1 Participants and Sampling Method

The population for the study consists of all the youths who trained in the non-school-based technical and vocational training programmes, training managers and trainers in KwaZulu-Natal. The sample size entailed 12 training centres, 24 centre managers (two training managers from each centre), 512 young trainees and 32 trainers. For the qualitative component, from the 512 young trainees who filled in the survey questionnaires, the researcher selected 10 trainees who became wage and self-employed after graduating and seven out of 24 training managers for one-on-one interviews.

The researcher used purposive sampling to select the participants. By using purposive sampling, the researcher only selected respondents who "are relevant to the topic, are best positioned to provide the needed information for the study and are willing to share it with the researcher" (Kumar, 2011, p.207). Following the view of Zohribi (2013), the researcher selected respondents more carefully to obtain more valid and reliable information. During the sampling process, the researcher selected a manager if he/she met the selection criteria. The selection criteria for young trainees were as follows:

- Having completed the technical and vocational training programmes for youths;
- Being wage or self-employed or unemployed.

- Being 18 to 35 years old and willing to participate in the study.

5.2 Data Collection and Analysis

The researcher developed the data collection tools using a literature review, theoretical framework and research objectives. Firstly, the researcher used self-completion questionnaires and used them in a survey to collect quantitative data. Three types of questionnaires were administered respectively to young trainees, trainers and training centre managers (Creswell, 2014). The survey questionnaire for graduates involved asking them about their opinions on the challenges facing their training centres in terms of human and material resources, the mode of teaching and learning, and the extent of skills acquisition. Field observations consisted of both qualitative and quantitative data collection methods. During this type of data collection process, the researcher observed the trainees’ practical activities in the workshops, and workplaces and examined the facilitation methods.

Secondly, for the qualitative component, the researcher conducted one-on-one semi-structured interviews with seven managers to get detailed and deep information on the design and delivery of training programmes for each training course. Other one-on-one interviews were conducted with 10 trainees to get their views on experiences of teaching and learning approaches. All interviews were recorded and transcribed with the permission of the participants (Creswell, 2014; Lavery, 2016). Thirdly, the study also used site observations at the training centres and in the workshops to obtain the reliability of the findings.

To analyse the quantitative data, the researcher used Statistical Packages for Social Sciences (SPSS) software. The analysis entailed into three categories, which are descriptive, associative and causative (Fouché & Bartley, 2011; Nieuwenhuis, 2012). Firstly, using the descriptive method, the analysis provided the distribution of a sample or population across a wide range of variables. The analysis of qualitative data followed the principles of thematic analysis. The codes and themes allowed the researcher to understand the raw data by putting names into descriptions and interpretations.

6. Findings

6.1 Profile of the Young Trainees and Skills Training Courses

The analysis of the employment status of the trainees before the training intervention showed that 34.8% of the trainee respondents had been unemployed in life since completing their secondary education. Other 25% of them had been jobless for four years in total, and 10.7% indicated having three years of unemployment in total. The next was a group of young trainees representing 11.1% who reported that they had been unemployed for two years. The last 18.2% of trainees indicated that they were unemployed for one year since completing their secondary education. All respondents mentioned that they could not further their higher education because of affordability because they were from disadvantaged households, yet unskilled to secure employment at a low-skill level.

In the survey questionnaire, young trainees were asked to indicate their highest education achievement before enrolling on technical and vocational training programmes. Furthermore, the highest education achieved could help establish whether it might be an enabling factor for skills acquisition. Figure 2 presents the highest education qualification of the young trainees.

