

Competences acquired in garages by TVET graduates of motor vehicle mechanics in Uganda: A mixed bag of promises and frustrations

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ABSTRACT

This article investigated the learning experiences of students who obtained certificates from a TVET institution in Uganda (referred to in the article as graduates). Qualitative data collected through in-depth interviews and observation from 12 purposively selected participants was analysed thematically. Findings show that graduates acquire competencies in driving, bargaining, management, handling road motor vehicle emergencies and use of modern technology. These competences helped them to improve their performance, get recognised and appreciated by their clients, fellow mechanics, and employers and to build networks. However, the newly acquired competences were not accredited and certified and consequently, they were not being used to obtain formal employment or to progress to formal education. Using andragogy and Communities of Practice as frameworks, we argue that the competences gained through workplace learning are relevant, timely and recognised by the community of mechanics and their clients although they are not accredited and certified by government authorities. We recommend that the government should put in place a validation system that accredits and certifies competences acquired at workplaces non-formally to facilitate the use of this learning to get admitted to formal education institutions as well as obtaining formal employment.

Keywords: Accreditation, competences, lifelong learning, recognition, TVET, workplace learning.

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INTRODUCTION

Garages play an instrumental role in training motor vehicle mechanics graduates from Technical, Vocational Education and Training (TVET) institutions. These garages equip graduates with different competences from which graduates derive benefits. However, these competences are seldom formally recognised. This article is anchored on the argument that TVET graduates gain competences from working in car repair garages but their

perceptions are that the competences acquired bring them a mixture of promises and frustrations. We show in this article how workplace learning spaces equip graduates with skills such as training, bargaining, management and handling mechanical breakdowns on the road but that these skills are not certified nor accredited.

Globally, many countries are seeing the value of competency learning as a means of advancing the quality

and applicability of training and education (Jenkins, 2020).

This is probably because demands from organizations, businesses, and government agencies call for a more professional workforce (Rahmaningtyas et al., 2023). In addition, the world of work is undergoing increased 'automation, connectivity and technological innovation' and 'TVET is expected to respond to this global context' (Brown and Papier, 2023:43). More so, competences contribute to achieving SDG 4 which emphasizes ensuring equitable quality education (formal, non-formal and informal learning).

In countries like South Africa, competences acquired at workplaces are recognised through recognition of prior learning, with some acceptable of equivalences. In Uganda, although competences acquired at workplaces by TVET graduates enable them to progress, as they work, graduates are not enlightened on the recognised or acceptable levels of progression to obtain higher qualifications using workplace competence acquired informally or non-formally. When it comes to the motor vehicle mechanics sector, there are no equivalencies for the additional and new competences acquired at workplaces nor accreditation and certification that could be used to advance their learning through enrolment into formal institutions of learning. Consequently, all the acquired experience ends up being only useful in improving performance at the workplace but not in facilitating progression from one level of education or certification to another and for obtaining formal employment.

LITERATURE REVIEW

Emphasis on competency-based education is based on the fact that it equips the learners with hands-on skills that are applied in the field of specialization and contributes to personal and professional competence (Mulder, 2017). Competency has been explained as the ability to deal with known problems in known situations (Pang et al., 2019). Another definition by Brown and Papier (2023), explains it as 'context-specific cognitive dispositions that are acquired by learning and needed to successfully cope with certain situations or tasks in specific domains' (p. 46). Rainsbury et al. (2002) assert that competence leads to effective or superior performance. In the context of our study, the competence is in relation to TVET graduates who obtained a National Certificate in Automotive Mechanics (NCAM) awarded by the Uganda Business and Technical Examination Board (UBTEB) or a level I certificate of motor vehicle mechanics awarded by Directorate of Industrial Training (DIT) who were working in garages.

Graduates of TVET institutions are expected to possess competencies that they need to cope with workplace responsibilities including abilities and attitudes required to perform the tasks well (Cash et al., 2019). Competencies

at workplaces can be categorised into two - hard skills and soft skills (Pang et al., 2019). These authors describe hard skills as those that are related to the technical facets of carrying out a task and typically include knowledge and the ability to interpret and come up with a solution to solve a problem at hand (Pang et al., 2019). On the other hand, they describe soft skills as behavioral, interpersonal, human, or people skills and these are important in managing relationships and individual conduct.

Some trainers view soft skills and abilities as inferior to hard skills. This might explain why graduates put more emphasis on perfecting hard skills compared to soft skills (Pang et al., 2019; Rainsbury et al., 2002; Rahmaningtyas et al., 2023). Technical skills are preferred because they are the ones considered somewhat more important for obtaining job opportunities (Key et al., 2019). TVET graduates rate their hard skills higher than their soft skills (Pang et al., 2022). However, when learners graduate and join the workplace, they acquire many new skills and experiences from experts through informal and non-formal learning. In a study conducted by Raj et al. (2022), it was found that TVET graduates acquire new competencies like self-confidence, computer literacy, teamwork and cooperation and customer service orientation. Latchem (2017) argues that these skills acquired through informal and non-formal learning at the workplace are not recognised and validated.

