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Factors Influencing Learning Programmes in Technical and Vocational Training Institutions in Kenya during Covid 19 Pandemic: A Case Study of Tvets in Western Kenya

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Abstract: **In the recent past months, there has been a growing focus on the various learning methods that TVET institutions management needs to adopt in this time of COVID 19 pandemic. Therefore, this research aimed to establish the factors influencing the learning programmes in TVET institutions. On the other hand, the research utilized COVID 19 as a dependent variable. The research followed a descriptive research design. This study's target population comprised all the 55 TVET institutions in Kenya's western region from which a sample size of 37 was drawn. Primary data was collected through the use of a questionnaire. Data analysis employed the use of descriptive and inferential statistics. The findings of this study indicated that learning resource strategy and relevance of learning resources are the factors that affect the delivery of learning programs most in TVET institutions. This study determined that factors that influence learning programs are learning resource strategy, adequacy of learning resources, appropriate training workshop, industry support on learning resources, high quality of learning resources, and resources to provide psychosocial support. Institutions should allocate enough resources to ensure sustainability to achieve their goals and objectives.**

Keywords: **Covid-19, Kenya, Learning programmes, Learning resource strategy, TVET institutions, pandemic.**

1. INTRODUCTION

1.1. Background of the Study

Globally and for a long time, there have been three widely spread forms of the interaction between a teacher and student; Passive methods, Active methods, and Interactive methods. A passive method of instruction is a form of interaction between the teacher and students, with the teacher being the center of the lesson, while the learner remains to be a passive listener. The passive method is considered as the most inefficient method in terms of material use, but the advantages of this method include the ability to prepare less labor-intensive lessons in advance and present a large amount of information in a short time (Giorgdze and Dgebuadze, 2017). Teaching and learning go along with the management of institutions, which was the focus of the present research.

Teachers use different teaching methods depending on their nature, students, and classroom facilities. The lecture method, Group discussion, Individual presentation, Assignment, Seminars, Workshops, Role-play, and Case study are standard classroom teaching methods. Whereas in the distance learning process, the teacher stayed in one location and provided

notes and instructions, and students learned lessons by staying in another convenient location as required (Samanthi and Gamage, 2016). Analysis of the research results shows that interactive teaching best helps students get maximum involvement in the lecturing process. The student is a passive recipient of knowledge, continuously in the listener's Position but is actively involved in the lecturing process and gets maximum knowledge. As a result, the information received is remembered for a longer time. Recent studies show that interactive learning helps learners easily acquire new material and memorize it for a more extended period (Giorgdze and Dgebuadze, 2017). Internet generation students like to interact with themselves in a collaborative environment that facilitates understanding and learning. Hence teacher-centered teaching methods are obsolete, and students prefer learner-centered teaching methods. Much interactive technology, including web-based or internet-based learning and teaching, is the main feature of learner-centered teaching (Samanthi and Gamage, 2016)

In the period before the onset of COVID-19 in early 2020, learning and institutional management methods were applicable in Kenyan TVET institutions. Predominantly they used face-to-face interaction between tutors and students. This method was also widely used at other levels of learning, from Pre-school to University. The COVID-19 Pandemic and resulting school closures will likely only exacerbate the poor learning outcomes realized in many schools in Africa. The World Bank (June 2020) estimates that globally the Pandemic could result in a loss of between 0.3 and 0.9 years of schooling adjusted for quality. In Africa and Kenya, the loss could be similar. The crisis offers a vital reflection point for education leaders to question the status quo and explore new approaches for delivering quality education (Hanahham, 2020). At the Centre for Universal Education (CUE), the Real-time Scaling Lab approach is guided by the notion of adaptive learning. Meaning local understanding contexts, being flexible when plans change, and systematically learning along the way. Several vital actions underpin an adaptive learning approach, such as experimenting with new approaches, leveraging deep roots within communities, sharing knowledge, and embracing windows of opportunity. CUE's scaling lab partners are indeed taking these actions to ensure children and young people continue to receive an education, particularly in response to COVID-19 (Hanahham, 2020)

Some countries and school systems worldwide are turning to online learning through online courses (via a Learning Management System) or virtual teaching platforms (face-based webinars via Google Hangouts or Zoom). Some countries have digital learning platforms that ostensibly offer digital content and instruction to teachers and students. Many exist in theory only, but the infrastructure is there, and these would be the place to start to get content and instruction to students (Global Partnership for Education, 2020). These may offer a way out in the new normal across the globe. Therefore, this research aimed to establish the Adaptability in the management of learning programs in Technical and Vocational Education and Training institutions in Kenya during the COVID-19 Pandemic.

