A Review of upscaling a skill based Higher Education system for community connectedness in Zambia

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Abstract— **The article undertook to review upscaling skills based frameworks in Higher Education for transforming communities among scholarly works. The criteria for review identified areas for upscaling skills on three operational levels of higher education; 1) Higher Education Authority, 2) Higher Education Institutions and 3) Higher Education learners' curriculum. The article's review of scholarly work on three operational levels of higher education found that there is an existence of operational frameworks with regard to policies, strategic planning and curriculum design. The existing frameworks functions based on constituted education laws. However, the upscaling of skill based structures are hardly in operation due to lack of firm supportive frameworks to solidify the linkages of the three operational levels in higher education to community needs which are critical for its operations.**

There is need to build frameworks in higher education that have defined community needs as the basis for upscaling skill based systems. The community seem detached from the three higher education operations even though it supplies its human resources in form of learners.

Keywords— Higher Education, Higher education institutions, upscaling skills.

I. INTRODUCTION

The Higher Education sector in Zambia has been in existence as far back as 1966 when the first public university was established. However, the independence of the sector functioning independently did take a while until in 2013 when it became a Higher Education Authority (HEA) under an act of parliament. The HEA in 2019 disseminated a Higher Education Policy which since then became operational to regulate Higher Education Institutions (HEIs) with regard to transforming communities by of equipping learner's competent skills.

In the process of transforming communities, higher education through the Higher Education policy and TEVET proposed policy measures that ensures that implementation by HEIs and learners upscale skills to make the sector relevant. The need to upscaling skills in HEIs, are reflective of environmental indicators that are being experienced. Marginson, (2016), confirm that globally higher education has recorded an increase in people participating in learning in higher education. In Zambia, the HEA, since enactment in 2013 has seen an increase in number of student's enrollment and registration of private HEIs.

However, the increases in higher education participation challenges the education sectors about sufficiency of skills set proposed for transforming communities (Arias et al, 2019). Are the skills programmes in place connected to the needs of the community? The article did undertake to examine three higher education entity frameworks to understand how their functionality connects to community with regards to upscaling of skills based systems or programming.

II. METHODOLOGY

The study did a review of scholarly works focusing on three operational levels of higher education, 1. Higher education policy frameworks, 2. Higher learning Institutions (HEIs) 3. Higher Education Learners curriculum. The review of the three operational levels of HE, examined upscaling of a skill based education system. The review therefore considered scholarly work from various scholars' findings on the three operational levels of HE upscaling skill based education system to benefit community.

III. HIGHER EDUCATION POLICY FRAMEWORK FOR UPSCALING SKILLS

The set-up of Higher Education (HE) in Zambia rely much on an already existing education system. The HE system like any other education system, relies on supply of learners from Senior Secondary level education as illustrated in the table below:

Table 1: Education System description in Zambia

Education Level	Learners' Level of Learning	Qualifications
Primary	Basic school	1-7
Middle	Junior	8-9
Secondary	Senior secondary	10-12

Vocational	Vocational	Trades and occupations
Tertiary	Bachelors	Post-Secondary
Tertiary	Masters	Post graduate
Tertiary	Doctorate	Post graduate

(Source: Zambia Qualification Authority, 2016)

Zambia's HE comprises of all training undertaken after completion of a senior secondary level of education. The Zambia Qualification Authority (ZQA) describes qualification levels according to the level of knowledge and skill the Learner will acquire. The descriptions for higher education are mostly academic and skills training competencies. The academic descriptions are from level 6 (Diploma) to 10 (Doctorate). Then a level 3 to 5, are a description of those that are obtained from trades and occupations training Institutions (Zambia Qualification Authority, 2016). These are less academic but practical or skill based, offered for vocational, technical and entrepreneurship training. In Zambia these are governed under the Technical, Vocational and Entrepreneurship Training (TEVET) body. The TEVET, has a broader coverage of learners which do include; those recruited from the school system, school dropouts and those that had never been at school (National Technical Education Vocational and Entrepreneurship Training Policy, 2020).

