

## ALIGNING TEACHER EDUCATION WITH EDUCATION 5.0 POLICY IN ZIMBABWE: CHALLENGES AND OPPORTUNITIES

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### Abstract

This paper seeks to explore and explain the challenges and opportunities faced by implementers in aligning teacher education with Higher and Tertiary Education 5.0 policy in Zimbabwe. While this study appreciated the efforts that were being made to align the TE practice with the intended curriculum, it was concerned that possible opportunities were probably not being exploited in the face of emerging curriculum transformation challenges. There was the much publicised misalignment of teacher education with Higher and Tertiary Education 5.0 policy in Zimbabwe. This misalignment scenario culminated in initiatives like the University of Zimbabwe Vice Chancellor's Teacher Education Curriculum Transformation Programme, meant to address the gaps. However, there seemed to be some emerging challenges that could derail such processes.

This study sought to add to literature on teacher education curriculum transformation and also promote the development of entrepreneurial and innovative teacher graduates for industrialisation and sustainable development. This study was guided by the constructivist philosophy and the interpretivist paradigm. The study adopted the qualitative research approach and the multiple case study method because of the flexibility and diversity in data generation that they allow. The purposive, non-random probability sampling procedure, featuring judgemental and convenience sampling was employed in the study. Data generation process involved key and other informant interviews, focus group discussion, observations and qualitative document analysis. Data was presented and analysed using the thematic and N-vivo approaches respectively.

The study found that there were emerging challenges and unexploited opportunities in aligning the intended Heritage based, HTE 5.0 informed curriculum with TE practice in Zimbabwe. This study, therefore, suggested and recommended the Programmatic Teacher Education Curriculum Implementation Framework (PTECIF) for the Zimbabwean context. The study contributes to curriculum transformation and policy-practice alignment discourse by making multiple theoretical insights. The study, therefore, complements the extant perspectives on curriculum review and transformation in teacher education for industrialisation and sustainable economic growth.

### Key Words

**Curriculum transformation, Entrepreneurship, Heritage Based Education 5.0, Industrialisation, Innovation, Sustainable Development.**

## 1.0 INTRODUCTION

Higher and Tertiary Education Curriculum Review and Transformation in Zimbabwe became a topical issue following the introduction, by government through Ministry of Higher and Tertiary Education, Innovation Science and Technology Development (MHTEISTD), of the new Heritage Based, Higher and Tertiary Education 5.0 (HTE 5.0) policy framework. Heritage Based, Higher and Tertiary Education 5.0 then became the intended curriculum for tertiary education in Zimbabwe. Thereafter, it was observed that there was a misalignment between the intended and the implemented curricula in Higher and Tertiary Education Institutions (HTEIs) in Zimbabwe, including teachers colleges, brought about by ever-changing socio-economic and political realities. Subsequently, there were calls for the realignment of curricula with policy and this culminated in initiatives like The (UZ) Vice Chancellor's Teacher Education Curriculum Transformation Programme (VCTECTP). This was perceived as a noble initiative despite some emerging gaps. The notable gap interrogated in this paper was that; there were unexploited opportunities and emerging challenges in the teacher education (TE) curriculum transformation process in Zimbabwe.

## 2.0 REVIEW OF RELATED LITERATURE

### 2.1 Theoretical Framework

#### The Constructive alignment theory (CAT).

The CAT is an example of an outcome based education (OBE) framework (Biggs, 2014). The theory was developed by John Biggs and has its roots in curriculum theory and constructivism (Adusei, 2016). The CAT because of its emphasis on outcome based teaching and learning is in sync with the heritage based HTE 5.0 policy in Zimbabwe.

The CAT represent the marriage between a constructivist understanding of learning and an aligned design for teaching (Biggs, 2014; Jervis and Jervis 2015). The CAT is an outcomes-based approach where student centred learning outcomes are defined before the actual teaching takes place (Biggs 2014). The focus of CAT is on what and how students learn and not the topics the lecturer teaches.

Morselli, (2017) concurs with Biggs, (2014) that the CAT is one of the most established theories that has been implemented with some measure of success in HTE. This theory was previously used in some successful EE studies and this study found it to be quite relevant. The CAT has been used to underpin curricula development in HE for some time (Biggs and Tang, 2017). The CAT is grounded on the constructivist philosophy that guides this thesis and brings in a strong dimension of alignment and also emphasises the end product. The focus of the CAT is on what and how students learn and not what the lecturer teaches. It is suggested that the constructivist students construct meaning from the discoveries they make about their environment and the constructivist teacher designs active rather than passive learning experiences for the students (Joseph and Juwah, 2011).

Constructive alignment is an outcomes-based teaching approach in which learner aspirations or outcomes that students intend to achieve are defined before teaching happens. Teaching and assessment methods are then designed to best achieve the outcomes and assess the standard to which they have been achieved (Biggs, 2014). "Constructive alignment offers a different approach for curriculum developers, enabling educators to consider the end product (outcomes) and then form teaching, learning and assessment activities which match" (Joseph and Juwah 2011; 2).