1.2. TVET Institutions

According to UNESCO (1984), Technical and Vocational Education and Training (TVET) is a broad term referring to the educational process. TVET involves studying technologies and related sciences and acquiring practice, skills, and knowledge relating to occupation in various economic and social life sectors. UNESCO, 2017, on the other hand, explains that the term TVET was officiated at the World Congress on TVET in 1999 in Seoul, Republic of Korea. Congress recognized the term TVET to be broad enough to incorporate other terms that had been useful to describe similar educational and training activities, including Workforce Education (WE), and Technical – Vocational Education (TVE).

Maclean *et al.* (2011) opine that the term TVET parallels other types of education and training, for instance, Vocational Education but is also used as an umbrella term to encompass education and training activities. As a result of TVET's isolation with other education streams, it was widely adopted, particularly in secondary education. Later steps were taken to reduce education and training segmentation and address institutional barriers that restricted TVET learners' options, including choices to move vertically to higher learning levels or horizontally to other streams. In this research project, the term TVET will refer to National Polytechnics, Technical Training Institutes, and Vocational Training Colleges.

According to Kerre (1995), the purpose and objectives for technical and vocational education in a given country delineate the scope within which TVET is to be developed and implemented. It also noted that most countries have stated, in one form or another, the general objectives of TVET as to provide, alongside general education, knowledge, and skills in technical and vocational fields to meet national human resource requirements in agriculture, business, industry, and other technical services.

According to Kamunge (1988), technical and vocational education in Kenya has been incorporated in the 8:4:4 system. Its specific objectives can be summarized as, among others, to lay the foundations for the vocational skills required for socio-economic development, to expose students to scientific and technological trends, skills, and ideas; to develop vocational and entrepreneur skills as a basis for further training and employment and to develop appropriate vocational attitudes, initiative, and creative thinking oriented to work. Kerre (2001) suggests an urgent need for Kenya to become scientifically and technologically literate to become part of the emerging global economy. It implies that science and technology have to be strengthened to prepare young Kenyans for the twenty-first century. Its goals, aims and objectives of the current education system need to investigate learners' attitudes. Desai (2020) states that it is important to note that the government is committed to enhancing the quality and relevance of TVET, not only for achieving the industrial needs but also for international competitiveness. He explains that the sector is expected to be an enabler in implementing the Big Four Agenda. Therefore the government is committed to the ongoing TVET reforms. He also observes that the Ministry of Education is on course with establishing a technical and vocational college in every constituency. It is a deliberate move by the ministry to increase access to appropriate TVET training to the greater society. This background information was thus relevant to this research and analysis of Adaptability in managing learning programs in Kenya's TVET institutions during the COVID 19 pandemic.

1.3. History of the COVID-19 Pandemic

WHO (2020) defines coronavirus disease 2019 (COVID-19) as an illness caused by a novel coronavirus now called 'severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formally called 2019-nCoV). The disease was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. The virus was initially reported to the WHO on December 31, 2019, and declared a global pandemic on March 11, 2020.

WHO (2020) Director – General's opening remarks at a media briefing on COVID – 19 on March 11, 2020, reiterated that in the past two weeks, the number of cases of COVID – 19 outside China had increased 13-fold, and the number of affected countries tripled. The Director-General said there were more than 118,000 cases in 114 countries and, 4,291 people had lost their lives, and thousands more were fighting for their lives in hospitals. He observed that in the days and weeks ahead, they expected to see the number of affected countries climb even higher, and as we speak, this report can confirm the numbers grew to millions of cases and deaths. The report indicates that WHO had been assessing the outbreak and were deeply concerned both by the alarming spread and severity levels. He pointed out that never before had they seen a pandemic sparked by a coronavirus; this is the first Pandemic caused by a coronavirus.