Those that are regarded pursuing academic progarmmes or professional are enrolled under universities or colleges of training. They are considered as institutions with higher level learning usually referred to as, Higher Education Institutions (HEIs). The Ministry of Education Policy, 1996, regarded HE in HEIs to be as a form of education so that the learners acquired "*intellect, scientific, cultural and artistic*" values. The provision of HE in Zambia is viewed as "*frontier of knowledge*" regarded as a preserve of society (Schwarz, 2018). The HEIs, are therefore held in high esteem as they are to turnaround society's past and present in influencing a transformative economic prosperous society.

The Education policy framework for HE became more pronounced in 1996 under the National Education Policy "Educating our Future". The 1996 National Education Policy and 1998 TEVET Policy outlined systematic guidelines on matters regarding skills development at all educational levels that is, primary, secondary and tertiary. In 2006, Zambia launched the Vision 2030 of becoming a middle income country. At the Centre stage of the Launch, was education. It was about the education sector's involvement in development of the human capital, to become a fundamental element in society to accelerate Zambia's National Development plan (Zambia Vision 2030, 2006).

Though the 1996 National Education Policy gave guidance on HE, there was need to create an authority that would provide specific directions with regard higher education in Zambia becoming the Centre stage of development and economic growth. In view of that, the higher education act number 4 of 2013 was then enacted under an act of parliament. That meant higher education was to be an authority providing and promoting quality and standards in higher education for Zambia. The enacted Act then repealed the universities Act of 1996 (The higher education bill, 2013). Since then, the Higher Education Authority (HEA) has been in operation to establish quality in the higher education sector both in public and private higher education institutions.

In 2019, HE, in Zambia formulated the Higher Education Policy for higher education to have a more distinct role in focusing on HEIs in the country (Higher Education Policy, 2019). UNESCO, 2016, shared findings of a review of a system-wide policy and planning and found that Zambia did have a good policy and institutional provisions with regard to educational planning. It indicated that concerns arose when it came to implantation (ineffective accountability mechanisms and other factors hampered it)

Further, Bwalya T, (2023) contend that though there is an existence of a Higher education policy, the struggle has now been how TEVET will operate. It is a struggle of policy consistency evident when the 2020 National Technical Education, Vocational Entrepreneurship Training Policy was launched. The contents of the policy came out similar to the 2019 higher education policy. The emergency of the policy presented some duplication making it challenging with what path to take at implementation for the two policies so as to appear distinct. The two authorities do have similar mandates which generally are to train the citizenry for skills building and human capital development but need to be distinct. In contrast, Brunetti, and Corsini, (2019) uphold Germany's adopted dual education system model. The duality idea integrates school based learning and work based practice. This apprentices' approach is standardized across the country. "The DE is pervasive in German education that many young people even opt for semi-vocational university courses." Germany's dual education system accounts for its low youth unemployment within Europe (Niranjan, 2018). In some way, the Zambia higher education policy and TEVET policy harmonization will have to look at adopting a model that may be good at managing society's skills gap or rather "*improve the transition from education to employment*" (Chatzichristou et al 2014, Pg 15).

IV. UPSCALING SKILLS IN HIGHER EDUCATION

The launch of the Higher Education Policy (HEP) was to develop the national, regional and global aspirations on skills and education. The aspirations to develop education and skills have also been enshrined in the Seventh and Eighth National Development Plans, Sustainable Development Goal Number, 4, Zambia Vision 2030 and the Africa agenda 2064. As an emphasis, education and skills development is intended to contribute to Zambia's human capital to drive the national economic development agenda. Conversely, up scaling of skills in higher education has been a drive to improving education policies not only in Zambia but also in the Sub-Sahara African region. Arias et al,
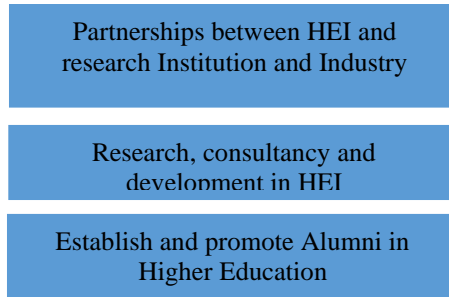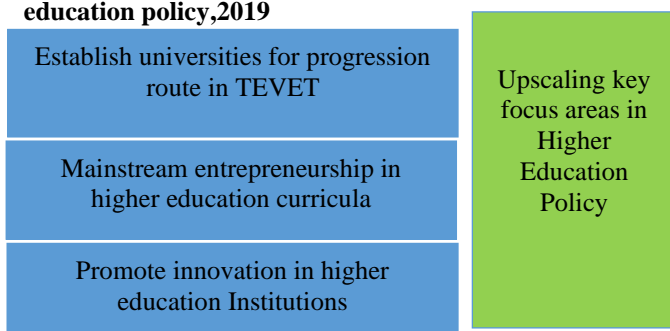
(2019) allude that Sub-Saharan Africa despite being youngest in population, experiences low skills levels among its population. He further added that, most students trained are without knowledge of the skills gap relevant for an increasing competitive global market. There exists a mismatch of skills between the labour market and higher education. Upscaling skills is a requisite for higher education as it offers to balance the much needed employment on markets and employability capacity (World Bank, 2021).