### 2.3 Empirical Review

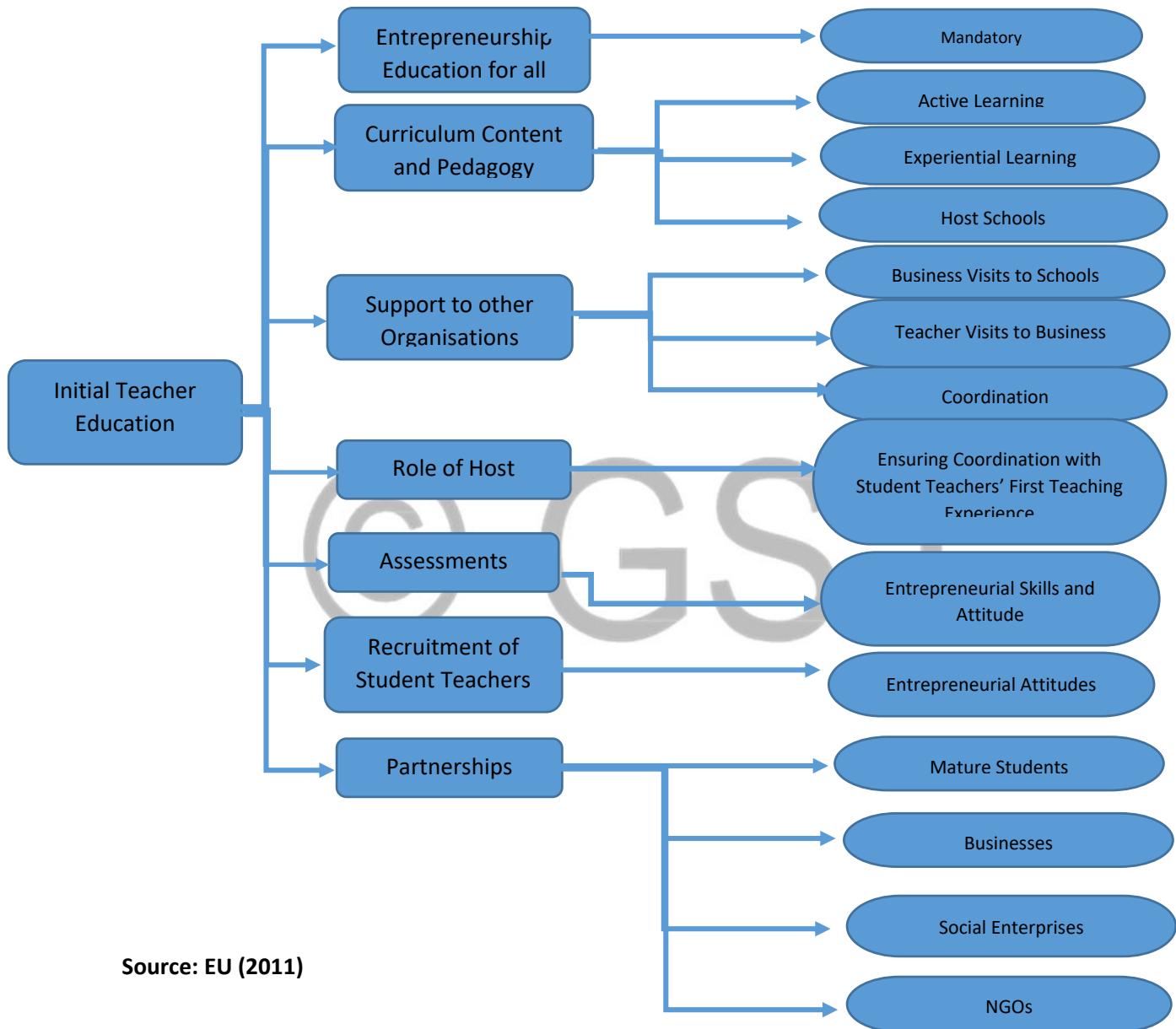
#### 2.3.1 Entrepreneurial TE Curriculum Review and Transformation

Lackeus (2015) posited that permeating entrepreneurship into education posed challenges like; lack of time and resources, teachers' fear of commercialisation, impeding educational structures,

assessment challenges and lack of definitional clarity concerning teacherpreneur competencies to be developed (Arruti and Panos-Castro, 2020).

The EU (2011:1) in the EE report on how to “... use innovative and entrepreneurial methods of teaching, (and) help young people to develop entrepreneurial mindsets and skills,” suggested areas of action shown in the diagram (Figure 2.1).

**Figure 2.1: Map of actions involved in initial teacher education**



Source: EU (2011)

Choi (2013:79) in their study on how Korean venture capitals invest in new technology ventures, observed that,

Developing countries need to strengthen their research capabilities in order to catch up with advanced countries. For this, a country’s activities to develop, adapt and harness its innovative capacity are critical for its economic performance in the long run (Ernst & Naughton, 2008).

It could be argued that in light of the aforesaid, curriculum review, transformation and implementation should be guided by research so that innovative capacities in such exercises are not compromised but strengthened.

Abubakar et al. (2013) in their study, found the presence of both opportunity and necessity-driven entrepreneurship in Nigeria. They also found that poverty and GDP influenced entrepreneurship negatively, while unemployment influenced entrepreneurship positively, noting that poverty cannot stimulate entrepreneurship. They, however, highlighted the need for the Nigerian government to revisit the existing policy on micro small and medium enterprises (MSMEs) to sufficiently address the problems of the poor and unemployed by availing them the opportunity to engage in entrepreneurship (Abubakar et al., 2013).

Mkala and Wanjau (2013) researched transforming the implementation of EE programmes in technical HEIs in Kenya, by employing the census survey approach, characterised by a structured self-administered questionnaire. They found that teaching and assessment methods used by lecturers were insensitive to entrepreneurship learning and that resources provided by HEIs were insufficient (Mkala & Wanjau, 2013). The study examined factors influencing the implementation of EE programmes which included teaching and assessment methods, lecturers' network with entrepreneurship practitioners and availability of learning resources (Mkala & Wanjau, 2013). Contrary to the above findings, and from a general perspective, Mamabolo (2020: 12) found that "... the successful implementation of the entrepreneurial activities is influenced by the context and economic activities surrounding the schools."

Using the traditional lecture method including the "chalk and talk" approach to teach EE results in knowledgeable people who neither have entrepreneurial intentions, initiative nor application capabilities. Mere entrepreneurial awareness borne out of traditional lecture methods cannot develop entrepreneurial skills that need to be developed through a hands-on approach (Mkala & Wanjau, 2013). Basing their finding on the grounded theory, Fredrick (2007) concluded that effective EE requires experiential pedagogical interventions that are in line with Kolb's experiential learning model (Kolb, 1984).

Recommendations from the study were that lecturers should use pedagogies that maximise entrepreneurial learning, and administrators should provide sufficient resources. Government should develop and provide a national policy framework to enforce effective programme implementation (Mkala & Wanjau, 2013).

Sekwati (2015) investigated, through a study that relied on the literature on policies likely to promote entrepreneurship in different contexts, ways in which the Botswana Government could effectively promote entrepreneurial activity. They recommended that, when designing policies to promote entrepreneurial activity, policymakers should consider the country's stage of development. Among the recommendations for the design of entrepreneurial promotion policies, were; to reform the education system to ensure that it incorporates EE, to improve access to and affordability of entrepreneurial finance, to encourage national research and development and address skills mismatch in the labour market (Sekwati, 2015).

Generally, programme implementation requires clearly laid down procedures to be followed by the programme implementers (Jabri, 2013). MHTEISTD (2020) has suggested four steps to be followed if HTE 5.0 is to succeed. These include programme infrastructure, promotion infrastructure, physical infrastructure, and financing infrastructure (Muzira & Bondai, 2020). Reviewed literature in this study has shown that the strategies adopted by EU countries in curriculum implementation involved (i) mainstreaming EE key competencies into the curriculum; and (ii) creating an enabling environment involving the elaboration of dedicated strategies or policy documents (EC, 2011). The Zimbabwe Competence-Based Curriculum Framework (ZCBCF, 2015) identifies various curriculum implementation strategies which include; human resource capacitation; resource mobilisation; and defining implementation structure (ZCBCF, 2015). These strategies and others like monitoring and evaluation are discussed hereunder.

### 2.3.2 Human Capital Capacitation

Wennekers and Thurik (2016) noted that there has been a rejuvenation of the macro-economic growth theory for entrepreneurship research which focuses on the importance of human capital capacitation (HCC) and innovation. Beckers (1993) defined human capital as a stock of competencies, knowledge, skills and personal attributes embodied in the ability to perform labour so as to produce economic value. Human resource capacitation is key to curriculum review and implementation. The EU reported on the need for good practice, for both policymakers and practitioners, on how to enable teachers to take a new facilitating role in the classroom, use innovative and entrepreneurial methods of teaching, and help young people to develop entrepreneurial mind-set and skills (EU, 2011).