The WHO (2020) Director-General remarked that they called for countries to take urgent and aggressive action. If countries detect, test, treat, isolate, trace, and mobilize their people in the response, those with a handful of cases could prevent cases from becoming clusters, and those clusters become community transmission. He said that several countries had demonstrated that the virus could be suppressed and controlled. The challenge for many countries dealing with large clusters or community transmission was not whether they could do the same, but whether they would. Some countries were struggling with a lack of capacity, resources, or a lack of resolve. WHO was grateful for the measures taken in Iran, Italy, and the Republic of Korea to slow the virus. All countries were advised to balance protecting health, minimizing economic and social disruption, and respecting human rights.

As the virus ravaged the rest of the world, Kenya was not an exception. Development Initiative's report dated June 2020 states that the number of cases of COVID -19 in Kenya had risen rapidly from the first case reported on March 13, 2020. 'To date, Kenya has the highest number of reported infections and deaths than its neighboring countries. The report points out that currently, the impact and spread of infections are feared to be aggravated by the massive number of people living in poverty; a weak health infrastructure, overcrowding in informal settlements; and poor access to essential services such as clean water, sanitation, and hygiene (Socio-economic impacts of COVID-19 in Kenya, p.13). The article further explains that the government was undertaking various measures to curb the virus's spread, including limiting movement in places with reported cases; closure of public places with high human traffic, such as schools and public events; dusk- to-dawn curfews; and ensuring basic hygiene and social distancing.

As the COVID – 19 affected various government sectors, the education sector was not spared either. In a presentation title '*Effects of Coronavirus Pandemic on Education*,' by KNUT, UASU, and KNHRC to National Emergency Response Committee, it is stated that by May 24, 2020, a total of 5.4 million people worldwide had been infected, 2.17 million had recovered, and 345.000 deaths had been reported. In Kenya, there were 1214 confirmed cases, 383 recoveries, and 51

deaths reported. Furthermore, that it is against this kind of threat that President Uhuru Kenyatta issued an Executive Order number 2 of 2020, establishing the National Emergency Response Committee on Coronavirus pandemic as a framework to upscale and coordinate Kenya's level of preparedness and capacity to prevent, respond to and contain COVID – 19 pandemic. It is also noted that UN member States started working to ensure the continuity of learning through alternative delivery modalities as they also started anticipating preparing for the reopening of schools, colleges, and universities. Ministries of Education, in consultation with the Ministries of Health, Security, Social Affairs and other critical Public and Private institutions, started planning for the reopening of schools while prioritizing the safety and protection of learners, teachers, and other personnel, as well as their health (physical, mental and psychosocial), well-being and social relationships.

It is against this background that this research project set out to analyze the Adaptability in the management of learning programs in technical and vocational education and training institutions in Kenya during the COVID -19 pandemic.

1.4. Statement of the Problem

Management is viewed as the art of getting things done through and with people in formally organized groups. It involves directing human activities and physical resources in the attainment of pre-determined goals. TVET institutions are educational institutions whose main objectives are to provide general education, knowledge, and technical and vocational fields to meet national human resource requirements in Agriculture, Business, Industry, and other technical services.

The running of the TVET institutions' activities relies heavily on all the stakeholders who include; the BOM, the trainers, support staff, the trainees, and other service providers. The outbreak of the COVID-19 Pandemic, which has affected the whole world, had Kenya report its first case on March 13, 2020. Upon the outbreak, the government undertook various measures to curb the virus's spread, including limiting movement in places and closing public places with high human traffic such as learning institutions. This move completely halted academic and co-curriculum programs. The Ministry of Education later proposed that higher learning institutions start working to ensure learning continuity through alternative delivery modalities and management of other institutions' delivery. All these are to be done with limited or no face-to-face interactions at all. For several months, education institutions, including TVET institutions, have been under a long spell of uncertainty on time for the resumption of learning and the modalities to adopt for delivery of programs. This is costly for both the government and learners. The effect on the economy is large and may be far-reaching if the situation continues.