The Higher Education Policy, 2019, has since seen great improvement at implementation. They are levels of increase in the number of registered private universities as HEI which are now at 53 (Higher Education Authority, 2021) in The number of student's enrollments in HEIs did increase with 114,049 in 2020 compared to 91,969 2017.
The process of upscaling skills in HE has seemly been a long time requirement which would require an existence of a plan or policy on skills development in the sector. The Higher Education Policy (2019) indicate on policy objective and measures Number 6 on the need to enhance career development to students and require upscaling of skills in the sector.

The higher Education policy is anchored on coordinating quality in Higher education and skills for national development. The HE policy has remained fragmented and implying that Zambia currently, lacks a dedicated policy on skills development for higher education. The *Educating Our Future* policy of 1996 had remained from that time a main focus for most policies in the education sector as it has never been revised. Society has undergone changes all this while and led higher education to identify areas of concern. Most issues that have been identified have been regional, national., regional and labour market related. At a national level, Higher education sector require that it creates relations with the private sector society which serves part of the labour market for learners after graduation. The world has evolved as a global society and that would mean higher education finding its space for comparative advantage. In as much as there has been increases in the number of student enrollments and higher institutions, higher education has a huge funding deficit in the sector and that makes the sector ineffective in its proposed deliverables.

The upscaling of skills as proposed in the Higher Education policy (2019) focus on a multi sectoral approach with regard to what the objectives and policy measures are.

Chart Box 1: Upscaling skills key focus areas in higher education policy,2019

Establish universities for progression route in TEVET	Upscaling key focus areas in Higher Education Policy
Mainstream entrepreneurship in higher education curricula	
Promote innovation in higher education Institutions	

Partnerships between HEI and research Institution and Industry

Research, consultancy and development in HEI

Establish and promote Alumni in Higher Education

The Chart box 1 shows some components incorporated in the higher education policy (2019) designed to improve the quality and relevance of higher education in Zambia, and to ensure that graduates have the skills and knowledge required to contribute to the economic and social development of the country. However, the implementation is also key to policy success which it is undergoing at this period.

V. UPSCALING SKILLS IN HIGHER EDUCATION INSTITUTIONS FOR CONNECTEDNESS TO COMMUNITY

Higher Education Institutions (HEIs) are domiciled in Zambia by law which in this case they are regulated by the High Education Authority (HEA). Therefore, Higher Education Policy (2019) regulates HEIs operations which in turn, their practices of implementing curriculums are moderated by HEA. However, the HEA grants autonomy to HEIs, in proposing designs of curriculum which entirely puts the responsibility of shaping learners on them.

In ensuring upscaling of skills in HEIs, institutional strategic planning has been proposed. Lim et. al., (2019) propose a framework to inform institutional strategic planning for driving, sustaining, and scaling up Best Learner practices in HEIs. This could be a dual mandate which would require enforcement by designing monitoring tools accessible by the policy makers and implementers in this case, the HEA and HEIs.

Bajada et. al., (2019) work towards developing a general framework that identifies the various factors and drivers that are essential in sustaining important curriculum innovation beyond the short-term. The one main conclusion made was need to keep track of the students' progress during the courses to help an efficient follow up.