Competence learning still lacks policies that can enable its effective implementation (UNESCO, 2022). The Ministry of Works and Transport ordered the registration of garages and mechanics in September 2023 (<https://www.works.go.ug/resources/news-impact/item/120-public-notice-registration-of-garages-and-mechanics>), but this has never been affected. Lack of regulation put into question its quality. This might be responsible for the skepticism surrounding this training and the lack of validation and certification of competences learned at garages and workplaces generally.

Theoretical frameworks

The study is anchored in Communities of Practice (Lave and Wenger, 1991) and assumptions of andragogy (Knowles, 1980) theories. The CoP is used to analyse and interpret how TVET graduates develop competences at work and explain learning dimensions, while andragogy is used to explain the characteristics of the TVET graduates as adult learners and why they continue learning competences at the workplace. The contribution of this article is that the competences gained from workplace learning spaces like motor garages by graduates with formal training from TVET institutions arouse mixed reactions from graduates depending on how these competences are recognised.

The purpose of this study was therefore to investigate

The competences acquired non-formally by TVET graduates in garages and the benefits that accrue from the acquired competences.

The research objectives are as follows:

1. To evaluate the competencies acquired by TVET motor vehicle mechanics graduates in garages;
2. To analyse the benefits that accrue from new and additional competences acquired from garages by TVET graduates.

The study sought to answer the following research questions:

1. What competences are acquired by TVET motor vehicle mechanics graduates in garages?
2. What benefits accrue from new and additional competences acquired by TVET graduates in motor vehicle garages?

METHODOLOGY

A qualitative methodology was used in the investigation. Qualitative studies focus on people's ideas and viewpoints and deal with non-numerical data (Creswell, 2013). It is believed that the various mechanics may interpret their learning experiences differently. Because reality is explained by our perceptions, comprehensions, and interpretations, interpretivism was used (Chilisa and Preece, 2005). Case studies commonly used to examine phenomena in their actual settings were adopted (Small, 2009). The study used a single case study design with embedded cases. The case involved the institution from which all mechanics graduated. Regardless of whether they had earned DIT or UBTEB credentials, the embedding cases (Grenier, 2023) were 1) graduates with many years of work and learning experience, and 2) graduates with few years of work and learning experience.

A total of 12 people participated in the study. These included 12 graduates of motor vehicle mechanics who had obtained certificates from UBTEB and DIT. The sample of graduates was identified purposively based on whether they had been graduates longer or were fresh graduates. Among the graduates were those who were self-employed and those employed by others. The study involved those who had been in the TVET institution between 2015 and 2020. Efforts to include female graduates and persons with disabilities were made but it was discovered that none had enrolled in the programme during the period under study. Data was collected through in-depth interviews, observations and review of relevant documents. The interviews were conducted at the workplaces and lasted for about 60 minutes. They were audio recorded and then later transcribed verbatim. All the interviews used the same question schedule but

appropriate probing questions were asked to supplement the interview as suggested by Flick (2015). Before use, the interview questions were piloted to ensure that they elicited the correct responses. In addition to interviews, observations about different work activities and learning that were taking place at the same time were made. Thematic analysis of the data was carried out as recommended by Creswell and Poth (2016) and Yin (2014). The method's adaptability made it the chosen choice. The flexibility and systematization of thematic analysis (Braun and Clarke, 2006; Creswell and Poth, 2016; Yin, 2014) led to its adoption. The six-step paradigm proposed by Braun and Clarke (2006) was used in the investigation. Understanding the data, creating initial codes that represented workplace competencies, the advantages of the competencies, and the difficulties in certifying and accrediting the competencies to obtain official employment were all part of the process. After that, possible themes were sorted and coded, themes were reviewed and improved, themes were defined and given names, and a report was eventually written.

Qualitative researchers in relation to validity and dependability frequently use trustworthiness. According to Connelly (2016) and Rule and John (2011), reliability is a crucial factor in assessing case study quality in qualitative research. Peer debriefing by supervisors, using rich and precise descriptions of the findings, triangulating data gathering instruments, and spending a sufficient amount of time in the field, made them sure of this study. The Uganda National Council for Science granted ethical permission (approval number SS1507ES), and their rules of autonomy, informed consent, anonymity, and confidentiality were followed. To prevent unauthorized access, the data sets were kept on a password-protected computer.

FINDINGS

The findings are presented starting with profiles of participants, learning strategies, competences acquired in garages and the benefits of competences.