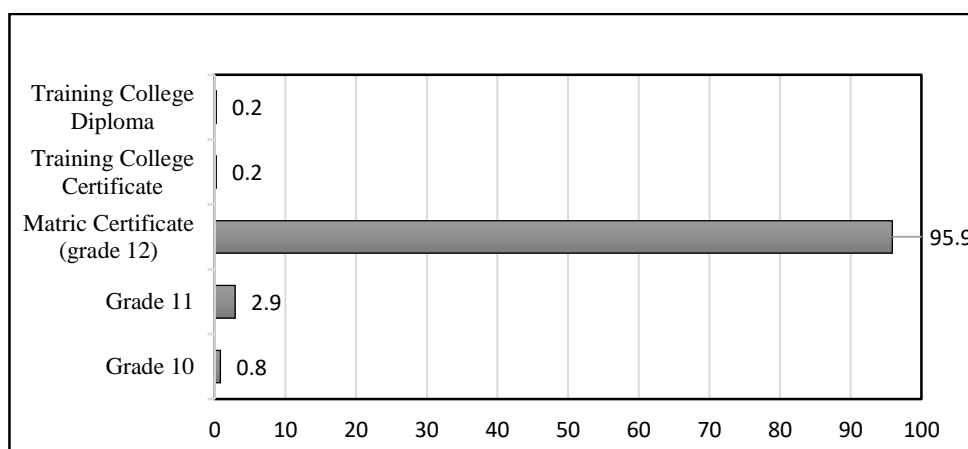


Fig. 2 - Highest educational qualification of the young trainees

The analysis of the highest level of formal schooling in Figure 2 reveals that the great majority (95.9%) of the trainee participants completed secondary education with a Grade 12 certificate (General Certificate of Education). Only

0.2% of them had a training college diploma and the other 0.2% completed a college certificate. Those who were school leavers, completed grades 10 (0.8%, 4/512) and 11 (2.9%, 15/512). The findings in Figure 2 suggest that one of the minimum requirements for admission to the technical and vocational training programmes was a grade 12 certificate.

It is important to mention that the technical and vocational training programmes targeted currently unemployed and recent school leavers. The training courses entailed construction, plastering, carpentry, end-user computer (ICT), small medium and micro-enterprises, lifeguard skills, firefighter, upholstery, Early Child Development, motor mechanics, boilermaker, welding and fitter. A course was provided based on the demand in the labour market and after a training needs assessment. Furthermore, the companies hosting particularly technical and vocational training played a role in the selection of training courses according to available job vacancies they got.

It is significant to note that this paper is drawn from a big research project. As mentioned in the introductory section, it presents findings on the training delivery approaches and skills acquisition. It does not analyse and present the employment rate after completion and the short-term impact of the non-school-based technical and vocational training for disadvantaged youth in the context of South Africa. To this end, the following three main themes emerged from the analysis of both quantitative and qualitative data and are presented in detail in the next sub-sections:

- Adequacy of material and human resources for the programmes;
- Methods of facilitating no school-based technical and vocational training;
- The effectiveness of technical and vocational training on skills acquisition.

6.2 Adequacy of Material and Human Resources for the Programmes

Training materials (including venues and workshops) and qualified trainers are the major enabling factors for the effectiveness of training delivery for skills acquisition. In the context of non-school-based technical and vocational training, the adequacy of material and human resources may positively impact the skills delivery approaches. In other words, human and material resources lay a good foundation for skills acquisition. Therefore, in the survey questionnaire, young trainees were asked to indicate the extent to which they agreed or disagreed with the statement regarding the adequacy of both resources at their respective training centres. Table 1 presents the views of the young trainees on adequate resources for training delivery at their centres.

Table 1 - Trainees' views on resources for training delivery at their centres

Adequacy of resources (N=512)	Strongly disagree		disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
There is adequate provision of training materials for theory lessons	1	0.2	105	20.5	10	2	295	57.6	101	19.7
There is adequate provision of training materials for practical lessons	1	0.2	66	12.9	16	3.1	332	64.8	97	18.9
There is adequate provision of basic workshop tools and equipment	1	0.2	13	2.5	4	0.8	397	77.5	97	18.9
Trainers are motivated	1	0.2	10	2	32	4.5	378	73.8	99	19.3
The centre has qualified trainers	-	-	28	5.5	14	2.7	372	72.7	98	19.1