The quality of higher learning and therefore, the higher education system, can only be as good as the quality of its academic community from educators, researchers, institutional leaders, and practitioners to academic support staff (Eferakeya & Ifurueze, 2016; MEB HE, 2015-2025). It is well established that a firm's investment in human capital has a positive impact on productivity (Eferakeya & Ifurueze, 2016; Pepra-Mensah, 2018). Malaysia was seized with creating opportunities for students and academic staff to acquire relevant entrepreneurial skills so that they could pursue their own enterprises through sabbaticals, industry secondments, business incubators and green lane policies that support student-owned businesses (MEB, HE, 2015-2025).

On August 29, 2019, the World Bank and the government of Japan announced a new initiative aimed at advancing Human Capital Development in Africa through the acceleration of investment in people for greater equitable economic growth (World Bank, 2019). The multi-year initiative supported two main initiatives; a) The Global Education Policy Dashboard that gave governments in low and middle-income countries the capacity to track the impact of real-time policy discussion at the national level; and b) A Japan-Africa Higher Education Partnership aimed at increasing collaboration among Japanese universities, industry, and African universities to address developmental challenges in sub-Saharan Africa (World Bank, 2019). A press release on Japan Africa Higher Education (HE) Partnership appears in Box 2.7.

#### Box 2.1: Japan-Africa HE Partnership: Press Release

"We welcome the partnership of African countries, including Rwanda, with the World Bank and the Government of Japan to leverage innovative research, based on decades of experience from Japan to improve quality of basic education, and develop strategies to catalyse innovative research, extend the use of digital technologies in applied research, and build capacity in commercializing research," said **Eugène Mutimura, Minister of Education of Rwanda, and Vice-Chair of PASET Governing Board.**

**Source; World Bank (2019: 1)**

In Nigeria, Eferakeya and Ifurueze (2016) carried out an empirical study employing the descriptive research design which they found appropriate for their kind of study on EE and human capital development (HCD) for national development. The study focused on curriculum implementation, EE as a core course, university education funding and lecturer competencies and adequacy. The study found that the EE curriculum was ineffectively implemented, EE was not a core course in tertiary education, university education funding was poor, and there was inadequacy of competent lecturers. The study recommended the overhauling of the EE curriculum, training and retraining of lecturers to update skills and competencies, and provision of adequate resources including funding and HEIs authorities making EE a core course in all educational programmes (Eferakeya & Ifurueze, 2016).

According to the human capital theory, any stock of knowledge skills and characteristics of workers in the innate or acquired form contributes to productivity and as a result, is regarded as human capital

(Pepra-Mensa, 2018). Many researchers seem to agree that human resources are the most important assets organisations could have, however, this seems to be contrary to the way organisations regard their human capital. The human capital endowment of an organisation is the most vital tool for an organisation to achieve its goals and objectives and should therefore be invested in and leveraged efficiently through education, training and development (Pepra-Mensah, 2018).

According to NDS1 (2021-2025) in GOZ (2020: 150), "Human Capital Development and Innovation are the engines which will drive the NDS and the country's progress towards Vision 2030. Human Capital Development and Innovation will create the right conditions for sustained growth, industrialisation and modernisation of the country." The developmental climate, for an organisation operating in a knowledge society, helps individuals to utilise their potential and effectively contribute to the realisation of organisational goals and optimisation of the Human capital resource (HCR). The HCR, therefore, becomes a tool for value creation, and human capital risk management strategy for sustainable organisational performance (Pepra-Mensah, 2018).

The anticipated national outcomes of Zimbabwe's innovation and knowledge-driven economy are; a specialised workforce; increased innovation for industrialisation; improved access and utilisation of advanced knowledge and technologies (GOZ, 2020).

Shumba (2010) in the study on the review of entrepreneurial landscape in Zimbabwe, recommended that entrepreneurs should work in groups to learn from one another. They recommended that enrolling in entrepreneurial universities and colleges could also help provide the necessary skills.

### **2.3.3 Resource mobilisation**

Resource mobilisation is clearly a key entrepreneurial activity because resources play a significant role in product development (Hossain, 2022; Knizkov & Arlinghous, 2020). Resources are critical ingredients for firms when they engage in entrepreneurial intention, and they must be mobilised in relation to the activities firms aim to undertake such as pursuing an opportunity (Desa & Basu, 2013; Wigger, 2018). Entrepreneurial finance entails the availability or otherwise, of monetary and material resources for new firms as well as micro small and medium enterprises (MSMEs), including debt and equity financing from a variety of sources (Ismail et al., 2019).

This section examines entrepreneurial resource mobilisation and its usefulness in EE, TE and curriculum review, transformation and implementation, in the context of the education 5.0 policy (alignment) framework of Zimbabwe.

OECD (2020) examined the way financial resources are mobilised for higher education systems, focusing on two basic questions all systems must answer; what level of financial resources should be raised for higher education and where will these resources come from?

The OECD (2020) suggested some funding sources for HE shown in Box 2.8.

In India, Hossain (2022) employed the qualitative approach with a multiple case method, to study frugal entrepreneurs' (FE) mobilisation of entrepreneurial resources; (human, social, and financial capital) in resource constrained environments. Basing on six cases of FE in three states of India. They identified the resources and explored the behaviour of the participants in their endeavour, from an insider perspective. Social capital are assets derived from social networks and these are very significant in resource mobilisation (Maurer et al., 2011). Frugal entrepreneurs are self-regulatory.

### **Box 2.2: Funding sources in Higher Education**

**Government (public) expenditure** on higher education refers to spending by public authorities at all levels of government, and includes direct public expenditure on higher education institutions and transfers of funds to private, non-educational entities supporting the work of higher education institutions.

**Private expenditure by households** refers to expenditure on higher education by students and their families. It includes payments to higher education institutions for tuition fees and other fees for educational and ancillary services provided by the institutions; costs for the purchase of goods and services outside of higher education institutions, such as books and other supplies, and private tutoring; other expenditure outside of education institutions (e.g. living costs) if financed with transfers from the government (i.e. public grants, loans and scholarships).

**Private expenditure by other (non-household) private entities** refers to expenditure by private businesses and non-profit organisations, including religious organisations, charitable organisations, and business and labour associations. This includes payments to higher education institutions; expenditure by private employers on the training of apprentices and other participants in dual programmes, as well as public subsidies to other private entities for the provision of work-based learning; subsidies to students or households (e.g. privately funded grants and scholarships). When reporting expenditure on education institutions, subsidies to students or households are excluded.

**International sources of funding** include public multilateral organisations for development aid to higher education such as the World Bank, United Nations, and non-governmental organisations. In Europe, a large share of international funding comes from European Union initiatives.