Profiles of participants

There were 12 male adult participants. Amongst them, seven were single while three were married. Five of the graduates were self-employed while seven were employed by others. Their working experience ranged from 2 years to 7 years but many had worked for seven years. The number of years that graduates have worked is adequate for them to provide reliable information in regard to their experiences in learning competences in garages. The fact that all graduates were self-employed or

employed by others suggests that those who pursue vocational qualifications usually don't end up jobless. This supports the assertions of learning for application explained by characteristics of adult learning by Knowles (1980).

Learning strategies

Findings revealed that these competences were acquired through a wide range of learning strategies. Interviews showed that some of the learning strategies were initiated by graduates themselves as learners learning from experienced mechanics, while others were initiated by expert mechanics to help less experienced mechanics learn. These learning strategies included; observation where graduates directly observed the experts performing a task and learned; spontaneous learning where certain competences were acquired incidentally and through self-discovery; joint participation where tasks were jointly shared as graduates received key instructions from the expert as they jointly worked together as well as guided instructions to ensure that graduates acquire practical, reliable knowledge and skills for use at workplaces. Both interviews and observations revealed that demonstrations were conducted to enable graduates to acquire practical skills for repairing vehicles, how to make consultations with others, how to use social media and how to learn from the internet. We start with a description of the competences acquired non-formally in garages, the benefits that accrue from using these competences and the challenges associated with such competences.

Competences acquired in garages by TVET graduates

Findings from the study showed that TVET graduates of motor vehicle mechanics acquired new and additional competences. Some of these competences were newly learned from the garages while others were improvements on what they previously acquired from the TVET institution where they had trained. These included training, driving, bargaining, detecting vehicle faults, management, application of modern technology and handling motor vehicle breakdowns on the road as explained as follows:

Training

All graduates revealed that they acquired new skills of training in garages. They indicated that they trained some of their fellow graduates in garages including those with formal TVET training and fresh apprentices coming directly from communities (whom they commonly referred to as villagers). The graduates and tutors were in agreement that the graduates were not prepared for this task of

training learners during their formal training at the TVET institution. One graduate's response captures their role as trainers;

I came here to work and earn a living, but now I teach these boys you are seeing here. Because I came here with prior training from the college, I am seen as knowledgeable and my boss tells me to help them to learn. I teach them and I also enjoy being called master. My boss says that I do teach them well and I like it. But I did not know that I will be a teacher at work. (Interview with Juma on 15th July 2022)

In addition to training in garages, those who had UBTEB certificates were able to be employed by other TVET institutions as practical tutors and were executing this duty using the practical training skills they acquired in the garages as they were working. As time went on, those in the garage started referring to those who were good at training as 'master' meaning an expert trainer. This new training role enabled them to earn extra income and gain prestige while some graduates opened up their garages where they managed training on their own. However, this role of training does not come easily and takes time.

Driving

All graduates reported that they had acquired driving competences while working in their respective garages at work. One graduate participant who was unable to learn practical driving at the institution narrated thus;

Many of us did not learn how to drive at school [college], yet driving is very important in the life of a mechanic. For example, how do you remove a customer vehicle on the road in times of emergencies if you cannot drive? But luckily now I know [how to drive] because I have learnt from this workplace. (An interview with Sentongo on 4th June 2022)

A graduate who learned to drive at his workplace after graduation emphasized the importance of driving competences saying;

If there is anything important in the life of a mechanic, it is driving. I don't know why it is not made compulsory at the TVET institution because a mechanic who doesn't know how to drive appears ignorant yet many of us left without practical driving

skills. I learned driving at my workplace.
(Interview with Bright on 18th July 2022)

Graduates revealed that driving was not part of the curriculum and this was confirmed by a review of the syllabus for technical and vocational institutes for the National Certificate in Automotive Mechanics (NCAM) (National Curriculum Development Centre, 2016). They noted that even though driving was not part of the curricula, the college staff was aware of the importance of driving skills to the life of a mechanic. That is why driving lessons were put as an option for students and those who wanted to learn to drive would pay extra fees which many students could not afford. Consequently, driving at the college was done theoretically by many graduates who did not know how to ignite a car, accelerate, and steer the car. The actual driving was learnt after graduation from the garages on graduates' own initiatives. Driving was learned by both DIT and UBTEB graduates and they used the driving skills to carry out road tests and manage vehicle breakdowns on the road. Often, those who handled vehicle breakdowns had to take the vehicles to their owners' homes after repairing them.