The analysis of Table 1 reveals that the trainee respondents viewed that there were adequate materials and human resources for training delivery. The majority (77.3%) of the respondents strongly agreed or agreed that there was adequate provision of training materials for theory lessons. The findings imply that most of the training centres had enough materials for the teaching and learning process such as learning tools, trainees' study guides, venues and other didactic materials. Nevertheless, 20.5% disagreed and 0.2% strongly disagreed with the statement, while only 2% were neutral. Concerning the adequacy of the provision of materials for practical lessons in the workshops or projects, a great majority (85.7%) of young trainees agreed or strongly agreed with the statement. These findings suggest that the training centres had enough teaching materials for their specific training courses provided. In connection with experiential learning theory (ELT), the availability of training materials for theory lessons could enable the creation of knowledge through the interaction between trainees and materials, resulting in a transformation of experience.

Table 1 further reveals that each training centre was well equipped with teaching materials relevant to the practical component of the training. In this connection, 96.4% of the trainees strongly agreed or agreed that their centres had adequate provision of workshop tools and equipment. Only 2% of the respondents viewed that their centres did not have enough materials to implement the practical component of the technical and vocational training. It is significant to consider that 0.8% of them were neutral on the statement. However, a thorough examination of these findings on the provision of basic workshop tools and equipment for practical teaching and learning suggests that there was a balance between theoretical and practical components of the skills training programmes. Linking these findings to ELT,

adequate equipment for the practical component of the training could support the acquired knowledge and skills as their learning experience involved tangible matters.

Using qualified and motivated trainers to train disadvantaged youths was another main enabling factor for the effectiveness of the technical and vocational training programmes. In this connection, the analysis of Table 1 on human resources reveals that the great majority (93.1 %) of the trainee participants strongly agreed and agreed that their trainers were motivated to facilitate marketable skills to young people. In other words, trainers were enthusiastic to empower young people with vocational skills to be used for income-generating activities. Concerning the trainers’ qualifications, 91.8% viewed that the centres had qualified trainers. The finding means that most training centres had qualified training facilitators to deliver technical and vocational skills to a particular category of young people. Qualified motivated trainers could be able to assist young trainees to go through the four stages of ELT mentioned in Figure 1 (CE, RO, AC and AE).

6.3 Methods of Facilitating Non-School-Based Technical and Vocational Training

The information presented in this sub-section was collected using the survey questionnaire distributed to the trainees, trainers and centre managers, workshop observations and one-on-one interviews. These different sources of data helped achieve the validity and reliability of the data on the methods or approaches of facilitating technical and vocational training contributing to skills acquisition. The data revealed that there was a strong integration between classroom learning, practical sessions at the centre level and workplace-based training in the real world of work. Interviews and site observations confirmed that most of the learning process happened in the workshops and companies where they were placed to gain work experience. This was on-the-job training, an approach that helped the trainees acquire skills and knowledge in their respective training courses. Table 2 presents the perceptions of the respondents on methods of facilitating the training courses.

Table 2 - Respondents’ perceptions on methods of facilitating the training courses

Methods of training facilitation (N = 568)	(N)	Young trainees (n = 512)						Trainers & Managers (n = 56)					
		Agree		Neutral		Disagree		Agree		Neutral		Disagree	
		n	%	n	%	n	%	n	%	n	%	n	%
There was adequate time to practise skills at the centre during training.	375	73.3	17	3.3	12	23.0	51	91.1	5	8.9	--	--	
The practical sessions of training were sufficient and well used.	413	80.7	16	3.1	83	16.2	45	80.4	8	14.3	3	5.4	
Trainers were linking training tasks to industries or the workplace.	477	94.3	11	2.1	18	3.5	43	76.8	7	12.5	2	3.6	
The training consisted of 75% practice	406	79.3	14	2.7	92	18.0	42	75.9	9	16.1	4	7.1	
The training consisted of 25% theory	428	83.6	29	5.7	55	10.8	13	23.2	1	4.4	25	57.1	
The training emphasised technical skills only.	428	83.6	33	6.4	51	10.0	17	30.4	1	1.8	9	16.1	
The training emphasised both technical skills and entrepreneurial skills.	110	21.4	27	5.3	37	73.3	16	28.6	1	1.8	3	5.4	