VI. HIGHER EDUCATION INSTITUTIONS MODELS FOR UPSCALING SKILLS FOR COMMUNITY CONNECTEDNESS

A. *Student (customer) loyalty model*

Higher Education Institutions upscaling skills has never been needed like in this era of global competition. It is needed that HEIs build Alumni database that may help to have continued contacts with graduates that form part of community. Students from HEIs are regarded royal

customers the moments they graduate. They already become brand ambassadors for institution they studied from which signify having being loyal during the period of the study programme.

Shih-Hao Wu and others (2021) allude that there is scant data or information regarding HEIs being in regular contact with graduates who were loyal to them during their journey at the time of pursing studies. For HEIs this is an opportunity to use Alumni for strategic connections to the community and understand the skill gap through them.

Hennig-Thurau and others (2001) propose a Relationship Quality Student Loyalty (RQSL) model which has made great contributions in building student (customer) relationship as Alumni participants. The model attaches HEIs inputs to the students' time spent at the institution as crucial. The Alumni establishment will then depend on quality of teaching and learning students had and how they were emotionally committed to the Institution.

The upscaling of skills in HEIs may rely on how they treat existing students as customers as they form part of the community HEIs want to connect to. In actual fact, HEIs are already part of the community by virtue of them having students as learners. However, as Hennig-Thurau, (2002) confirm that building customer loyalty depends on an institution focusing on customer satisfaction and commitment.

B. Tracer study model

The Tracer Study (TC) model have more recently being adopted in HEIs. These are models that require identification and follow-up of former students. The TC model is quality based tool which gives opportunity to HEIs to understand their services level provision to students (Badiru & Wahone, 2016). Lijuera and others (2019) confirm use of TC by HEIs as models for evaluating graduates' performance on the labout market,

The TC model do help HEIs adopt services for upscaling their performance that ensure progammes (curriculum) are relevant to the community or job market that acts as a meeting point for education. TC have been conducted in HEIs to create data-sets as point of reference and basis for upscaling in progamme choices. Kakwasha and Cole's (2018) TC gave insight to what Alumni experienced after graduation. The study showed that most programmes HEIs had, trained students to seek employment in the public sector only. This TC finding gave opportunity to the HEI to engage with the private sector or train students with entrepreneurship skills that would equip them to create employment after graduation.

VII. Upscaling skill competency among learners in Higher Education Institutions for community connectedness

Learner competency is at the centre stage of educational policy and their implementing agencies (Higher Education Policy, 2019). In this regard, education is treated as a strategic agent for mind-set transformation as it creates a well-educated nation, sufficiently equipped with the knowledge needed to competently and competitively solve the development challenges which face the nation. This, then require an education system restructured and transformed qualitatively with a focus on promoting creativity and problems solving (URT, 2000, p.19).

Mosha (2012) allude a curriculum competency-based, that it contains the specific outcome of statements that show the competencies to be attained. Expected behaviours or tasks, conditions for their performance, and acceptable standards are shared with students. The purpose of Competent Based Curriculum (CBC) is to promote learners to achieve a presetting ability, each individual learner's behaviour in the learning process is of concern; its evaluation is to emphasize criterion-referenced. Consequently, a competency-based curriculum capitalizes on competency-based learning which focuses on understanding the concepts, skills and attitudes which in turn calls for changes in teaching, learning and assessment approaches (Posner, 1995). While a content-based curriculum encourages rote memorization of factual knowledge, Wangeleja (2010:10) argue that "a knowledge-based curriculum (KBC) focuses on the grasp of knowledge and thus the curriculum is content-driven". In the same vein, the Tanzania Institute of Education (2004:1) suggests "a knowledge-based curriculum emphasizes on the theoretical content and is rooted in traditional teaching and learning approaches"

Competency-based education appeals to policymakers, as they consider it a remedy for the lack of capable and employable graduates who could think creatively and solve the complex socio-economic problems facing society. It is viewed as a means to reconstruct the education system to prepare graduates to fulfil future labor force expectations. This approach to enhancing the alignment between graduate skills and labor market demand 'reorients the educational process toward demonstrated mastery and the application of knowledge and skills in the real world' (Johnstone & Soares, 2014, p. 14).