Bargaining

Graduates indicated that they learned bargaining as a new skill through observing how their employers and seniors at workplaces bargained with clients who brought their vehicles to be fixed. They were quick to mention that they were not able to acquire bargaining skills from their TVET institution but through observing the experienced mechanics on how they negotiate prices with customers. An employed graduate had this to say;

I acquired bargaining skills while observing experienced people and seeking for guidance from fellow workmates. My boss warned me never to send a way a customer even when they have got little money especially when customers do not require new spare parts. He told me to work on their vehicles, bargain and request them to pay the balance at later time. (Interview with Davis on 7th May 2022 in Sembabule).

Another graduate noted;

If a mechanic has low bargaining power, he ends up getting low profits and sometimes making losses in the business yet he has to pay rent, feed himself and family, pay garage utilities, taxes as well as other expenses in the business. This is where

bargaining becomes very useful. (Interview with Jerome in Lyantonde on 20th July, 2022)

It is important to note that one's bargaining power determines the amount of earnings a mechanic receives, and therefore, it was important for a graduate mechanic to take much initiative to learn how to bargain and charge appropriately to enable them to stay in business as mechanics. This contextualised and reinforced the soft skills taught in the TVET institution.

Detecting vehicle faults easily

Graduates revealed that due to the experience they acquired at workplaces while working on client's cars, they could easily detect car problems even without having to make a thorough physical check. One of the graduates with a UBTEB certificate noted;

I can detect a moving car with a fault and identify a challenge even without having to check many details. I did not know that before working on different vehicles. (Interview with Naboth on 12th June 2022)

Interesting point was the statement of a graduate:

It requires an inexperienced mechanic to first make road test as part of car diagnosis. At my level now, I just hear the sounds your car is making and I tell the problem straight away without making further physical checks. (Interview with Bright on 29th July 2022)

According to these graduates, the competences of detecting car faults and problems before physical checks depended on the experience of a graduate in dealing with certain tasks repeatedly. It appears that the experience of quick diagnosis depended on the time spent in the garage and the experience they had repairing vehicles with similar faults repeatedly. Therefore, it can be concluded that fresh graduates were not able to do quick diagnoses because they did not have much experience in detecting faults.

Management

Graduates revealed that as they worked, they were able to learn how to manage spare parts shops, garages and training programmes in the garages.

A graduate with a DIT certificate shares:

When I was studying, I thought that after

graduation, I was just going to do my mechanics work and that's all. When I started working in the garage, my boss started leaving me in the spare parts shop to sell spare parts on his behalf. Sometimes I make orders from Kampala and pay on arrival and do everything and just report to my boss. I feel I can manage a garage and spare part shop on my own but the problem is I don't have enough capital to start. (Interview with Seth on 7th July 2022)

Another graduate states:

I am here managing my own affairs. I have my garage and manage whatever you see here. I only worked for other people for two years and the experience I got made me to start and manage my own garage. (Interview with Billy on 12th June 2022)

Some of the graduates are able to start and manage their own garages and spare parts shops after getting enough experience and because they have accumulated funds. On the other hand, other graduates like Seth who graduated in 2020 manage garages and shops on behalf of their employers because they are knowledgeable but have not yet accumulated the funds to start their own garages. They are able to sell spare parts, make orders and procure spare parts from bigger dealers in distant towns on their own, a skill that they never learnt from the college.

It can be observed that management experience depended on the long time and nature of work and activities graduates were exposed to during employment. Interestingly, the graduates who managed their own garages or managed other people's garages included those with DIT certificates, thus suggesting that higher TVET qualifications were not an important factor in determining who played management roles in garages.

Application of modern technology in motor vehicle mechanics

Graduates revealed that they had learned new technologies in different types of cars. They reported that the technology of many of the cars that they encountered at the workplace never existed at the institution where graduates studied. For example, a graduate who was able to learn how to do a computerized wheel alignment said;

I was not taught how to do a computerized wheel alignment. We only used to do manual wheel alignment and balancing even in garages where I did my internship.

When I finished and moved to work in the city, I found them using the computerized one and learned, and that's what we are using here. (Interview with Naboth on 7th June 2022 in Masaka)

For example, graduates reported to have studied in old vehicles with old technologies. When they eventually graduated, they were exposed to the latest models of vehicles with advanced technology and they started learning afresh. This technology varied from the ignition, engine systems, lighting, locomotion and wiring. Graduates reported that they left TVET institutions with limited knowledge and competences in handling different types of engines since they were not exposed to such engines in practical lessons. Noteworthy is the fact that even those who had low education levels when they enrolled in the institution were able to cope with learning new technologies as the voice of the above graduate suggests.

