

Micro-Credentials in TVET: An Analysis of Trainers' Perceptions, Challenges, and Benefits in Bridging Skill Gaps in Tertiary Education

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ABSTRACT

The purpose of this paper is to analyze the perceptions, challenges and benefits in implementing the Micro Credentials in TVET institutions in Kenya. The target population was 108 TVET senior lecturers randomly selected from TVET institutions in both Makueni and Machakos Counties. A standardized questionnaire was used to collect data from 36 respondents; a pilot study was conducted among 10 respondents to guarantee both validity and reliability of the research instruments. The study concluded that the TVET institutions were read for the introduction of Micro Credentials in their institutions. The conclusion was based on the fact that 94% of the lecturers were positive about the introduction of the Micro Credentials, and they considered them to be complementary to the tertiary education. Moreover, 61.1% saw Micro Credentials as a fundamental for bridging skill gaps within the traditional tertiary education. Also, Micro Credentials effectively would reduce inequality by enhancing more access to training due to their low cost and flexibility. Finally, the so called impediments in starting Micro Credentials in the TVET institutions, they are solvable. For example, the lack of quality and standardization framework cited by 69% of the, the TVET institutions need to come up with an independent body to establish and promote quality assurance and credible standardization of the Micro Credentials qualifications. The study recommended that: the time is ready to start Micor Credentials among the TVET institutions, the support is overwhelming among the staff in TVET schools; the leadership in the TVET institutions should show more political will to overcome any 'bureaucracy' in order to quickly start Micro Credentials in their schools. Finally, an independent body to ensure quality assurance and standardization of the Micro Credentials is critical to promote more recognition and acceptability of the Micro Credentials qualifications and certification.

Key Words: micro-credentials, skills, up-skilling, learning outcomes, life-long learning,

INTRODUCTION

Globally, diverse stakeholders have demonstrated a growing interest in Micro-credentials (M-Cs). For example, workers today are looking for shorter, more flexible and customized learning experiences to equip them with desired particular knowledge and cutting edge-skills. In the same vein, the job market and employers are also looking for specific and certified skills based to their needs and desires to expand, and respond to emerging challenges in the world of work. In that regard, M-Cs are skills-based learning experiences geared towards the satisfaction of both the workers' and employers' needs (Deloitte Access Economics, 2017). Therefore, more than ever, the higher education institutions are under unprecedented pressure to respond to both workers and employers demand for highly skilled and rejuvenated workforce able to respond to the 21st century unique needs and challenges hence the increased need for M-Cs. The phenomenon of M-Cs was founded around 11 years ago, since then they have gained an accumulative impetus globally (Abdelrahman, 2020). According to Zdunek et al (2024), the European Skills Agenda (ESA), played a crucial role in the development, application and popularization of the M-Cs within the European Union labour markets; the global labour market has followed suit.

In that regard, since their inception, the boom in M-Cs have not slowed down, if anything, M-Cs have become a new frontier in skills training offering the learners unlimited opportunities to develop specific skills relevant

to their field through short courses (Brown, 2021). Furthermore, the courses are fundamentally created as the solution to problems faced by most organizations in their normal operations. Despite their booming popularity, there seemingly exists no singly accepted definition of M-Cs. Nonetheless, there are closely related descriptions that present common denominators demystifying the phenomenon of M-Cs (Brown et al., 2021). For example, M-Cs programmes are shorter than the traditional education framework, affordable, and more flexible procedures of learning opportunities (Greatrix, 2020). Against this background, the primary purpose of M-Cs is the enablement of learners to attain short-term experiences, skills and knowledge certified through clearly detailed learning outcomes. Unlike some sentiments from some sector of our society, M-Cs do not compete with the traditional education and learning; if anything, the phenomenon seeks to complement traditional educational paradigms by filling the critical skill gaps and needs that are emerging due to continually shifting labour market (Abdelrahman, 2020). Furthermore, M-Cs are an effective tool for indorsing lifelong learning and enhancement of employability after accomplishment of the programme. In that regard, the people who cannot afford to go back to the University for a Full Educational Programme, find M-Cs as the alternative shorter, flexible, and convenient route for attainment of career development (Adams and Blair, 2019). The conclusion made by Chakroun (2018, p.2) is worth noting, "...M-Cs, it is argued, are a response to system demand from employers, industry, and communities..." Thus, as a matter of fact, M-Cs are a true reflection of the relevant formal qualifications, emergent skills useful in the industry and labour market; equally true, M-Cs also reflect the evolving employees' needs for more current, refined and credible skills applicable in the industry and labour market (Chakroun, 2018).