The current competency-based education programmes are characterized by learner-centred constructivist approaches to teaching and learning. Constructivism is based on the view that knowledge and skills are not the products that can be transferred from teacher to learner rather they are the result of learning activities done by learners themselves individually or in groups (Wisselink et al., 2007). Therefore, this calls for teachers to use varieties of teaching strategies such as small groups, discussions and practical activities. Teaching and learning activities are to be featured by inquiry predominantly focusing on real life phenomenon in classroom, outdoors or in the laboratory where learners are given opportunities to investigate and construct their own truth (Wisselink et al., 2007).

B. Learner Abilities for upscaling skills competency in higher education

One would be right to conclude that the Ministries of General and Higher Education in Zambia have read the Zambian economy quite correctly because organizations such as the World Bank have observed that although youths in Zambia make up two thirds of the country's working-age population, youth unemployment is a big challenge in that one quarter of them are unemployed. This has been attributed to the lack of an appropriate kind of education, training and effective vocational guidance that is in line with industrial needs. Moreover, the World Bank (2017:16) explained that: In SADC, Zambia is among the top five performers in business competitiveness, but it is one of the five worst performers on human development indicators, along with the Democratic Republic of Congo, Malawi, Mozambique and Zimbabwe. Despite the growth in GDP, poverty levels remain stubbornly high. Thus, it is the vision of the Zambian education sector that through the competency based curriculum, learners will be expected to acquire three critical educational elements namely; International Journal of Education and Research Vol. 7 No. 2 February 2019 119 worthwhile skills, appropriate attitudes and applicable knowledge which make up competences.
Learners' competences are abilities critical to the performance of specific tasks. To become competent at anything, a learner needs to: know something about it, have the skills to apply the knowledge and have the right attitudes that ensure s/he will do it well. A competency-based curriculum seeks to develop higher order thinking which includes all the four higher levels of Blooms Taxonomy namely; application, analysis, synthesis and evaluation. Therefore, teachers are required to take a creative or innovative approach when teaching (MoGE, 2013).

Additionally, a "competency-based curriculum requires teachers to have clarity of focus, reflective designing, setting high expectations for all learners" (MoGE, 2013: 4). The competency-based curriculum emphasizes the various approaches adopted in learning such as active learning, field trips, role play, debates, demonstration, question and answer techniques and teacher exposition. This will enable the education system to produce learners who are holistic, creative, innovative, analytical and cooperative in their communities and in the nation (MoGE, 2013). Such a shift has pedagogical implications as Rutayuga (2010) noted that a competency-based curriculum requires a shift from assessing a set of learning content to assessing each learning outcomes. Similarly, Wood (2001) insisted that the move towards a competence-based rather than content-based curriculum necessitates learner-centred teaching and learning.

C. Building a competency Based learner curriculum

Chishimba (2001) point out competency-based teacher education programme development that it ensures competences to be learned and demonstrated specified in advance. In a competency-based curriculum, the designer looks at what the curriculum is supposed to achieve. Mulenga and Luangala (2015) argue that conducting a job analysis can help teacher educators to come up with skills and knowledge which teachers need to perform well. Consequently, the student will be able to perform well in their jobs in the future. The implementation of CBC in the USA advocated for two models, but each had proponents and opponents. The first was competency-based teacher education (CBTE) which hinged on 'competency' underpinned by knowledge (assessing the cognitive understanding of the teacher), performance (assessing the teaching behaviour of the teacher), and product or consequence (assessing the teacher's ability to teach by examining the achievements of pupils). The second was performance-based teacher education (PBTE) with a focus on the performance and teaching behaviour of the teacher. It assessed "how the teacher performed his role, what behaviours were performed, and how successfully the teacher performed these competencies demanded of him" (Burton, 1977: 31). Thus, it was evident from the foregoing discussion that a teacher had to possess certain knowledge, skills, values, and attitudes in order to run a competency-based curriculum successfully.

Weaknesses in skills supply were attributed to a number of deficiencies identified in the existing training systems. It was noted that entry-level training served by existing apprenticeships and traineeships was inadequate. There was also little portability of qualifications between the states and territories or from overseas to Australia. Industry representatives frequently expressed dissatisfaction with the training accessed from Vocational Education and Training (VET) providers. More generally "it was felt that there was an emphasis on fixed-length courses which providers chose to make available rather than on the development of skills which students and trainees needed" (Smith, 1996: 172).