Handling mechanical breakdowns on the road

Findings revealed that graduates of motor vehicle mechanics had learned to ably handle mechanical breakdown emergencies resulting from road accidents or mechanical faults. A graduate explained how he learned how to work on road emergencies as follows;

I learned to handle road emergencies because I used to travel with my boss to help victims of car failures on the road. I learned how to charge appropriately after attending to victims of car failures or minor accidents. Many of these emergencies happen at night on this highway and we earn from it. (Interview with Jerome on 5th July 2022)

Graduates reported having learned this competence through working with senior mechanics at workplaces and handling such breakdowns with them. Graduates were able to mention the most common causes of vehicle failures on the roads such as oil leakages, broken or malfunctioning timing belts or gear boxes of vehicles. Graduates unanimously reported that handling such emergencies was not taught in the curriculum that is covered at the TVET College, but this experience is gained at the workplace.

It can be stated that the ability of the mechanic to handle road emergencies without driving skills renders him inadequate and may require an extra person to provide driving skills and this is an extra cost for the mechanic who does not know how to drive. Therefore, mechanics with both emergency handling and driving skills could easily

perform road emergency activities and get more financial gain.

Benefits of competencies acquired at the workplace

Graduates were asked about the benefits they acquired because of obtaining competencies in garages. They described six different benefits such as recognition of these competencies at work, improved quality of work, increased earnings, and independence at work, creation of network chains and more job opportunities.

Recognition of competences learned at workplace

Graduates reported that competences acquired at workplaces (garages) were recognised by different categories of people, including customers, fellow graduates, employers and workmates. Customers who were coming to have their motor vehicles fixed in the garages where these graduates worked and upon satisfaction of the services rendered by graduates, they recognized the expertise of those who worked on their vehicles. One graduate remarked;

We have some clients who [who know my experience that I have acquired from here] come specifically looking for me because they know I am the only one who can work on their problems. Some of them can even turn away without having their vehicles repaired and come in other days when I am around. (Interview with Juma on 16th July 2022)

The recognition by customers was reflected in their seeking for specific graduates to work on their cars because they had previously repaired these vehicles to their satisfaction.

Findings revealed that graduates recognised the competences obtained by fellow graduates as they worked after graduation. These different competences depended on specialisation such as wiring, panel beating, engine repairs, and gearbox repairs. The recognition by fellow graduates was evidenced by some of them getting referrals of certain complex cases to those who were known to have the necessary competences to deal with such cases. This recognition enabled the 'expert' to obtain his own clients and to develop more skills from the job opportunities he got.

Another example is provided by a graduate mechanic specialized in wiring who had this to say;

Each of us here has developed his unique competences. If someone has issues with

the engine, wiring, braking system, or locomotion among others, we all know who is good at that and we call the person to work on the customer. If we don't have such expertise here, we can even refer to colleagues in Lyantonde, Mbarara, or even Kampala. Sometimes we ask those experts to instruct us on phones and we work on the faults as they tell us what to do if the expert is very far away. (Interview with Simon on 13th July 2022)

Since this response came from a DIT graduate, it may suggest that even those with minimal education like those with DIT certificates were also recognised. It is also worth noting that despite their low level of education, these graduates were able to link with each other and to customers depending on the expertise required by the client suggesting that they maintained networks with persons relevant to their work including those who were recognised as experts. Some of these networks were maintained through physical interactions, while others were maintained using mobile technologies such as phones.

The other category of people to recognise the competences acquired at the workplace were employers. One of the participants said;

Sometimes my boss sends his customers to me when he is busy simply because he trusts that what I do is right. He doesn't send his customers to every worker here. There are those he trusts most because they know what to do and I am among them. (Interview with Naboth on 15th June 2022)

In addition to customers, fellow graduates and employers, the competences were recognised by their workmates. This recognition was based on the quality of service rendered by graduates to their workmates in garages. However, there was no incidence where a graduate revealed having used the acquired new and additional competences to obtain additional formal qualifications.

However, the same graduates lamented that although competences acquired non-formally in garages were recognised by employers, customers, fellow graduates and DIT, there were still challenges in certification and accreditation. That may explain why only those who had obtained UBTEB certificates had gotten formal jobs, thus emphasizing the importance of formal certificates awarded by UBTEB as opposed to competency certificates awarded by DIT. The non-certification and accreditation of non-formal learning was a serious challenge facing graduates who acquire competences at the workplace because they were not used to accessing formal employment and enrolling into formal education

programmes. This view was supported by an official from DIT who said;

We provide these certificates to graduates and all other apprentices who gain competences non-formally to help them work. They are not provided to seek jobs in public service because these certificates are not qualifications. (Interview with DIT official on 29th April 2023)

DISCUSSION

The findings revealed that TVET graduates learned competences such as training, driving, bargaining with clients, detecting motor vehicle faults, management, application of modern technology in motor vehicle mechanics and handling emergency mechanical breakdowns on the road non-formally as they worked in garages. These competences were recognised by their customers, fellow graduates, employers and workmates. However, the challenge was that even when these competences were not certified and accredited and therefore graduates could not use them to obtain formal employment or to further their formal education. We discuss these findings in the context of the assumptions of andragogy by Knowles (1980) and Moll (2023) as the 'art and science of helping adults learn' and the Communities of Practice theory (Lave and Wenger, 1991). Andragogy provides the best possible understanding of the aims and purposes of adult education in Africa (Nafukho, Amutabi and Otunga, 2005) and Nuwagaba (2013:231) affirms that Communities of Practice is 'a useful framework for understanding the non-formal and informal learning.'