Therefore, this research project set out to investigate the Adaptability in the management of learning programs in technical and vocational education and training institutions in Kenya during the COVID-19 Pandemic.

1.5. Research Objective

Establish the factors influencing the learning programs in TVET institutions during the COVID-19 Pandemic.

1.6. Research Question

What are the factors influencing the learning programs in TVET institutions during the COVID-19 Pandemic?

2. LITERATURE REVIEW

2.1 TVET Institutions

Kemei et al. (2018) interrogated the determinants of effective implementation of quality TVET programs and the challenges affecting implementing technical curriculum in public TVET institutions in Kenya. The study adopted a descriptive research design. The paper asserts that investing in education is a potent means that could be explored to fast-track technological progress, economic growth, and boosting citizens' capacities. The study's primary purpose was to investigate the challenges that affected the implementation of the technical curriculum of TVET programs in TVET institutions. This was to improve the quality of the TVET institutions' quality, making the graduates marketable and tandem with industrial needs. The study concluded that student factors such as low reading culture, students' peer group influence, student's practice of examination malpractice and student's irregular attendance, student's interest in learning, student's parental background, student's disobedience to school regulation and rules, and lack of required learning material such as textbooks affect the quality of TVET programs. The primary teacher factors affecting the quality of TVET programs are Lecturer's competence, teaching methods employed by the teachers, Lecturers' syllabus coverage, Lecturer punctuality to class, and appropriateness of the teaching methods used by the lecturers. This study, just like the present

research, is concerned with the implementation of the TVET curriculum and the challenges experienced. The present research explores Adaptability to challenges posed by the COVID-19 Pandemic in implementing the TVET curriculum.Mutua et al. (2019) too carried out a study on TVET institutions. This research's primary purpose was to establish the Adaptability of facilities applied in CBET implementation to acquire employable skills among visually impaired learners in Kenya's TVET institutions. The study applied mixed-methods research design. The study's findings were that there was a general shortage of facilities, especially equipment, tools, machines, and other reference materials needed in adequately implementing the CBET approach in regards to the visually impaired in TVET institutions. The study further noted that the equipment, tools, and machines used in most workplaces were more advanced and different from those the visually impaired learners had used in their training pieces in the institutes. The study also stated that most facilities within the institutes were not adequately adapted to the needs of the visually impaired learners and that the suitability of facilities in terms of training equipment and tools, resource materials, and workshops within the institutes in training visually impaired learners on preparation for the job market was watered down by their inadequacy and low maintenance. The study concluded that the Adaptability of facilities used in CBET implementation was a key determinant of employing employable skills among these learners. While this study analyzed the Adaptability of facilities on the acquisition of skills among visually impaired learners, the present research analyzes the Adaptability of management strategies in the implementation of TVET learning programs during the COVID-19 Pandemic. The reviewed studies were hoped to help identify knowledge gaps in studies based on TVET institutions and accomplish objectives one and three of the present study.

2.2 Learning Delivery Options

According to the World Bank (2020b), the simulated effects of Covid-19 on learning should be used to inform mitigation, recovery, and "building back better" strategies. This includes effective remote learning strategies to provide learning continuity while schools are closed using multiple education technology solutions (radio, television, mobile phones, digital/online tools, and print) with support to students, teachers, and parents. Governments should also implement appropriate actions to ensure the safe reopening of schools consistent with each country's overall COVID-19 health response and accelerate learning by building more equitable and resilient post-COVID education systems that enable children to learn continuously both in schools and at home.

2.3 Leveraging deep roots within communities

CUE's scaling lab partner, CAMFED, a nongovernmental organization, supports marginalized girls to complete secondary school and empowers them to become independent women through leadership training and membership in the CAMFED Association. A key component is Learner Guides, female secondary-school graduates who volunteer for 18 months to serve as mentors at local schools, delivering a life-skills curriculum to complement academic teaching. They come from the places they serve and have a deep understanding of marginalized communities' unique challenges. Learner Guides have expanded their roles to meet these challenges during the pandemic, working with families in their communities, sharing official World Health Organization and government guidance, and improvising learning opportunities for students while schools remain closed. When schools eventually reopen, Learner Guides will play a critical role in ensuring girls most vulnerable to child marriage and dropout return to their classrooms (Hanahham, 2020).