The definition of M-Cs

Discussion about the correct definition of M-Cs has continued unrelentingly among scholars from diverse disciplines. Therefore, the phenomenon of M-Cs is not clearly understood by employers and policy makers due to diversity of definitions and taxonomies that continue to be fronted. Against this background, this paper will front various definitions before settling on one that aligns with its purpose. According to European Approach to micro credentials (2019) the concept of M-Cs is defined as,

A micro-credential is the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes have been assessed against transparent and clearly defined standards. Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labour market needs. Micro-credentials are owned by the learner, can be shared and are portable. They may be standalone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity.

The definition by European approach about micro credentials has come to be adopted by many other stakeholders and practitioners as one of the best definitions of M-Cs. Most importantly, the definition demystifies the process of acquiring M-Cs. For example, someone may acquire M-Cs in small volumes of learning until he or she attains the desired amount. Moreover, the assessment of the M-Cs is done transparently and based on defined standards. In that regard, the confidence of the holder is boosted, and additionally the acceptability of attained certificate is guaranteed when they are presented to the potential employers. The last components of the definition of M-Cs point to the fact that they are designed carefully to attain specific knowledge, skills and competences relevant to one's settings; and the M-Cs may either be a standalone or combined to larger credentials. The attained certificates of the M-Cs are owned by the learner, they are all compressed in a badge that is portable (Kumar, 2022).

The global job market landscape has been swiftly shifting partly because of the rapid technology advancement and other socio-economic dynamics like job security and more accessible educational opportunities. In order to cope with the rampant changes, the institutions of higher learning are seeking complementary educational approaches to fill the knowledge and skill gaps left behind by the traditional education. In that regard, micro credentials has recently gained currency as the documented pathway to access lifelong learning, up skilling, and reskilling mostly for the people not interested with long years of school attendance. Therefore, shorter certifications have gained space in the academic world and now more popular to both employers and employees. So, M-Cs are highly regarded for their flexibility, completion in shortest record time compared to traditional

certification, and are more focused on attainment of more explicit knowledge and skills. According to Ralston (2020), M-Cs are an alternative approach or pathway to the enhancement of one's career or profession through access to cutting edge skills, competencies, knowledge, practicality, achievements, and critical accomplishments recognized in the ever shifting market. Additionally, M-Cs has transformed the entire training ecosystem by providing a flexible and cost-effective strategies and procedures to match the needs and interests of the employees in record time because the trainees can focus only on what they want to learn for the purposes of up-skilling or reskilling. This idea is once more emphasized by (Amubi and Kipkirui, 2023), by stating, M-Cs play a critical role in increasing a personalized access to learning opportunities through allowing the learners to up-skill or reskill their competences relevant to the labour market needs.

The Kenyan context and experience regarding TVET

In Kenya, Technical and Vocational Education and Training Authority (TVETA) is recognized as a State Corporation, placed under the Ministry of Education established. The regulation and promotion of quality technical and vocation and training, and assurance of equitable access by the Kenyan citizens has been placed under the mandate of the TVET Act of 2013. For less than a decade, the growth of TVET institutions in Kenya is phenomenal. For example, between 2013 and 2022, the number of TVET institutions have grown from 753 to 2,401 (Amubi and Kipkirui, 2023). However, like in other developing countries of the world, TVET has had its share of challenges in Kenya. For instance, Mack and Daniel (2019) focused on challenges like: social stigma, attrition, and quality teaching. In an earlier study on TVET by Nason (2019), he pointed to some of the drawbacks faced by TVET institutions like inadequate infrastructures that often end up demotivating both the learners and trainers, marginalization of the TVET institutions as places for academic failures or low achievers; inadequate professional development pathways for the teachers and trainers in the larger TVET sector. Despite the challenges, TVET institutions are the future of sub Saharan African countries because the region is famous for huge skill-gaps. For example, M-Cs come handy in provision of smart strategy for developing the needed skills whether for equipping citizens for maximization of economic productivity, acquisition of cutting edge-skills, or enhancement of capacity building for citizens to improve self-employment.