The finding that TVET graduates use learning strategies that they initiate themselves makes them self-directed learners (Knowles, 1980). They also make decisions determining their participation in observation where graduates directly observe the experts performing a task and learn and spontaneous learning where certain competences are acquired incidentally and through self-discovery. This self-directedness is in line with the assumptions of andragogy expounded by Moll (2023:149) which 'conceive of TVET learners as self-directed, using opportunities provided for them by actual workplaces to shape the course of their own learning'. Another issue that came out was that the graduates used the experiences they had acquired in the TVET institution to learn new skills at the workplace. While engaging in making repairs on new jobs, they use the experiences gained from repairing vehicles previously. This agrees with Knowles (1980) assumption that adults 'draw upon this reservoir of knowledge' when they face new challenges and want to acquire new skills.

With regard to what the graduates want to learn and

when, findings revealed that, for example, they wanted to learn new methods of wheel alignment and balancing as well as new technologies in motor vehicles when clients brought in vehicles requiring those competences. This fits well with Moll's (2023:149) argument that andragogy assumes that learners want 'task-related know-how for work, unlike the general knowledge that schools emphasise' when it comes to readiness to learn. As explained by the graduates, there are situations where they are faced with mechanical problems which they are unable to solve and they invite those with more experience and expertise for help. Sometimes they refer to them over the phone. In both cases, the graduates learn from the experts the particular knowledge and skills needed for the task at hand. This is what Moll (2023:149) calls 'just-in-time' knowledge which is for immediate application as opposed to learning in school where knowledge is for 'just-in-case' which is for 'postponed application' as suggested by Knowles' orientation to learning.

The consultations with fellow mechanics with more expertise are a clear indication of the existence of a CoP of motor vehicle mechanics and that they enhance the learning of members (Lave and Wenger, 1991). These consultations do not necessarily happen within proximities of members of CoPs but are often done virtually (Wenger, 1998). For instance, graduates of motor vehicle mechanics working from various districts were communicating through phone calls, and social media platforms to share knowledge and learn together.

Another example of the relevance of CoP is evident from graduates' engagement with new challenges and tasks. Graduates, when they first come across sophisticated motor vehicle engines, computerised equipment, and new motor vehicles with advanced technology for the first time, can be considered novices despite having certificates from the TVET institution. As they interact and get guidance from expert mechanics, these graduates progress through learning new and additional competences and move from being novices and become experts, or what Lave and Wenger (1991) call movement from the periphery to full participation at their respective workplaces. This confirms that despite the level of certification, one can become a recognised expert in a CoP of motor vehicle mechanics because of being highly skilled in training others and exhibiting high-level skills like dismantling engines, wiring and installation of alarm systems. In many cases, new graduates had limited practical skills to train others which caused a lot of frustration to those who expected such graduates to be more knowledgeable. The reason was they possessed low-level skills such as naming spare parts and tools as well as doing simple repairs. However, Naboth was closer to the centre than the rest because he was teaching practicals in a TVET institute.

In describing what they learned and how they learned, the graduates mention networks and friendships. This suggests that their learning can be viewed through social

learning theories. It is through these connections that fresh graduates continuously progress through learning new and additional competences at their workplaces and move from being called novices to experts. This is what Lave and Wenger (1991) and Wenger (1998) call the movement from periphery engagement to full participation in workplaces. The fact that those with DIT certificates were also engaged in training others is not surprising considering that a study in South Africa (Moll, 2023) found that most of those who facilitated learning in TVET institutions were experienced craftspeople with no formal educational qualifications.

The acquisition of both soft and hard skills non-formally at the workplace is an affirmation that the graduates continue with the learning that is relevant to their work as suggested by ILO (2021) and RSA (2022) and Moll (2023). This strengthens the arguments for lifelong learning in this contemporary world. Although there was no deliberate effort to prepare graduates for lifelong learning during the time they were at the TVET college, the graduates engaged in learning at their workplaces in order to respond to what McGrath (2012) refers to as a dynamic labour market.

Additionally, it is argued that the more skills individuals acquire, the more multi-skilled they become in today's volatile world (RSA 2020). However, one wonders whether the satisfaction they get from the recognition of their new skills is adequate and a justification for not enrolling in formal educational institutions so as to acquire better qualifications. One factor that hinders their pursuit of further studies is that they don't have the funds to enable them to pursue higher-level qualifications since they are not getting income from the garages. This is further compounded by the scarcity of employment opportunities immediately after graduation (Saadah et al., 2020).