2.4 Increase in online learning

Whether it is language apps, virtual tutoring, video conferencing tools, or online learning software, there has been a significant surge in usage since COVID-19. "Tencent classroom," a Chinese innovation, has been used extensively since mid-February after the Chinese government instructed a quarter of a billion full-time students to resume their studies through online platforms. This resulted in the most extensive "online movement" in the history of education, with approximately 730,000, or 81% of K-12 students, attending classes via the Tencent K-12 Online School in Wuhan.

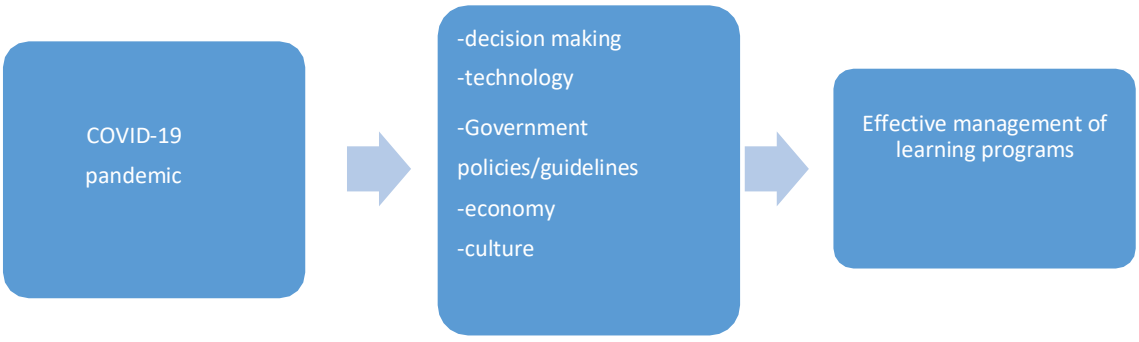
For example, Lark, a Singapore-based collaboration suite initially developed by Byte Dance as an internal tool to meet its exponential growth, began offering teachers and students unlimited video conferencing time and auto-translation capabilities, real-time co-editing of project work, and smart calendar scheduling, amongst other features. To do so quickly and in a time of crisis, Lark ramped up its global server infrastructure and engineering capabilities to ensure reliable connectivity. Alibaba's distance learning solution, DingTalk, had to prepare for a similar influx: "To support large-scale remote work, the platform tapped Alibaba Cloud to deploy more than 100,000 new cloud servers in just two hours last

month – setting a new record for rapid capacity expansion," according to DingTalk CEO, Chen Hang.

Some school districts form unique partnerships, like the one between The Los Angeles Unified School District and PBS SoCal/KCET, to offer local educational broadcasts, with separate channels focused on different ages and digital range options. During transitioning, World Bank (2020a) reports various interventions; Providing a consolidated, one-stop-shop for access to online learning opportunities is strongly advised, Creating an inventory of existing learning content ready to be deployed via remote learning is necessary, as well as a plan on how to make available additional content, Organizing digital educational content to align with existing curricula can be critical in providing users and teachers with a way to ensure that the learning opportunities provided correspond to broader educational objectives within an education system, Making content available on a wide variety of devices -- and mobile-friendly -- is critical, Supporting the use of low bandwidth (including offline) solutions is critical, Videos can offer valuable learning resources when schools are closed, providing that there is sufficient available bandwidth, the content is engaging, and production values are of sufficient quality, Educational radio and television are viable options, especially in low resource environments, Providing supplemental guidance and support on how to use and access remote and online learning content can be critical, It may be more challenging to utilize existing learning management systems (LMS) designed to support in-class instruction for use in exclusively online environments than it may first appear and Using multiple media channels to share information about remote and online learning opportunities can be very useful.