Note: Percentages are calculated within the respondent group

The analysis of Table 2 reveals that respondents share the same views on many statements, though there is a minor difference between the two respondent groups on two items only. Concerning practical sessions either in the workshops, on projects or at the workplace, youngest trainees (73.3%), the trainers and training managers (91.1%) agreed that there was adequate time for the trainees to practice skills at the centres during training. However, 23.4% of trainees disagreed with the statement and 3.3% of the trainees were neutral. On the same variable of practising skills, 80.7% of the young trainees and 80.4% of the training managers and trainers agreed that the practical sessions of training were sufficient and well used. While 16% of the trainees disagreed with the statement, 3.1% of them remained neutral on the statement. The findings suggest that the methods of facilitating training courses focused more on practical than theoretical components of technical and vocational training. These findings correspond to the stages of *concrete experience (CE)* and *reflective observation (RO)* of ELT where the learning process was active by involving tangible matters in the workshops, on projects or at the workplace.

Asking the respondents about the percentage of time allocation for theoretical and practical components helped to obtain reliable data on methods of facilitating non-school-based technical and vocational training. The amount of time for each component would help establish whether the training programmes had an aspect of work-integrated learning. To this end, the respondents were asked to provide their views on the time allocation for practical sessions in the workshops or workplace and the theoretical learning in the classrooms. As Table 2 shows, 79.3% of the trainees and 75% of trainers and managers agreed that the training sessions in the courses consisted of 75% practical in the real world of work. Only a few trainees (18%) felt that the time allocated for practice was not as such. On the theoretical component, the majority (83.6%) of the trainees and 23.2% of trainers and managers agreed that the training sessions consisted of 25% theory in classrooms. Nevertheless, 57.1% of trainers and managers disagreed with the statement. The disagreement (57.1%) on the side of trainers and managers suggests that the time allocated for theoretical training could be more than 25% but not exceed 50%. These findings correspond to the stage of *abstract conceptualisation* (AC) where trainees had enough time to link the experience to the theory or concepts learnt in the classroom.

One of the factors that could enhance the effectiveness of non-school-based technical and vocational training for disadvantaged youths was the linkage to the industries or workplace. In this connection, Table 2 above reveals that 94.3% of trainees and 76.8% of trainers and managers agreed that “*Trainers were linking training tasks to industries or workplace*”. Only 3.3% of the trainees and 3.6% of trainers disagreed with the statement. The findings suggest that in most training centres the trainers used facilitation approaches of linking the training activities or tasks similar to those found in the industries or workplace. These findings are linked to the stage of *active experimentation* (AE) in which trainers help trainees to apply learning experiences in new workplace environments.

The technical and vocational training programmes are also intended to provide entrepreneurial skills to help disadvantaged trained become self-employed or create small businesses. Regarding the focus of the training, 83.6% of the trainees agreed that the training programmes emphasised technical skills only, while 51.8% of the trainers and managers disagreed with the statement. However, 73.3% of the trainees and 57.1% of the trainers and managers disagreed that “*Training emphasised both technical skills and entrepreneurial skills*”. Only 21.4% of the trainees and 28.6% of the trainers and managers indicated that some training courses within their centres focused on both technical training and entrepreneurship training to enable interested trainees to start and grow micro-enterprises after graduating.