The opportunities of graduates who have become experts and are regularly consulted are in a way an indication that those with the best competences have more chances of making more money and this can be a motivation for learning for those who would love not to spend on these experts. This motivation is recognised in CoPs (Wenger, 1991). Another motivator was the trust employers put in particular graduates due to their good performance. This encouraged others to work hard and desire to learn so that they become experts. Holmes et al. (2021) and Woodruffe (1993) argue that workers need to do what is valued and rewarded in the workplace. It is accepted that rewards such as salaries, promotions, and recognition by fellow employees motivate workers to perform well (Manzoor et al., 2021; Hassan and Wai, 2019; Knox et al., 2020).

Although andragogy is criticized for not being favourable for adult learners who take teachers as the sources of knowledge and guidance, it provides teaching and learning methods for TVET that are more flexible than the rigid formal learning methods (Moll, 2023). Andragogy also

explains the characteristics of graduates of motor vehicle mechanics as adult learners, and what motivates them to enroll in TVET institutions, and to continue learning at their workplaces. These processes are characteristic of cognitive theories of learning that interrogate the mind and how it works. Similarly, CoPs illuminates the transition from novice to expert mechanics among graduates of TVET and is therefore a useful framework for explaining workplace non-formal learning. The learning is mostly by doing and involves collective or shared activities, using similar tools in their joint enterprise of repairing motor vehicles. This is also characteristic of social learning theories. The findings of the study confirm that Knowles' principles of andragogy and Lave and Wenger's CoPs are still relevant as they can explain the adult learning process at workplaces despite the changes that have taken place globally. It also confirms that adult learning is a complex process that can be explained using multiple theories.

Conclusion

TVET graduates learn competencies in TVET institutions, although their exposure to the workplace (garages) immediately after graduation makes them learn new and additional competences through informal and non-formal learning. These competencies make graduates more beneficial since they become more practical. Viewed through theoretical lenses, the findings seem to support the view that andragogy 'holds out the promise of a progressive teaching and learning methodology that can overcome the constraints of traditional education and be responsive to the needs of adult learners in relation to their lives, careers and workplaces' in this case garages as the workplace. They also confirm that the CoPs framework is a useful tool for explaining the learning that occurs in groups that learn and work together.

RECOMMENDATION

It is recommended that the government establishes mechanisms through which skills and experiences obtained non-formally and informally at workplaces are accredited and certified to facilitate progression to formal education and access to formal employment opportunities. Workplace learning is an area for exploration and policymakers need to take a significant step towards accreditation and formalisation of competences acquired from work.

REFERENCES

- Braun, V., and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706 qp0630a>