**Source: OECD (2020: 34).**

Hossain (2022) found that FE usually possesses manual work skills and help each other with technical, financial and other skills and integrate the culture and context into their innovation. There was also evidence of bricolage (that is; re-allocating, re-combining and re-using) by FE (Reypens, 2021) in that they repurposed locally available resources (Hossain, 2022).

In Pakistan, Zehra (2018) made an effort to try and understand the impact of social and human capital influencing resource mobilisation among informal entrepreneurs through a qualitative comparative case study focussing on 15 informal event planning ventures in Islamabad city. The study utilised the insider perspective. The study sought to establish how entrepreneurs mobilise resources to run their ventures in resource constraints situations to enhance understanding of resource mobilisation from a social and human capital perspective (Zehra, 2018). They found that social capital plays an important role in the entrepreneurial process and venture development but social capital alone may not ensure success (Zehra, 2018). Entrepreneurship relies on human capital to create an environment in which firms can access networks and social capital (Hossain, 2022).

### **Box 2.3: Resource mobilisation Recommendations**

- a) Diversification of sources of funding for HEIs;
- b) Leveraging on the concept of Triple Helix (interaction between university, government and industry);
- c) Implementation of Open Distance and e-Learning (ODEL); Massive Open Online Course (MOOCs);
- d) Establishing multi-disciplinary and inter-disciplinary research clusters that should evolve into national and international centres of excellence, with Sustainable Development Goals (SDGs) and Agenda 2063 their main focus of research; and
- e) Research policy that should see the enhancement of research outputs, national and global rankings, and visibility.

**Source; (Ayo, 2022)**

Wigger (2018) investigated the mobilisation of collective resources for entrepreneurship, through an embedded multiple case study of Nordic Peripheries. They observed that the type of opportunity influences the resource mobilisation approach (Welter & Alvarec, 2015). Our findings suggest that the short duration of temporary opportunities affects both how opportunities are evaluated and how resources are mobilised (Wigger, 2018). The analysis revealed three resource mobilisation strategies entrepreneurs use namely; mobilisation through internal reallocation, mobilisation through social exchange, and mobilisation through market contracts (Wigger, 2018).

Reypens (2021) carried out a systematic literature review coupled with an inductive multiple case study analysis, to shed light on the different ways by which entrepreneurs mobilise resources in the resource-scarce local context, to understand early-stage technology ventures' resource mobilisation behaviours, with Uganda's medical technology industry as a research setting. The study utilised semi-structured interviews, field notes, graphical material, and archival data. They employed the "... inductive multi-case study analysis (Eisenhardt, 1989; Yin, 2013) as this method is particularly suitable to generate robust, generalisable and testable theory (Eisenhardt & Graebner, 2007) that advances the nascent state or prior research (Edmonson & McManus, 2007)" (Reypens, 2021: 9). The research study showed that high performing ventures dynamically alternate between resource seeking and selective bricolage behaviour as they mature (Reypens, 2021). Resource-seeking behaviour has three main features; a) the pursuit of standard resources, b) optimally satisfying ventures' needs in line with industry norms and quality requirements, and searching for the best sources of these resources (Desa & Basu, 2013).

Resourceful responses to resource scarcity include bricolage, (making do with what is available through re-allocating, re-combining, and re-purposing), bootstrapping as well as the establishment and use of network ties (Reypens, 2021).

Reypens' (2021) study contributed to the theory of entrepreneurial resource mobilisation in an international context.

Ayo (2022), in a presentation on resource mobilisation for HEIs at Karatani University, Kenya, noted that resource mobilisation refers to all activities undertaken by organisations like HEIs to secure new and additional human and material resources to advance its mission for organisational self-sufficiency and sustainability. They envisaged an ideal Directorate for Research, Innovation and Extension (DRIE) which would have research parks, research clusters, a commercialisation unit, publications and conference support and an intellectual property and technology transfer unit (Ayo, 2022). They made some resource mobilisation recommendations in (Box 2.9).



In South Africa, Mamabolo (2020) explored the role of school principals as entrepreneurial leaders who influence the emergence of entrepreneurial activities for purposes of school funding. This study employed the qualitative research approach which is important when exploring topics that are still in a nascent phase (like the entrepreneurship leadership concept in Mamabolo's study) and has the potential to contribute to the development of theory (Bansal et al., 2018). The inductive approach using 9 exploratory interviews with high school principals was done. Non-probability purposive sampling was used to select the 9 high school principals. Data were analysed using the Gioia data analysis framework (Gioia et al., 2013). The study found that the principals possessed the necessary entrepreneurial competencies in their leadership roles required to identify and exploit entrepreneurial opportunities, and the entrepreneurial activities introduced by principals comprised of internal and external resource mobilisation efforts which contributed positively to the schools' financial endowment and improved learners' entrepreneurial skills (Mamabolo, 2020). They, however, made some recommendations for effective EE in schools, appearing in Box 2.10.

**Box 2.4: Recommendations for effective EE in schools**

- a) Policies should be formulated and implemented to improve EE in schools.
- b) EE should have a practical component to promote the development of requisite entrepreneurial skills. The practical component should be used as a vehicle to mobilise resources for the school.
- c) There is a need to collaborate with different stakeholders such as the private sector and universities. The department should consider allocating seed capital that will help schools to implement their entrepreneurial activities.
- d) Partnerships should be formed to motivate teachers to contribute to the development of EE.

**Source: Mamabolo (2020)**

In Zimbabwe, the ZCBCF (2015) has it that resource mobilisation is necessary if curriculum review and implementation are to be carried out successfully. On the same note, there is a need for a well-defined financing infrastructure for HTE 5.0, if the programme is to succeed (Ndanga, 2021). While the Ministry was supposed to provide the financing infrastructure under HTE 3.0, the case is different from the HTE 5.0 scenario. Under HBE 5.0 philosophy, HTEs are expected to redefine their financing infrastructure and be self-sufficient and sustainable (Tagwira, 2020). Be that as it may, one would question the level of preparedness and capability of HTEs to mobilise resources in order to meet the expectations of HTE 5.0 policy guideline that HEIs should be self-sufficient and sustainable enough to shrug off the 'tuckshop- mentality' and do mega projects that impact positively on the GDP. Perhaps EE resource needs/mobilisation, including funding, could be another research gap begging for immediate attention in Sub-Saharan Africa.

The various cases that have been explored in this section were based on resource-constrained or resource-scarce environments (underdeveloped countries) as research settings, understandably so because the major challenge with resources is mainly scarcity. The studies revealed that contextual considerations are necessary for resource mobilisation as the needs and resource endowment of one community may differ substantially from the other. That makes the research gaps in resource mobilisation, capability, and use in EE and related contexts quite inexhaustible.

From the foregone, it can be concluded that resource mobilisation diversification consideration in the curriculum-policy alignment process is needed to enhance HEIs' self-sufficiency and sustainability. The following section examines monitoring and evaluation in the context of entrepreneurial TE curriculum review, transformation, and policy alignment.