Challenges of introducing micro-credentials in educational institutions

Although it is desirable for the institutions of higher education to introduce M-Cs; the trend has not been easy; according to (Varadarajan and Daniel, 2023), they state that, "...while the positive impact of micro-credentials implementation has been upheld in many scholarly articles, there are numerous foreseeable challenges associated with the implementation of micro-credentialing in higher education..." For example, it has been challenging for many actors in the implementation of M-Cs to agree on issues of quality assurance of the programmes citing problems like: lack of clear national policy to support the M-Cs. The question of M-Cs standardization and their recognition across the job market has also been raised as a challenge. Therefore, although we have diverse providers of M-Cs, efforts should be put to make sure that there is enhanced consistency, comparability of credentials and well established ecosystem of quality assurance, standardization and recognition of the holders of M-Cs certificates. The higher institutions of higher education among the developing countries lack the infrastructure to allow them to contextualize and inculcate the M-Cs in their programmes because the current models of credentialing approaches are predominantly pro-West. That explains why the institutions of higher learning in sub-Saharan countries have not quickly embraced initiation of M-Cs. The volume of learning has also been questioned especially the number of credit hours earned against the credit hours (Bothwell, 2021). For example, one university claimed to award 30 credit hours in 10 weeks period; therefore to many people who read the advert had a lot of reservations in validating the real weight of the training. Thus, the M-Cs are largely viewed as lacking rigor and reasonable depth akin to the traditional degrees (Antonaci et al, 2021).

In principle, there is no competition between M-Cs and the traditional training in higher education; as a matter of fact, they offer an alternative education (Coetzee, 2024). However, not all implementers see the possibility of complementarity between the traditional trainings and the M-Cs programmes; in that regard, some actors have shown concern about the possibility of the M-C decoupling the traditional education programmes. This has forced some implementers growing cold feet in implementation of the M-Cs (Ralston, 2020). The fears about decoupling of the traditional education are quashed by (Coetzee, 2024, p. 7) by arguing that M-Cs help to

overcome barriers like being accessible by the lower-income cadre who otherwise cannot easily afford the high priced traditional tertiary education. Furthermore, the citizenry living in remote rural communities, M-Cs help to break the geographical barriers by being able to access the needed training from the TVET institutions within their reach (Greatrix, 2020; Boud and Jorre, 2021). According to Coetzee (2024) more access to M-Cs reduces inequality in accessing knowledge and skills, enhances solutions to the unique rural community citizens and furthermore, it opens more opportunities to the remote rural communities.

RESEARCH METHODOLOGY

Introduction

This section describes the action plan or roadmap adopted to develop the systematic research process, and the overall plan to conduct the research study. The section therefore presents the research philosophy, research method preferred, research strategy, data collection procedures and the data analysis techniques.

Research Philosophy

This study adopted a positivistic paradigm. Through this approach, the researcher assumes that the world existed 'out there' to be observed and analyzable based on the data collected from the respondents. As a result, the researcher collected data from human subjects. In that regard, the characteristics of the subjects gradually emerged. In the research process, the researcher observed total objectivity and impersonality in order to enhance validity and reliability claims, and interpretive epistemology regarding the phenomenon under investigation. In the end, the paradigm enabled the study to collect facts and gather physical evidence, and presentation of a scientific view of the natural world under investigation.

Research Method

The study adopted a descriptive research design. In principle; the design enabled the researcher to identify the emerging patterns from the characteristics of the subjects, the researcher was also able to determine statistical outcomes from the collected data, and finally to subject the data to diverse data analysis. Data was collected through a questionnaire which the researcher carefully developed in order to accurately measure the phenomenon under investigation. A sample of 36 lecturers (constituting 30% of the study population) was randomly drawn from the sampling frame consisting 108 lecturers from the selected TVET institutions. The respondents were asked After the data was cleaned and coded, it was analyzed by looking at the frequencies and percentages. The emerging patterns were interpreted and recorded.

Population and sampling

The target population was 108 tutors drawn from 6 local TVET institutions in both Makueni and Machakos County; a sample of 36 respondents was selected. The researcher used a research descriptive design.

Validity and reliability

Validity is about the accuracy of testing what is intended to be measured in social research. The research prior to data collection conducted a pilot study in order to ensure the capability of the instruments to measure with accuracy that was intended to be measured. Reliability is about consistency in arriving at the same results multiple times if the same methods are used, and the same conditions are maintained. Validity and reliability are important because it typifies the quality of research and trust of the results; confidence in using the results; based on the findings it is possible to make informed decisions.