2.5 Theoretical Framework

The contingency theory of management proposes that to be effective, the management must be consistent with other aspects of the organization and the external environment as management is situational. According to the contingency theory, a one-size-fits-all approach is unsuitable, as human resource practices' effectiveness relies on the setting in which they are applied. The technique of management depends on the complexity of the situation. Contingency decisions in management have mainly been understood based on the external and internal fit. External fit, also called vertical alignment, requires that the organization's management practices match its organizational strategy or environmental conditions. With the advent of the Covid-19 Pandemic, organizations have had to apply this management model as management is situational and managerial actions depend upon the Covid-19 Pandemic effects' environmental circumstances. The contingency management theory helps in understanding the organization and helps it to operate under different environmental conditions. It provides a framework where every solution depends upon the environmental circumstances. The same problem can have diverse solutions at different time points, and different problems can have a similar solution simultaneously. It also provides insight into an organization's Adaptability to both internal and external environments. Adaptation is used to denote the process by which the subject adapts to the new environment. Adaptation means the result of the adaptation process.



The conceptual Framework showing the relationship between the variables of the study is shown above. The study's conceptual framework is based on the assumption that 'Adaptability in Management of Learning Programs in Technical and Vocational Training Institutions in Kenya during COVID 19 Pandemic: A Case Study of TVETs in Western Kenya' was influenced by the COVID-19 Pandemic, which was considered the independent variable. The figure encapsulated the relationship between the dependent and independent variables, with various factors as intervening variables. Management of learning programs is the dependent variable. The intervening variables are decision making, technology, government policies/guidelines issued by the National Government, the economy, and culture.

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3. RESEARCH METHODOLOGY

This study was carried out using a descriptive survey design method was used to collect data to explain the variables identified in the study. The design involved collecting information from a cross-section of respondents involved in TVET management. The design employed the use of questionnaires. The research design was suitable for the study because it revealed the present Position of Adaptability in the Management of Learning Programs in TVET Institutions in the Western Kenya region. The study population was public 55 TVET institutions in the Western Kenya region (ODeL, 2020). The population included National polytechnics, Technical Training Institutes, and Vocational Training Centres. The research sampled 37 institutions from a population of accredited public TVET in the western Kenya region. Data was collected using questionnaires and interviews. The descriptive statistics, such as pie charts, frequency tables, and graphs, were used to present the data. Qualitative data were coded and grouped according to the category of the respondents. Each respondent was numbered, and each questionnaire coded. Qualitative data were transcribed and then organized into themes as they emerged.

4. DATA ANALSIS

4.1. Demographic Information

The study population was public TVET institutions in the Western Kenya region. The population included National Polytechnics, Technical Training Institutions, and Vocational Training colleges, which are established, registered, and accredited by TVETA and have trainers and running programs. A total of thirty-seven institutions were interviewed, and the results were as shown in Figure 4.1 below. Out of the 37 Institutions, 2 were national polytechnics, 19 were technical training institutions, 15 vocational and training colleges, while one respondent did not specify its category.