### 2.3.4 Monitoring and Evaluation

Looney, (2011) reported that the majority of OECD countries were implementing one form or another of standard-based assessment and evaluation, noting that, if systems are misaligned, it is impossible to draw valid conclusions about the success of student learning or to develop effective strategies for school improvements. They suggested seven principles to improve both technical and social alignment in standard-based assessment and evaluation systems shown in Box 2.11.

**Box 2.5: Principles to improve alignment in assessment and evaluation**

- a) Clearly define the purpose of new frameworks for teaching, learning and assessment and evaluation, and the kind of supports and incentives that will help teachers to create new professional knowledge.
- b) Ensure that standards are grounded in evidence of how students learn and progress within and across different subjects' domains, and represent realistic goals for attainment.
- c) Identify and implement incentives that support teachers' individual and collective motivation.
- d) Invest in research and development to strengthen the range of measurement technologies available to assess students' higher order skills, such as problem-solving reasoning and communication.
- e) Create coherent assessment and evaluation systems, with measurements at each level of the system fit for purpose.
- f) Evaluate the impact of the standards-based assessment and evaluation (including both intended and unintended impacts) on the quality of teaching and learning, and adapt systems based on findings.
- g) Advocate for significant investments in ongoing research and development of standard based approaches. Also note that systems that are not well designed and do not provide high quality information waste significant resources.

**Source: Looney (2011).**

Almeida and Amaral (2019), of Portugal and Brazil, respectively, developed a conceptual framework for entrepreneurial education assessment, focusing on the maturity of HTEIs. In their findings, they concluded that the degree of maturity of a HTEI in EE can be assessed using a maturity assessment model, in which entrepreneurial teaching practices can be organised considering their scope, relevance, and impact of the development of an entrepreneurial ecosystem. In Zimbabwe the maturity of HTEIs in the quest for autonomy was a subject of concern in TE and indeed in this study.

Ghina (2013) carried out a qualitative case study to evaluate the effectiveness of entrepreneurship in Indonesia's HEIs and found out that despite the government and HEIs having developed several entrepreneurship programmes, very little was known about the effectiveness of programme implementation. They challenged the academics to conduct an evaluation of entrepreneurship education from both internal (faculty members of HEIs) and external perspectives (alumni), to get better improvement of entrepreneurship learning within HEIs (Ghina, 2013). Programme implementation issues are priority in this study.

The Egypt Global Entrepreneurship Monitoring (GEM) Report provides a comprehensive study of entrepreneurship in Egypt focusing on people's motivation behaviour and attitude towards entrepreneurship, and bench-marking them against GEM global figures and historical trends (Ismail et al., 2019).

Innovation represents a company's ability to introduce new products to the market and to use technology within the company's internal operations and GEM follows three approaches to measure innovation; product innovation, market innovation, and use of new products (Ismail et al., 2019). Providing basic EE and training on how to start, manage, and grow a business, including marketing, finance, operations and strategy is essential in expanding the potential entrepreneurial base, and evaluation of national EE capabilities should ideally focus on these things.

Van der Westhuizen (2019) who studied South African undergraduate students' access to EE and its influence on career choices, pointed out that little is known about post-programme effectiveness in actual start-ups and business performance. This shows that there is a gap that requires research on monitoring and evaluation of EE programmes in the South African and perhaps African context.

The monitoring and evaluation of EE in TE in Zimbabwe seemed to be undefined and not well articulated. The HEXCO examination framework guides the assessment of ESD study students in HTEIs besides teachers' colleges in Zimbabwe. The UZ, CTEMD under the Faculty of Education had an evaluation framework for all students in teachers' colleges under the Scheme of Association (DTE Handbook). This means there were at least two examination boards (HEXCO and UZ Faculty of Education) handling the monitoring and evaluation of students pursuing EE-related programmes in Zimbabwe's HEIs (Polytechnics and Teachers's colleges). Other universities had their own monitoring and evaluation departments since they were autonomous. The CTEMD (UZ) approved curriculum for ESDS/BAES studies curriculum for TE within or outside the NASS syllabus was at the formative stage, therefore, the relative assessment framework was still in its infancy in the country. The development, implementation, monitoring and evaluation of HTEIs' programmes was done under the MHTEISTD's supervision.

However, in Zimbabwe, the MoPSE had the ZCBCF (2015); a monitoring and evaluation framework that guided the primary and secondary school curriculum review and implementation process. Maybe, there was a need for such a framework within the MHTEISTD to guide the review and implementation of the TE curriculum in Zimbabwe, in the context of HTE 5.0 policy.

#### **2.4 Gaps in Literature and suggested avenues for future research**

Wennekers and Thurik (2016) observed that empirical research on the role of entrepreneurship as a driving force of economic development was still not well developed. However, the reviewed related literature shows the magnitude and diversity of interest EE has attracted globally, regionally and in Zimbabwe. There is a general consensus that policy should determine the relevance and orientation of EE of a nation (Ernst 2005, OECD, 2020).

It can be observed, from the foregone, that many nations were grappling with the EE curriculum as evidenced by studies on the various research gaps and research interest discussed in this paper's review of related literature (RRL). However, a huge gap seemed to exist between EE and the policies that are expected to bring about the economic emancipation of the emerging markets in the underdeveloped world. There could be a need for research on the theory and practice of EE that has a strong policy foundation and can cause the economic development of nations, especially in the African context. This was against the backdrop of challenges of conservatism, structural inflexibility and the primary focus of the examination-centred curriculum.

Of great concern to many countries was the search for ideal entrepreneurial theory and practices in education, suitable for the 4IR, which should cause the socio-economic and political emancipation of nations (Wennekers & Thurik, 2016; Lackeus & Middleton, 2015). However, there seemed to be very limited literature on entrepreneurial theory and practice from the 4IR perspective, especially in the sub-Saharan African context. This, therefore, means this study was not misdirected but in line with current and future needs, trends and debates on EE and the 4IR. The need for further research on the alignment of national policies with EE could never be exhausted given the ever-changing socio-economic and political contexts, especially in developing countries.

There was a general talk among educators that EE had probably no space in the mainstream TE programme amid the argument that it is a subject for those doing Technical and Vocational (Tech-Voc) training. What may be missing for those with such a perspective is that in the modern world, every subject needs an entrepreneurial teacher and every teacher should, therefore, be conversant with EE if they are to be relevant, effective participants in the economic space, and compliant with the demands of 4IR. This, however, means there were some gaps in the TE curriculum that needed to be addressed for it to be comparable with Tech-Voc training and also contribute to the economic well-being of a nation. Such a curriculum was being demanded by HTE 5.0 policy in Zimbabwe. But there could be gaps in literature and practice, that needed to be filled, in the Zimbabwean context, to enable institutions to fully ride on the HTE 5.0 policy direction, and that was the concern of this study. There was, probably, a need for a curriculum review and implementation framework for tertiary education, similar to the ZCBCF (2015) for primary and secondary education in Zimbabwe.