Economic and technological changes necessitated a series of developments in workplace reform, award restructuring and concern. Emergent trends within global economies, and constantly changing patterns of work, made CBT access vital for both initial vocational preparations for young people leaving school and continuing training for the existing adult workforce (Smith, 1996). Hence, it is evident that a lack of skills in the workforce led to the educational reforms. This was also done to make learners competitive on the international market. Competence was "expressed as 'vocational action competence' or the readiness and capacity of the individual to act thoughtfully, individually and in a socially responsible manner in professional, societal and private situations" (Weigel et al., 2007: 57). The vocational action competence had three categories namely; domain/subject competence, personal competence, and social competence. This categorization formed the basis of the Germany VET. Thus, it can be seen that a competency-based curriculum requires the learner to acquire knowledge, personal competence and social competence. These competences are important in order for learners to acquire social values which are important in society and work professionally. The categorization of competences is relevant to understanding the focus of this paper as it provides information on the different types of competences which learners need to acquire in the teaching and learning process.

VIII. CONCLUSION

The upscaling of skills programmes for community connectedness in higher education institutions are a complex issue as the need emanates from multiple sources (policy, HEIs, Learner's curriculum and community). The article addresses the need to upscale skills from three operational levels of HE. The three entities do all emphasize upscaling of skills through strengthening frameworks with regard, policies, strategic plans and curriculum. The three frameworks are to be harmonized otherwise they all seem to exist independently even though they are founded on same values. Content exists in the current frameworks but speak less to practices for upscaling skill competency programmes to transform communities. The connections to communities is the starting point of formulating frameworks than what exist currently.

Further, Higher Education Institutions implementation of Higher Education Policies may require modelling tools for upscaling skills. The HEA may have to re-enforce policy needing mandating as such is linked to achieving results for community or job market.

REFERENCES

[1.] Arias, Omar; Evans, David K.; Santos, Indhira. 2019. The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability. Africa Development Forum; © Washington, DC: World Bank and Agence française de développement. http://hdl.handle.net/10986/31723 License: CC BY 3.0 IGO.

[2.] Bajada, C Kandlbinder, P Trayler, R 2 019, A general framework for cultivating innovations in higher education curriculum, Vol. 38, Doi: 0.1080/07294360.2019.1572715 Higher Education Research & Development

[3] Badiru E. O and Wahune M. 2016, Conducting graduate tracer studies for quality assurance in East Africa universities : a focus on graduate students voices on quality culture, Journal of education and practice, ISSN 2222-1735 (paper) Vol. 7 No. 6 www.iiste.org

[4.] Brunetti, I. and Corsini, L., 2019. School-to-work transition and vocational education:comparison across Europe. *International Journal of Manpower*.

[5.] Burton, A. (1977). Competency-Based Teacher Education in the U.S.A. *A Journal of* Competency-based Curricula in Tanzania*. ADEA-2012 Triennale on Education and*

[6.] Bwalya, T. An Evaluation of the National Higher Education Policy of Zambia. Preprints.org 2023, 2023010047. https://doi.org/10.20944/preprints202301.0047.v1.

[7.] Chatzichristou S, Ulicna D, Murphy I, Curth A, 2014, Dual Education:A Bridge Over Troubled Waters? Directorate-General for Internalpolicies Policy Department B: Structural and Cohesion Policies Cultureand Education

[8.] Chishimba, C. P. (2001). Content-Based Teacher Education Approach versus Competence-*Comparative and International Education*, *7(1), 31-39*

[9.] Cuadra, Lijuera & Aure, Ma & Gonzaga, Gretchen. (2019). The Use of Tracer Study in Improving Undergraduate Programs in the University. 6. 13-25. https://www.researchgate.net/publication/335429907_

[10.] *Hennig-Thurau, T., Langer, M. F., & Hansen, U. (2001). Modeling and Managing Student Loyalty: An Approach Based on the Concept of Relationship Quality. Journal of Service Research, 3(4), 331–344. https://doi.org/10.1177/109467050134006*