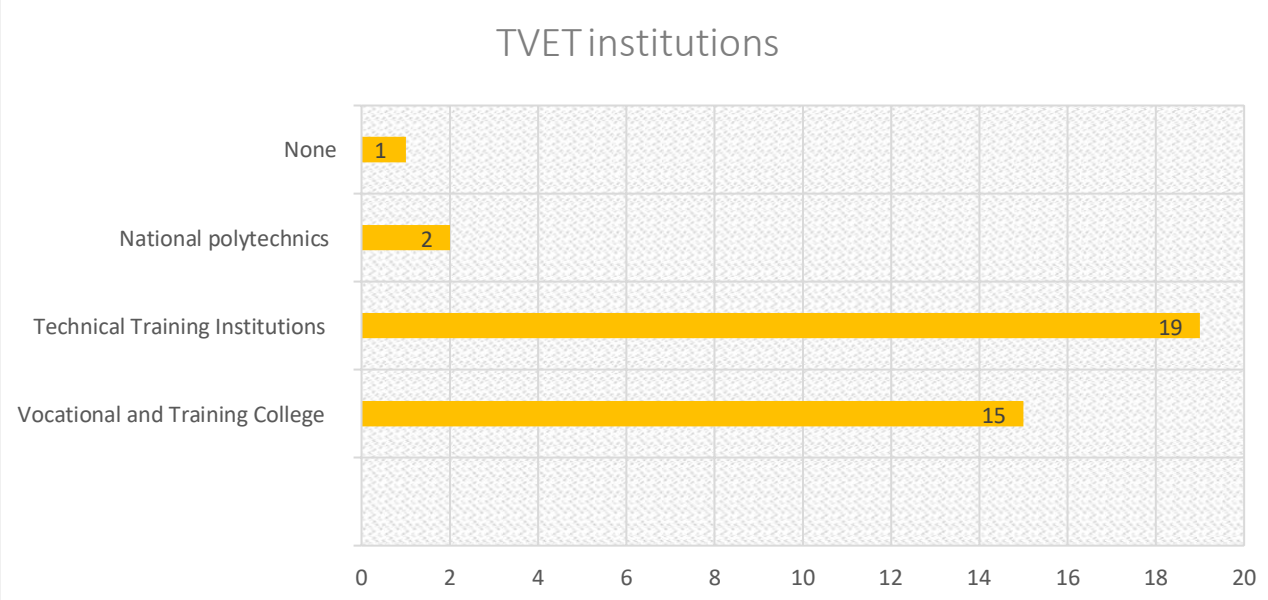

Figure 4.1 Categories of the TVET institutions

4.2. Courses Offered

TVET institutions are middle-level colleges offering an array of TVET programs. The institutions provide a range of technical and vocational education courses at different levels, including diploma, certificate, artisan, and trade test courses. The study findings indicated that out of the 37 institutions, all the 37 offered diploma courses, 28 offered certificate courses, 26 offered artisan courses while only 7 offered trade-test courses. The results are presented in Figure 4.2 below.

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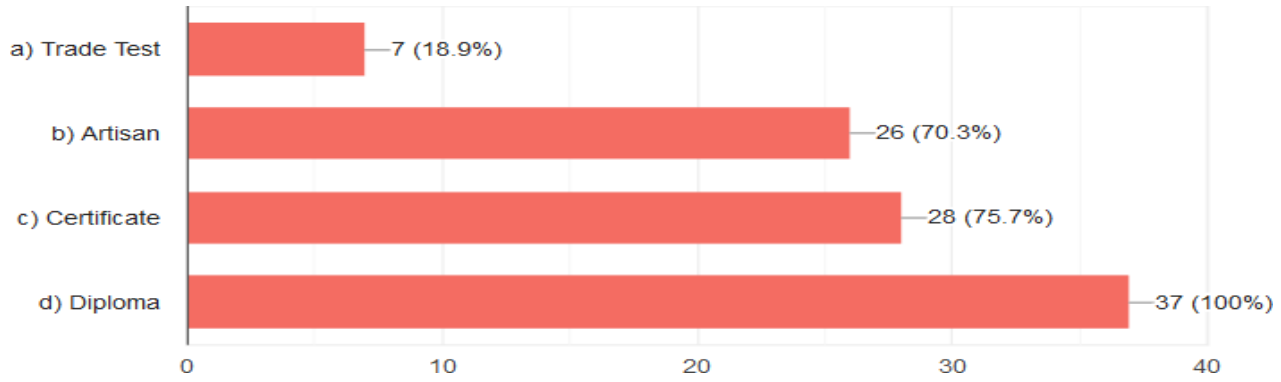

Figure 4.2. Level of courses offered

4.3. Factors influencing the learning programs in TVET institutions during COVID-19 Pandemic.

The extent of the effects was measured on a scale ranging from very low to very high, and 20 out of the 37 respondents felt that learning resource strategy affected learning to a great extent. Another 20 out of 37 thought that relevance on learning resources affected learning to a large extent, followed by 16 out of 37 who felt that high quality of learning resources affected learning to a great extent, resources that provide psychosocial support had 14 out of 37 members indicating that it affected learning to a great extent the same to the adequacy of learning resources. Appropriate training workshop had 13 respondents saying that it affected learning to a large extent, and lastly, industry support on learning had only eight members that felt that it also affected learning to a great extent. No factor was regarded as affecting learning to a very great extent, as indicated in Figure 4.3. It can then be observed that learning resource strategy and relevance of learning resources are the factors that affect the delivery of learning programs most in TVET institutions.