As alluded to by Ghina (2013), there were EE conceptual gaps around, the curriculum implementation process, curriculum content, effective methodologies, monitoring and evaluation of EE, the effectiveness of EE in HTEIs, and effects/impact of entrepreneurship on industrialisation that needed interrogation. There could also be time-related gaps vis-a-vis national development trajectories especially given the diverse development patterns of various economies. There could be, for example, a need to study entrepreneurship and the economic development situation of Zimbabwe (or any developing country) relative to time in the context of Africa and global economic development. The pace of EE development in countries outside the OECD for instance, could be a research gap needing interrogation maybe as a comparative analysis with a model EE-practicing country like Finland. Research around HCI and Design approaches in TE and EE could be interesting. Other gaps in literature could be around the need to employ various and varied research methodologies to study EE in TE, in order to enhance the validity and usefulness of research findings.

This study was pursuant to an observed gap in the form of the emerging challenges and unexploited opportunities in curriculum transformation for economic growth and sustainable economic development.

A gap was also noted between this study and the previous and related studies (related in terms of context and methodology). Probably, the most recent study (arguably), of similar context and methodology, was by Price and Ronnie (2021) which was based on the first author's PhD thesis at the University of Cape Town (2018). There was already a time gap of several years between this and their study. Their study was a qualitative phenomenological case study that employed semi-structured interviews with 10 purposively sampled educators, conducted to explore how they design and deliver their EE courses. The gaps in the study which the authors also acknowledged were; a) pedagogic practice which could be within a specific EE course but were not, b) the need for improved representation in the sample, (could have included a larger percentage of educators or even engaged students as interested parties), and c) the single data collection approach limited the views and types of participants (Price & Ronnie, 2021). This study attempted to address such gaps in methodology.

### 3.0 METHODOLOGY

The previous section of this paper discussed the review of related literature. This section explains the methodology adopted for this study.

The Constructivism philosophy, the qualitative approach, the constructivist-interpretivist paradigm, and case study method with embedded multiple case design were adopted for this study. Social constructivism was developed by Lev Vygotsky (1978). The principles of constructivism are that knowledge, which is personal, is socially constructed rather than innate (McLeod, 2019). The constructivist-interpretivist paradigm is the belief in multiple, socially constructed realities and contextual factors which need to be taken into consideration in any systematic pursuit of understanding (Kivunja & Kuyini, 2017). Therefore, in this study, the knowledge that was being generated was socially constructed, plural and personal, i.e., developed from various individual perspectives through interaction. This paradigm is the belief that cause and effect are mutually

interdependent and acceptance that context is valuable for knowledge and knowing (Morgan, 2007). This study was grounded on the EE context, TE context, the HTE 5.0 policy context, and sustainable development context in Zimbabwe.

This research employed the embedded multiple case study method which allows studying institutions located at different case destinations (Wigger, 2018) This study was designed as an embedded, multiple case study with a naturalistic orientation.

Four data generation methods were employed in this study to enhance triangulation. These were the focus group discussion (FGD); qualitative document analysis (QDA); Key and other informant interview (K & OII) and observations. The methodology employed in this study enhanced trustworthiness, credibility, transferability and confirmability of research findings.

The next section of this paper explores data presentation, analysis and interpretation.

#### **4.0 DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

From the observations made, it appears the curriculum review, transformation and implementation process is probably the most critical stage in the curriculum transformation agenda. If not properly executed, the transformation may not happen, and in this case, the alignment of TE with HTE 5.0 would remain a pipe dream. However, **QDA** shows that there are challenges to be addressed, and opportunities to be grabbed if successful curriculum change is to be realised. This section interrogates data collected on issues around curriculum review and transformation in the context of policy-practice alignment in TE, in Zimbabwe.

##### **4.1 Challenges and opportunities in curriculum transformation**

The respondents raised issues, which also featured prominently in the **QDA** and **Observation**, which were; the overall solution implementation strategy; human capital resource issues, synchronisation with the CBC; continuous teacher development, and assessment/evaluation criteria, which shall be the subject of this discussion.

It is interesting to note, however, that from the data submitted, some respondents felt that curriculum transformation was unnecessary as college graduates were doing fine wherever they were working.

**Case C, OI.1** argued that *“I don’t see the need for changing the curriculum. Our graduates are well sought after the world over. You go where ever, South Africa, China, Australia, and recently Rwanda you will find our former students doing very well there.”*

Some of them may have been doing well at that time and in those countries but others were possibly rejected in some other economies as well, which may explain the high teacher-graduate unemployment rate in Zimbabwe at the time. In any case, being there and doing well are two different issues. However, from the HBE perspective, they could not be doing fine if they were not producing goods and services and moving towards the industrialisation of their small economies and communities. Be that as it were, the need for curriculum transformation, observed in even more developed economies like Japan, could not, at that time, be wished away in Zimbabwe or anywhere else for that matter.

##### **4.2 The overall solution implementation strategy**

From the **QDA**, the overall solution implementation strategy to deliver a competitive, industrialised, and modernised Zimbabwe through HTE 5.0 framework, suggested by the Ministry, was the programmatic approach coupled with design thinking and embracing ICTs. It should be noted that this strategy, from observation, was also employed for the Zimbabwe TE curriculum review, transformation and implementation program spearheaded by the UZ. Be that as it were, there was probably an opportunity and a need for a HTEISTD curriculum transformation and implementation

framework in the mould of MoPSE's CBC Framework. To that end, there was need for a well-defined overall solution implementation strategy.

#### 4.3 The programmatic approach

The QDA of the Ministry strategic plan shows that the programmatic approach is characterised by Ministry-mandated deliverables, specific programs, key performance indicators and targets. "A programmatic approach ensures focused attention towards a specific goal with clear outcomes in mind." (MHTEISTD,2021: iv). It should be appreciated, however, that programmes were still subject to the usual cycle of planning, implementation and evaluation. This definition of the programmatic approach clearly shows that inherent in this approach are value-creation tools of effectuation, appreciative inquiry and service learning. Effectuation is a practical, hands-on, and iterative process of decision-making and active commitment seeking that results in the creation of new value and venture (Lackeus, 2015). From the available and analysed data, effectuation, appreciative inquiry and service learning appeared to be the mode of the HTE 5.0 framework. However, it might be easier said than done, owing to the complexity of systems challenge.

The programmatic approach was also seen to be in tune with the CAT developed by Biggs (2014) and the UPM done by Lackeus (2015). The programmatic approach advanced by the HTE 5.0 framework, as much as the UPM emphasise learning 'for' entrepreneurship, learning 'through' entrepreneurship, and learning 'about' entrepreneurship (Gibb, 2005; Deveci & Seikkula Leino 2018). Kakouris and Liargovas (2020) observed that the "about" mode follows the positivistic paradigm, the "for" follows the vocational education and training one, while the "through" is inherently transformational. The positivistic, transformational, and vocational training paradigms are inherent in the HTE 5.0 framework. Therefore, the HBE 5.0 programmatic approach is very much in tune with the CAT, UPM and indeed the PFETE conceptual framework of this study. This observation is also supported by QDA but as has been alluded to earlier on, the complexity of systems does not make it so simple. These are elements of a whole system, which ideally when put together should make one functional whole. Unfortunately, a whole is greater than the sum of its parts. It is not just an issue of putting elements together, there is more to that.