- Brown, H., and Papier, J. (2023). Beyond the trade test: Using the COMET Model to build occupational competence. *Journal of Vocational, Adult and Continuing Education and Training*, 6(1), 42–64.
- Cash, R. E., White-Mills, K., Crowe, R. P., Rivard, M. K., and Panchal, A. R. (2019). Workplace incivility among nationally certified EMS professionals and associations with workforce-reducing factors and organizational culture. *Prehospital Emergency Care*, 23(3), 346–355. <https://doi.org/10.1080/10903127.2018.1502383>
- Chilisa, B., and Preece, J. (2005). *Research methods for adult educators in Africa*. Hamburg: UNESCO Institute of Education & Pearson Education South Africa.
- Connelly, L. M. (2016). Trustworthiness in qualitative research. *Medical-Surgical Nursing*, 25(6), 435.
- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Sage.
- Creswell, J. W., and Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
- Flick, U. (2015). Qualitative inquiry—2.0 at 20? Developments, trends, and challenges for the politics of research. *Qualitative Inquiry*, 21(7), 599–608.
- Grenier, A. (2023). The qualitative embedded case study method: exploring and refining gerontological concepts via qualitative research with older people. *Journal of Aging Studies*, 65, 101138.
- Hassan, A., and Wai, L. K. (2019). Exploring the Learning Theories Underpinning in Technical, Vocational, Education and Training (TVET) Curriculum Perceived by TVET Students. *International Journal of Academic Research in Business and Social Sciences*, 9(11), 1372–1381. <https://doi.org/10.6007/ijarbs/v9-i11/6706>
- Holmes, A. G. D., Tuin, M. P., and Turner, S. L. (2021). Competence and competency in higher education, simple terms yet with complex meanings: Theoretical and practical issues for university teachers and assessors implementing Competency-Based Education (CBE). *Educational Process: International Journal*, 10(3), 39–52. <https://doi.org/10.22521/EDUPIJ.2021.103.3>
- ILO (International Labour Organisation), (2021). Global framework on core skills for life and work in the 21st century. Geneva: ILO.
- Jenkins, S. (2020). Policy Solutions that Foster Competency-Based Learning.
- Key, T. M., Czaplewski, A. J., and Ferguson, J. M. (2019). Preparing workplace-ready students with digital marketing skills. *Marketing Education Review*, 29(2), 131–135. <https://doi.org/10.1080/10528008.2019.1610331>
- Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy*. Englewood Cliffs, NJ: Prentice Hall Regents.
- Knox, J., Williamson, B., and Bayne, S. (2020). Machine behaviourism: Future visions of 'learnification' and 'datafication' across humans and digital technologies. 9884. <https://doi.org/10.1080/17439884.2019.1623251>
- Latchem, C. (2017). *Open and distance non-formal education in developing countries*. Springer
- Lave, J., and Wenger, E. (1991). *Situated Learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Manzoor, F., Wei, L., and Asif, M. (2021). Intrinsic rewards and employee's performance with the mediating mechanism of employee's motivation. *Frontiers in Psychology*, 12, 1–13. <https://doi.org/10.3389/fpsyg.2021.563>
- Mcgrath, S. (2012). Building new approaches to thinking about vocational education training and development: Policy, theory and evidence. *International Journal of Educational Development*, 32(5).
- Moll, I. (2023). A critique of Andragogy in the South African TVET context. *Journal of Vocational, Adult and Continuing Education and Training*, 6(1), 145–163.
- Mulder, M. (2017). Workplace learning and competence development. *The Journal of Agricultural Education and Extension*, 23(4), 283–286 <https://doi.org/10.1080/1389224X.2017.1348030>
- Nafukho, F., Amutabi, M., and Otunga, R. (2005). *Foundations of adult education in Africa*. Cape Town: Pearson/UNESCO Institute for Education.
- National Curriculum Development Center (2021). The national curriculum development center (amendment) act 2021. [https://bills.parliament.ug/attachments/National%20Curriculum%20Development%20Centre%20\(Amendment\)%20Act,%202021.pdf](https://bills.parliament.ug/attachments/National%20Curriculum%20Development%20Centre%20(Amendment)%20Act,%202021.pdf)
- Nuwagaba, E. L. (2013). Ugandan case studies of adult learning practices of persons with disabilities regarding microfinance. Unpublished PhD Thesis, University of KwaZulu Natal, South Africa.
- Pang, E., Wong, M., Leung, C. H., and Coombes, J. (2019). Competencies for fresh graduates' success at work: Perspectives of employers. *Industry and Higher Education*, 33(1), 55–65. <https://doi.org/10.1177/0950422218792333>
- Rahmaningtyas, W., Joyoatmojo, S., Kristiani, K., Murwaningsih, T., and Noviani, L. (2023). Shaping the workforce of tomorrow: A comprehensive review of competence-based learning for employability enhancement. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, 9(3), 870. <https://doi.org/10.33394/jk.v9i3.8696>
- Rainsbury, E., Hodges, D., Burchell, N., and Lay, M. (2002). Ranking Workplace Competencies: Student and Graduate Perceptions. 8–18.
- Raj, R. K., Impagliazzo, J., Aly, S. G., Bowers, D. S., Connamacher, H., Kurkovsky, S., MacKellar, B., Prickett, T., and Marques Samary, M. (2022). Toward Competency-Based Professional Accreditation in Computing. <https://doi.org/10.1145/3571785.3574121>
- RSA (2022). Skills Strategy: Support for the South African Economic Reconstruction and recovery plan. Pretoria: Department of Higher Education and Training.
- Rule, P., and John, V. (2011). Your guide to case study research. Pretoria: Van Schaik Publishers.
- Saadah, N., Sumarwati, S., Aziz, I., Ziden, A., Razak, N., Jalil, S., Malaysia, H., and Pahat, B. (2020). Life and career skills amongst technical and vocational education and training (TVET) students. *Online Journal for TVET Practitioners*, 5, 2020. <https://doi.org/10.30880/ojtp.2020.05.02.003>
- Small, M. L. (2009). 'How many cases do I need?' On science and the logic of case selection in field-based research. *Ethnography*, 10(1), 5–38
- UNESCO (2022). Transforming Technical and Vocational Education and Training for successful and just transitions. <https://unesdoc.unesco.org/ark:/48223/pf0000383360>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. London: Cambridge University Press.
- Woodruffe, C. (1993). What is meant by a competency? 29 what is meant by a competency? Defining a competency. *Leadership & Organization Development Journal*, 14(1), 143–7739.
- Yin, R. K. (2014). *Case Study Research Design and Methods (5th Ed.)* Thousand Oaks. Sage.

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