It is significant to examine in detail the focus of the training programmes in connection with the finding above and the employment outcomes of the trainees (whether wage or self-employment). The qualitative findings shed more light on the view of the small number of respondents who mentioned that the training programmes focused on both technical skills and entrepreneurial skills. During one-on-one interviews, one male trainee (L401) stated as follows:

At the end of the training programme, the trainers taught us about entrepreneurship. In case we do not find jobs, we were supposed to create small businesses using our technical skills. For our training in boilermaker, welding and fitter, the focus was on both wage and self-employment. If trainees wanted to become self-employed by opening micro-enterprises, they needed to know about entrepreneurship and financial management.

A training manager (E3) also reported that there was an integration of entrepreneurial training in the technical training programmes and said:

There are two exit strategic points of our vocational training programmes for unemployed youths. After graduating they can opt for wage or self-employment, and we train them in entrepreneurship to enable them to create small businesses. Our stakeholders from the private sector provide post-training support to start their small businesses.

Another training manager (E4) reported the integration of entrepreneurial training with technical training by saying:

We always encourage our young trainees to start their small businesses using the acquired entrepreneurial skills. There are not enough jobs in our companies, even in the communities. As a result, some graduates have started small businesses. They manufacture car trailers in their workshops. They start small businesses because we train them in both technical and entrepreneurial skills.

The analysis of the three quotes confirms the findings in Table 2 that there was an integration of business training in some technical and vocational training programmes. Providing business skills was important to help graduates become involved in economic activities as self-employed graduates. Again, the findings prove that trainers used the stage of *active experimentation (AE)* in helping trainees to apply the acquired knowledge and skills through experience in the new world of work.

6.4 The Effectiveness of Technical and Vocational Training in Skills Acquisition

To measure the effectiveness of the technical and vocational training programmes on skills acquisition, the trainees were asked for their perceptions regarding their ability to work without supervision.

Therefore, in the survey questionnaire, trainees were asked to indicate their ability to work for others without supervision. The variable intended to measure the extent to which trainees had acquired the skills, knowledge and abilities required for future employment after graduating. Figure 3 presents the extent of the ability to work without supervision by training courses.