#### 4.4 Design thinking

The QDA showed that, embedded in the programmatic approach of the HTE 5.0 is design thinking. Minister of HTEISTD, Prof. dr. A. Murwira noted that *"In design thinking human needs are centrally considered in our development of educational, scientific and technological solutions that deliver economically viable industrialisation and modernisation solutions."* (MHTEISTD, 2021; iii). From the RRL, the MHTEISTD in Zimbabwe adopted the programmatic approach and design thinking as the chosen methodologies for the implementation of the HBE curriculum. **Case A, QDA** has it that *"We are guided by design thinking in delivering innovative solutions for the industrialisation and modernisation of Zimbabwe"* (MHTEISTD, 2021; iii). However, the impact of these methodologies still needed to be assessed.

**Case B KI** reported that, *"We have since designed and established our own research and innovation hub"*.

What could be interesting in this submission was that the participants first designed and then established the innovation hub, meaning some institutions were, perhaps, taking the cue from the MHTEISTD to include design thinking in their approaches.

From the RRL, it was noted that, in the modern economy, the ability to think creatively is highly prized. Design thinking involves the idea generation process and how to develop a diversified comprehensive blueprint as well as other key creative principles. Therefore, design thinking should feature prominently in all the EE programs and the whole HBE 5.0 informed curriculum across the whole education fraternity, hoping that things will work out despite the complexity of systems.

#### 4.5 The Digital Approach: Embracing ICTs

From the review of related literature (RRL) there are vast opportunities in embracing ICTs. Japan was leveraging Artificial intelligence, Robotics, Big data, and the Internet of Things (IoT); (the Sharing Economy), which were tools of the 4IR, to create the new Society 5.0 (Rahim, 2021). However, they were having socio-economic and demographic challenges like ageing population coupled with poor public funding for ECEC and tertiary education. This case demonstrated that perfect alignment was very elusive, even in cases where the (education) system was regarded as one of the best performing in the world according to OECD (2022).

According to the RRL, Malaysia was also advancing immersive and interactive experiences in education (MEB, HE, 2015-2025). Peredaryenko (2020) and Kamal (2020) advanced early inclusion of 4IR elements into the education curriculum and the creation of immersive and interactive education experiences for learners, respectively. From the RRL, India is said to have succeeded by making use of its elite education institutions and exploiting ICTs for economic development. MHTEISTD's strategic objective, in this regard, is to Develop innovative capacities in HTEIs to harness new ideas that translate to high-quality goods and services (MHTEISTD, 2021-2025). It is quite notable in this regard that the MHTEISTD had a strategy in place to develop the usage of Virtual and Augmented Reality technology capacity in HTEIs. However, that may not have been enough because having a policy is one thing and implementation and having systems run smoothly is a different story altogether. From these observations, one may conclude that embracing ICT for economic development by HTEIs was a noble idea but it should be remembered always that getting things to work effectively may not be easy because of the complexity of systems. This means, whatever systems the MHTEISTD was proposing, there was still a lot which could be done in order to have a smooth transition into the future.

#### 4.6 Human Capital Resource

Human capital resource issues raised by KIs and FGD participants covered leadership and political will; stakeholder participation; staff motivation and ownership of the envisaged Heritage-based, HTE 5.0-inspired TE curriculum. QDA shows that it is MHTEISTD's strategy under HTE 5.0 policy, to enhance productivity through upholding meritocracy in HTEIs.

It is given that in every process or program, there is a need for leadership. It was highlighted in LFGD, that perhaps, the TE curriculum transformation agenda, in Zimbabwe, this time around found capable and motivated design thinkers in the ministry officials, staff from the various universities, and colleges who participated in the exercise. The Minister was commended by informants in LFGD for having pushed through the enactment of the Manpower Planning and Development (Amendment) Act, 2020, which is the legal basis of HTE transformation in Zimbabwe. It was argued by LFGD participants that the political will, demonstrated by the leadership, gave traction and direction to the curriculum transformation process. Although some KIs felt the programme went into overdrive, others, however, believed that it was a non-starter, arguing that the CTEMD did not know what they were doing. **Case C, LFGD** noted that *"There is a lack of shared vision among the stakeholders to transform the curriculum."* Differences in opinion, however, demonstrated the divergence of thought but did not dispute the fact that the TECTP were generally well-received.

Issues around stakeholder participation were also raised. Participants felt that all stakeholders should be involved in curriculum transformation, including teachers and officials from MoPSE.

**Case OI.1** observed that *"All stakeholders should be seriously engaged for the curriculum to have public ownership."* **CASE A, LFGD** observed that,

*A new curriculum should be implemented starting from primary up to tertiary level. Curriculum harmonisation with MoPSE's CBC was a noble idea. The current initiative does not involve MoPSE much and we run the risk of our graduates being rejected by them.*

It was, however, noted from QDA of workshop registers and observation that, top officials from MoPSE attended the VC's TE Transformation workshop in Harare, but teachers were not visible. Lecturer participation in these workshops, on the other hand, was very high as evidenced by a well-attended consensus-building workshop held at Mkoba Teachers College, Gweru, for all colleges and, which was later on cascaded by the participants to their institutions. The consensus-building

workshops were probably necessitated by the need to ensure that the restructured HTE 5.0 curriculum does not suffer tissue rejection, over and above fulfilling the usual business of policy implementation. It was certainly a way of taking the transformation to the colleges in the spirit of policy implementation and consensus building.

#### 4.7 Synchronisation with the CBC

In addition to stakeholder participation, participants also saw the need for HTE 5.0 curriculum synchronisation with MoPSE's CBC right from the start to avoid misalignment. **Case C, OI.1** opined that, *"To enhance synchronisation, MoPSE, in crafting the CBC should have involved all educators from the onset."* This suggestion was raised against the backdrop of curriculum harmonisation workshops that happened in teachers' colleges prior to the latest curriculum transformation initiatives which involved MoPSE. While some KIs regarded MoPSE as the employer of teacher graduates in Zimbabwe, who should determine the kind of teacher they wanted, others begged to differ. They argued that TE in Zimbabwe had gone global and, HTEIs were training teachers for the foreign market as well, as such, TE should not be confined to serving MoPSE's interests alone. Even so, there was still a need to consider the Zimbabwean context in light of the homogeneity of countries highlighted in this study. In this regard, synchronisation with CBC would probably, be regarded as a huge gap that warranted further research. Nevertheless, the need for stakeholder consensus in curriculum transformation could not be disputed. It, therefore, remained critical that MoPSE would, more seriously, be involved in the TE Curriculum Review and Transformation Programs going forward.