[11.] *Hennig-Thurau, T., Gwinner, K. P., & Gremler, D. D. (2002). Understanding Relationship Marketing Outcomes: An Integration of Relational Benefits and Relationship Quality. Journal of Service Research, 4(3), 230–247.*

[12.] *Higher Education Authority, 2021, Registered Private Higher Education Institutions, https://hea.org.zm/private-heis/ Humanities, Social Sciences and Education. 2(1), 39-51.*

[13.] *Johnstone, S. M., & Soares, L. (2014). Principles for developing competency-based education programs. Change: The Magazine of Higher Learning, 46(2), 12–19. https://doi.org/10.1080/00091383.2014.896705*

[14.] Lim Cher Ping; Tianchong Wang; Charles Graham; "Driving, Sustaining and Scaling Up Blended Learning Practices in Higher Education Institutions: A Proposed Framework", Innovation and Education, 2019. (IF: 3)

[15.] Marginson, S. (2016) The Worldwide trend to high participation in higher education: dynamics of social stratification in inclusive systems. High, Edu, 72, 413-434

[16.] Ministry of Education, 1996, National Policy on Education, Educating our future, Lusaka

[17.] Mosha, H. J. (2012). A Case Study of Learning Materials Used to Knowledge and Skills or *Training in Africa*. February 12-17, 2012. Ouagadougou: ADEA.

[18.] Mulenga, I. M. & Luangala, J. R. (2015). Curriculum Design in Contemporary Teacher Education: What makes Job Analysis a Vital Preliminary Ingredient? *International Journal of Based Teacher Education Approach Prospects. Quarterly Review of Comparative Education*

[19.] National Technical Education Vocational and Entrepreneurship Training Policy, 2020, Ministry of Higher Education, Lusaka.

[20.] Niranjan, A. 2018, What is Germany's dual education system? https://www.dw.com/en/what-is-germanys-dual-education-system-and-why-do-other-countries-want-it/a-42902504 (8/06/2023)

[21.] Posner, G. (2004) *Analyzing the Curriculum (3rd Ed).* McGraw Hill.

[22.] Schwarz,C, Watdinger, F, Iaria, A, 2018, The importance of Frontier of Knowledge for generation, 14.05.2023 https://cepr.org/voxeu/columns/importance-frontier-knowledge-generation-ideas of ideas.

[23.] Smith, E. (1996). A Study of the Penetration of Competency-Based Training in Australia. *Research in Post-Compulsory Education*, 1(2*), 169-185*

[24.] Shih Hao Wu, Stephen Chi Tsun Huang, Ching Yi Daphne Tsai, 2021, Lifelong good Published online: 21 January 2022 © The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature 202*1*

[25.] The higher education bill, 2013, National Assembly bill of 2013, Lusaka.

[26.] UNESO, 2016, Zambia UNESCO, education Policy Review, paving the way for SDG 4, education 2030-ED-2016/W/37

[27.] *United Republic of Tanzania. (2000). Tanzania development vision 2025: Dar es Salaam, Tanzania: Planning Commission. https://mof.go.tz/mofdocs/overarch/vision2025.htm*

[28.] Wangeleja, M. (2010). The Teaching and Learning of Competency-based Mathematics Curriculum: *A Paper Presented at the Annual Seminar of the Mathematical Association of Tanzania at Mazimbu Campus. Morogoro: Sokoine University of Agriculture*

[29.] Wisselink, R., Biemans, H. J. A., Mulder, M., & Van den Elsen, E. R. V. (2007). Competence-Based VET as Seen by Dutch Researchers. *European Journal of Vocational Training,* 40(1) 38-51.

[30.] World Bank Group, (2017). *The World Bank Group in Zambia*. Lusaka: World Bank

[31.] World bank, 2021, Skills Development, https://www.worldbank.org/en/topic/skills development

XXXI (2), 229-238

[32.] Zambia Qualification Authority, 2016, Zambia Qualifications Framework Level Descriptors, Lusaka.

[33.] Zambia Vison 2030, 2006, "A prosperous middle income nation by 2030", Republic of Zambia, Lusaka,