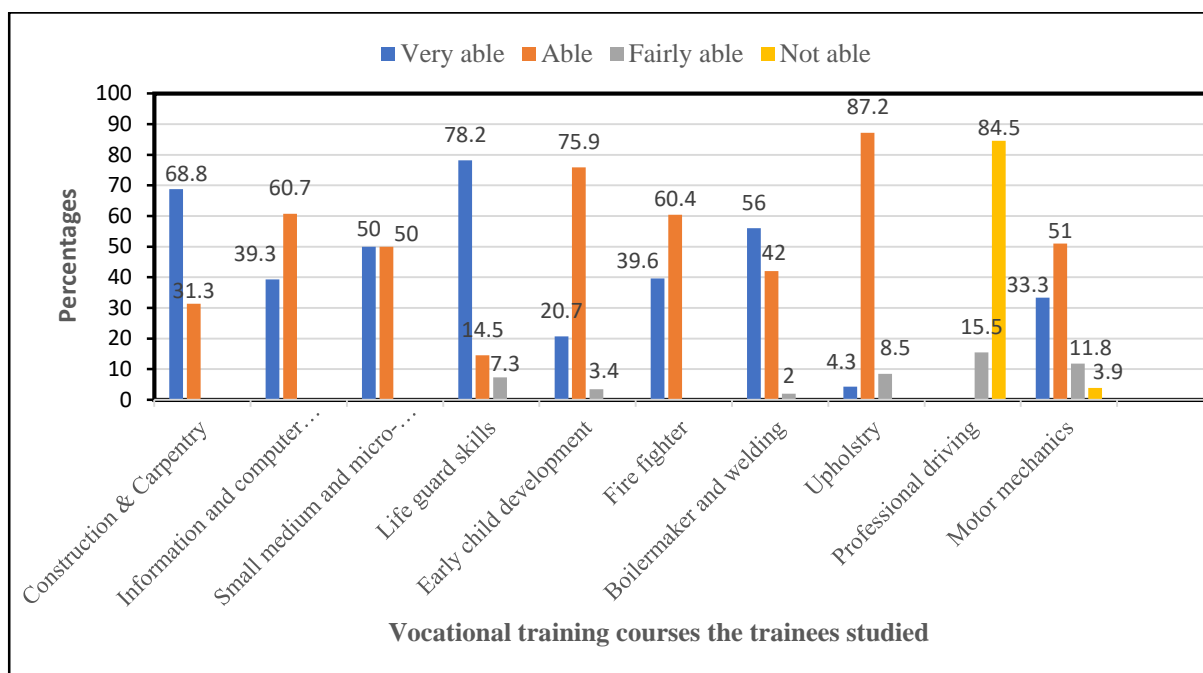


Fig. 3 - The extent of ability to work without supervision by training courses

The inferential analysis of Fig. 3 reveals that there is a relationship between the extent of ability to work without supervision and the vocational training courses the trainees studied. Firstly, trainees who graduated from lifeguard skills training scored the highest (78.2%) being very able and able (14.5%) to work without supervision whether in the wage or self-employment. Only 7.3% mentioned that they were fairly able to work without supervision. Secondly, 68.8% of trainees who studied construction and carpentry felt very able to work without supervision, while 31.3% of them stated that they were able to work independently. Thirdly, 56% and 42% of trainees who studied boilermaker and welding also felt very able and able respectively to work without supervision. However, the analysis shows that 84.5% of trainees who studied professional driving indicated that they felt “not able” to work without supervision, while 15.5% only of them were able to work independently. In connection with the theoretical framework, the findings suggest that the acquisition of practical skills depended on the type of vocation training course a trainee studied. In addition, the high scores on the extent of ability to work without supervision in some training courses infer that the trainers diligently applied all four stages of ELT while there were adequate resources for training delivery at their centres.

In summary, the responses from the types of respondents and site observations suggest that most training centres included in the study had adequate human and material resources. The availability of resources may have an impact on the approaches to facilitating non-school-based technical and vocational training. The adequacy of material resources may influence the teaching approach and activities. In other words, a sufficient supply of training tools and equipment could lead trainers to focus on capacity-based training, which in turn would positively impact the level of trainees’ competency in practical skills acquisition. The next section will focus on the discussion of the findings.

7. Discussions of Findings

There was adequate provision of materials for theoretical training courses at the centres. This finding differs from those reported by the United Nations (2020), Lolwana (2016) and Da Costa (2016) that the major challenges hampering the delivery of technical and vocational training for youths were the lack of instructional materials for theory and practical lessons. However, the adequacy of materials for theoretical training in the present study implies that the training centres managed to balance the theoretical and practical components of the curriculum. Linking the findings to ELT, the availability of materials for theory lessons constitutes an enabling factor to transform theory into practice for the experience of the young trainees.

The centres were well equipped with basic workshop tools and equipment for practical teaching and learning. Previous studies conducted by Papier (2016) in five African countries and by Rudhumbu (2021) in Botswana revealed that the main challenge in providing technical and vocational training was the lack of practical relevance due to inadequate facilities and equipment for practical learning. However, the present findings on the provision of workshop tools and equipment suggest that the trainees could apply experiential learning and acquire practical skills as their learning experience involved tangible matters.

The facilitators of non-school-based technical and vocational training programmes were academically qualified and motivated to train disadvantaged youths. This is a significant finding because trainees needed to be guided by knowledgeable facilitators to take them through the stages of experiential learning (Herod, 2012; Kolb, 1984). In other words, an adequate number of qualified facilitators constitutes another enabling factor for the effectiveness of the technical and vocational training programmes (UNICEF and ILO, 2016). The findings infer that qualified facilitators could help trainees link the experience to the theory or concepts learnt in the classroom (*abstract conceptualization*).