Statistical treatment of data

Quantitative data are presented in tables showing summaries in the frequencies and percentages.

Ethical consideration

Because the researcher was dealing with human beings; the respondents were subjected to high ethical standards and practices. For example, voluntary participation was considered, the respondents gave an informed consent, anonymity was observed to hind their true identity, confidentiality was observed, the respondents were informed of any potential for harm, and finally, the results from the study were disseminated to the respondents.

FINDINGS

Table 01 R1: How are the Micro Credentials perceived by TVET lecturers?

Responses	Frequency	Percentage
They are a threat to the traditional tertiary education	2	6%
They are complementary to the tertiary education	34	94%
I do not have any idea	0	0%
Total	36	100%

Regarding the perception of the Micro Credentials by the TVET lecturers, the study found that they had a very positive perception; for example 94% of the respondents felt that Micro Credentials programmes were complementary to the tertiary education. They were asked a follow up question what they meant by the Micro Credentials being complementary to the tertiary education, 88% said that the Micro Credentials are not a threat, instead they help to fill the gaps in the traditional tertiary education, 91% felt that Micro Credentials were necessary because they provide a unique opportunity for lifelong learning.

Table 02 R2: What are the hindrances for starting Micro Credentials in your school?

Responses	Frequency	Percentage
It is hard because of bureaucracy	7	19.40%
It is hard to establish quality and standardization	25	69%
General acceptability may be a problem	4	11.10%
Total	36	100%

The study found that the biggest hindrance for starting Micro Credentials in the TVET institutions was lack of quality and standardization (69%). Upon probing by the researcher, 97% of the respondents explained that the acceptance of the Micro Credential qualification by any serious employer will depend on the quality and standardization of the certificates. Furthermore, 98% of the respondents added that it would be better if there is an independent body charged with standardizing all the Micro Credential qualifications in the TVET tertiary education.

Table 03 R3: What are the benefits of starting Micro Credentials in TVET institutions?

Responses	Frequency	Percentage
Cheaper compared to traditional tertiary education	8	22.20%
Flexibility	3	8.30%
Bridge skill gaps	22	61.10%
Retention of talent	1	3%
Learners can hold many qualifications	1	3%
New courses for old learners	1	3%
Total	36	100%

The study found that the major reasons for starting Micro Credentials in the TVET institutions was to enhance access to skills; thus they would help the learners to bridge skill gaps. The researcher asked follow up questions as to why access to skills important; 90% of the respondents said that the employers were very clear about the skills they were looking, therefore the Micro Credentials can offer tailor made programmes to bridge such skills as demanded by the employers. Moreover, 98% of the respondents added that majority of the learners are rarely interested with the entire programme of tertiary education, instead, they are after some specific skills needed in the market. Therefore, Micro Credentials provide a flexible, shorter and cheaper alternative.

CONCLUSION

This study analyzed the perception of the lecturers in implementing the Micro Credentials in TVET institutions in Kenya. The study concluded that the time is ripe for the introduction of Micro Credentials in the TVET institutions. For example, 94% of the lecturers were positive about the move because they considered the Micro Credentials to be complementary, while 61.1% saw them as a fundamental for bridging skill gaps within the traditional tertiary education. Furthermore, Micro Credentials reduce inequality by enhancing more access to training due to their low cost and flexibility. The so-called impediments initiating Micro Credentials in the TVET institutions, they are solvable. For example, the lack of quality and standardization framework cited by 69% of the, the TVET institutions need to come up with an independent body to establish and promote quality assurance and credible standardization of the Micro Credentials qualifications. Therefore, the leadership in the TVET institutions need to show more political will to overcome what 19% of the respondents termed as 'bureaucracy' referring to lack of political will by leadership. In essence, the relevant institutional leadership, Councils and Boards should lay the necessary infrastructure within their institutions to initiate Micro Credentials as part of their programmes.

Recommendations for further research

- 1) A study on the role of leadership in initiating Micro Credentials in TVET institutions is critical to evade any bureaucratic issues in the process
- 2) Research on the establishment of independent quality assurance and standardization is necessary to boost acceptability of the Micro Credential qualifications

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