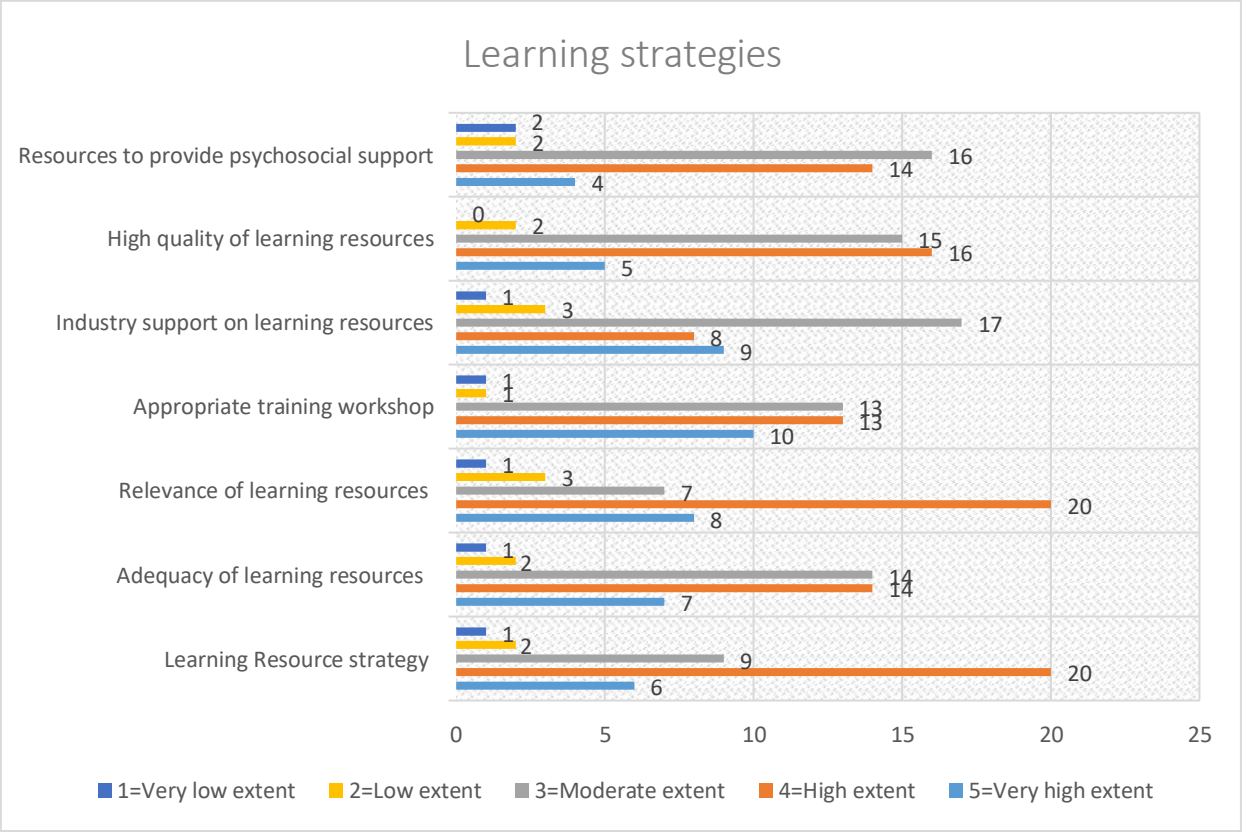

Figure 4.5: Factors affecting learning

5. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of Findings

Having discussed the data in chapter four, this study can now state the following as per the study's objective. The objective was to establish the factors influencing the learning programs in TVET institutions during the COVID-19 Pandemic. This study determined that factors that influence learning programs are learning resource strategy, adequacy of learning resources, appropriate training workshop, industry support on learning resources, high quality of learning resources, and resources to provide psychosocial support.

5.2. Conclusion

In relation to the objective, the study concludes that learning resource strategy and relevance of learning resources are the factors that affect the delivery of learning programs most in TVET institutions.

5.3. Recommendations

Strengthening of learning resources strategy among TVETS in order to realize better results. Besides, the focus should be directed at the relevance of learning resources at these institutions.

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