The facilitation methods mostly used were practical sessions in workshops, on-the-job training and workplace-based training. As a result, this practice-oriented method might have empowered the trainees to acquire the skills and abilities required for immediate employment. The present findings differ from those reported by Bratti *et al.* (2022) that the training programmes were not effective because the methods of training facilitation were classroom-oriented instead of on-the-job training. However, in the present study, the learning process was active by involving tangible matters in the workshops, on projects or at the workplace (*concrete experience - CE*).

To the effectiveness of the training programmes on skills acquisition, trainees felt confident to work without supervision after graduating. However, the findings suggest that the acquisition of practical skills depended on the type of vocational training course a trainee studied. These findings support the argument of Akoojee (2019) and Drewery, *et al.* (2020) that training approaches of using workshops, on-the-job training and work-based training contribute to the acquisition of practical skills. It is also significant to note that the existence and proper utilisation of resources as designed and the methods of facilitating non-school-based technical and vocational training can result in helping young trainees to acquire marketable skills.

8. The Implication of the Experiential Learning Theory to the Findings

The present findings suggest that designing non-school-based technical and vocational training programmes within the framework of ELT yields good results. To achieve the effectiveness of the programmes, trainers and other stakeholders should design facilitation approaches that help young trainees go through the four stages of ELT (see Fig. 1 above). Following the view of Knowles (1996), using ELT will help young trainees acquire marketable skills applicable to work. In other words, the theory points to adult facilitation practice using training delivery approaches that aim at enabling young trainees to perform tasks like those in a workplace environment.

The facilitation of technical and vocational training for unemployed young people should be practice-oriented strategies to help trainees acquire employability skills at the benchmark level. The acquisition of practical skills is a result of the combination of grasping and transforming experience (Kolb 1984). In the same vein, Herod (2012) argues that experiential learning includes a process of a deep level of knowledge and skills through practical experience, reflection, experimentation and application in the real world of work. Thanks to the experiential learning approach, previously unskilled young people will be motivated to learn skills as they are actively involved in the learning process.

The discussion of the findings through the lens of ELT points to future research questions about the extent to which developing countries invest in financial and material resources for non-school-based technical and vocational training programmes for disadvantaged youths. The findings will motivate facilitators to use ELT in their teaching and learning approaches to developing marketable skills for disadvantaged youths. The approaches should consist of learning by doing and learning by producing. By so doing, non-school-based technical and vocational training will be attractive to young people. Furthermore, the study demonstrates that the use of ELT can help stakeholders of technical and vocational training programmes enhance the effectiveness of the training programmes, hence achieving Quality Education for All and Sustainable Development Goal (SDG).

9. Conclusions

The purpose of the article was to examine the enabling internal factors for the effectiveness of non-school-based technical and vocational training programmes on skills acquisition. It is evident that the facilitation methods training centres used were mostly practical sessions in workshops, on-the-job training and workplace-based training. This was

because the training centres considered the socio-economic backgrounds of the disadvantaged trainees. The enabling factors contributing to skills acquisition entail the combination of human and material resources (suitable classrooms, training materials, workshops or workplace and qualified trainers) and the methods of facilitating the skills training. Based on the findings, the author concludes that the practice-oriented methods of facilitating non-school-based technical and vocational training for disadvantaged youths were useful to empower the young trainees to acquire skills and abilities required for immediate wage and/or self-employment. The findings imply that the use of workshops, on-the-job training and workplace-based training is very important for helping disadvantaged youth acquire marketable skills and work experience.

This article contributes to the body of knowledge by establishing a solid base for the evidence-informed practice of enabling internal factors for the effectiveness of non-school-based technical and vocational training programmes for disadvantaged youths. It has demonstrated how useful is the experiential learning theory in the delivery of programmes for skills acquisition. This article's unique element is the application of four stages of ELT to non-school-based technical and vocational training. The practical and social implications of the findings are that, while disadvantaged youths cannot access and afford higher education, public and private sectors can remedy their situation by providing non-school-based technical and vocational training (non-institution-based formal education and training programmes) to help them enter the labour market.

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