#### 4.8 Continuous Teacher Development

The **QDA** of Mkoba TE Transformation workshop presentations unveiled a gap or need for continuous teacher development. Continuous teacher development was highlighted as a critical requirement for HTE 5.0 curriculum-policy alignment going forward. Teacher competencies and MBKs under HTE 3.0 were different from those under HTE 5.0 curriculum. Consequently, serving teachers were expected to change their mind-sets and traditional teaching methodologies to modern ways of facilitating as directed by the HTE 5.0 curriculum framework. They were expected to embrace ICT and adopt the Digital and Design thinking approaches, as well as research and innovation. This then meant teachers' colleges had a mammoth task ahead of them as they were supposed to staff develop thousands of practicing teachers in schools so that they would become HTE 5.0 compliant before the new demands, ushered in by the 4IR, Vision 2030, NDS1, and HTE 5.0, make them redundant. **Case B, LFGD** noted that *"As a college, we need to capacitate lecturers to manage emerging technologies through the staff development of all members so that they develop the right attitude."* It was observed, from **QDA** that, the NDS1 was premised on four critical guiding principles and the first being that, *"... bold and transformative measures are required to underpin the drive towards the attainment of our Vision 2030."* (MHTEISTD, 2021-2025: 1).

#### 4.9 Assessment and evaluation criteria and instruments

Assessment and/or evaluation concerns were some of the issues raised by the participants. **Case B, O.I 1** observed that; *"When changing the curriculum, we have to change the aims, methods and examination (assessment) system."* They noted that for curriculum transformation and implementation to be successful, there should equally be bold and transformative development of assessment or evaluation modalities and tools that speak to and match the new curriculum. In this regard, there was probably a need for those tasked to develop the assessment instruments to have the right attitude and competencies to deliver, as well as being bold and transformative. Such people have to be HBE 5.0 compliant.

### 5.0 SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS



## 5.1 Summary

The overall solution implementation strategy; human capital resource issues, continuous teacher development, synchronisation with the CBC, embracing ICT and assessment/ evaluation criteria, were interrogated in the above discussion. It was noted from QDA that the programmatic approach coupled with design thinking and the digital approach were the ideal overall solution implementation strategy. Therefore, relevant resources should be availed in order for the programs to be successful.

Since Entrepreneurship, Design thinking, Digital approach, HCD, Research and Innovation are the engines that will drive the country's progress towards industrialisation, and modernisation, it is necessary for the government to fund them and capacitate HTEIs. From QDA, the enacted Manpower Planning and Development (Amendment) Act, 2020 gives the legal basis upon which the HTEIs' curriculum transformation and industrialisation should ride. Continuous teacher development then becomes a key programme that should be undertaken and adequately funded.

## 5.2 Findings

The programmatic approach coupled with design thinking and embracing ICTs was found to be an ideal and overall solution implementation strategy for curriculum transformation for sustainable development that could be exploited by HTEIs. Digitalisation, design thinking, the programmatic approach and the Manpower Planning and Development (Amendment) Act 2020, were offering vast opportunities that could be harnessed for an ideal curriculum development process in the Zimbabwean context.

This study also found that there were gaps or challenges in curriculum harmonisation, human capital and other resource issues which needed to be addressed to enhance entrepreneurial and innovative teacher education for sustainable development. Challenges like lack of autonomy in HTEIs, the over emphasis on uniformity in practice i.e. the one size fits all applied in standards control or consideration for associateship status, disregard of HTEIs homogeneity in support and evaluation of institutions, disregard or slow implementation of the provisions of Manpower Planning and Development (Amendment) Act 2020. This study also identified the slow start of the TESC business, that was demoralising staff who had patiently waited with great anticipation of better fortunes. Socio-economic challenges were also found to be inhibiting development. Lack of prior research to guide the curriculum transformation process was seen as a gap that needed urgent attention.

## 5.3 Conclusions

There are both opportunities and challenges in developing and actualising the overall solution implementation strategy for TE curriculum transformation in Zimbabwe. There are challenges and opportunities in embracing ICTs, design thinking, and programmatic approach in TE curriculum for innovation, industrialisation and sustainable development.

The Manpower Planning and Development (Amendment) Act 2020, offers vast, unexploited opportunities towards TE curriculum transformation for innovation and industrialisation in Zimbabwe. Human capital resource issues offer both challenges and opportunities for effective TE curriculum transformation for sustainable development.

In the Zimbabwean context, the ideal TE curriculum should be synchronised with CBC and should have suitable and well defined assessment and/or evaluation criteria and instruments. The ideal curriculum should also embrace continuous teacher development so that educators are well prepared and geared up for innovation and industrialisation at all times.

## 5.4 Recommendations

### (i) Recommendations for policy makers

- It is recommended that policy makers take cognisance of the various opportunities, (like provisions of the Manpower Planning and Development (Amendment) Act 2020) and utilise them.
- It is recommended that policy makers enhance the alignment of policy with practice to promote sustainable development.
- It is recommended that policy makers expedite the implementation of the Manpower Planning and Development (Amendment) Act 2020 and other relevant statutes. However, they should, in promoting innovation, be suggestive and not prescriptive in their approach.

#### **(ii) Recommendations for Principals in TE.**

- It is recommended that Principals of HTEIs consider curriculum transformation in the context of HTE 5.0 and sustainable economic development.
- Principals in HTEIs should take risks, innovate and industrialise to enhance sustainable development.

#### **(III) Recommendations for Lecturers**

- Lecturers should exploit opportunities and benefits brought about by the adoption team-based approaches; focusing on value and venture creation; connect to the outside world; let learners act on their knowledge; and they should emphasise on active rather than passive learning.
- Lecturers should also have genuine entrepreneurial intention and the right attitude, knowledge and skills in order for them to be effective.

#### **(iv) Recommendations for student Teacherpreneurs**

- Student teacherpreneurs should embrace and appreciate the heritage based education philosophy, and HTE 5.0 policy, geared towards innovation, industrialisation and sustainable economic development so that they remain relevant in the fast changing world of business and entrepreneurship.
- Student teachers should also have requisite MBKS, genuine entrepreneurial intention and the right attitude in order for them to become effective teacherpreneurs.

#### **(V) Recommendations for further reading**

- This study recommends that the various opportunities in TE (provided by the socio-economic and political environment as well as the legal and policy frameworks) be grabbed by HTEIs to improve their systems. HTEIs should also address the various challenges bedevilling them.
- Further research should be carried out to establish the ideal alignment, and feasibility of various teacher education programmes.
- Given the established need for HTEIs' autonomy, innovation and industrialisation, it is recommended that further studies be carried out to establish if some teachers' colleges can be granted university charters so that they operate as such.
- It is recommended that further studies on the gaps emerging from this study or substantive to it, be also carried out.

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