

THE RELEVANCE AND ORIENTATION OF TEACHER EDUCATION IN ZIMBABWE: ALIGNING WITH EDUCATION 5.0

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Abstract

This paper seeks to understand and explain the relevance and orientation of teacher education (TE) in Zimbabwe and is based on the multiple case study carried out by the author. Preliminary study identified a gap in form of a misalignment of teacher education with Higher and Tertiary Education 5.0 policy in so far as entrepreneurship, innovation and industrialisation were lacking in TE curriculum and practice. The new government policy of Education 5.0 was perceived to have revealed a misalignment between the practiced Education 3.0 and the intended Heritage Based Education 5.0 Curriculum, because of the absence of entrepreneurship and innovation for industrialisation and sustainable development in the former.

The study sought to add to literature on entrepreneurship and innovation in teacher education and also promote the development of entrepreneurial and innovative teacher graduates for industrialisation through heritage-based education 5.0 pre and in-service teacher education system in the context of sustainable development. This study was guided by the constructivist philosophy and the interpretivist paradigm. The study adopted the qualitative research approach and the embedded multiple case study method because of the flexibility and diversity in data generation that they allow. The study utilised the three case sites (teachers colleges) within the broader teacher education case in Zimbabwe and that explains the embeddedness. 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 was misalignment between the practiced Education 3.0 teacher education curriculum and the intended Heritage based, HTE 5.0 informed curriculum and this was causing policy-practice dissonance that could be inhibiting the realisation of SDGs, and thus called for curriculum alignment and harmonisation through transformation. This study, therefore, suggested and recommended the Programmatic Framework for Entrepreneurial Teacher Education for the Zimbabwean context. The study contributes to policy alignment discourse by making multiple theoretical insights. The study, therefore, complements the extant perspectives on curriculum policy alignment and teacher education for industrialisation and sustainable economic growth.

Key Words

Design Thinking, Entrepreneurship, Entrepreneurship Education, Heritage Based Education 5.0, Innovation, Sustainable Development, Teacherpreneur.

The benefit of using UPM, in this study on entrepreneurship and innovation, is that the framework is geared towards people creating new kinds of value in all domains of society and all walks of life (Lackeus, 2015). IACP, VaCP and VeCP are central and very significant in the HTE 5.0 framework and therefore making the UPM framework appropriate and relevant for this study. The VaCP supports the constructivist principles of enabling students to construct their own learning and meaning (Mueller and Anderson, 2014; Bell, 2020). EE is increasingly focussing on value creation in addition to venture creation, allowing students to learn by applying their knowledge to create value to external stakeholders (Lackeus et. al., 2016; Bell, 2020).

Another very important benefit of UPM to this research is that, it accommodates value creation tools of Effectuation, Appreciative Inquiry and Service learning.

However, like any other framework, the UPM has some challenges, relative to the study being undertaken. The assumption of UPM that EE should start at some early level of education was not in sync with the focus of this study. This study assumed that even at tertiary level, intervention done at that point could still make a difference. This proposal, nevertheless, found the UPM valuable even though this study did not focus much on earlier education levels considered by the UPM, which were deemed to be outside the interest of this research.

2.2 Conceptual Framework

2.2.1 Programmatic Framework for Entrepreneurial Teacher Education

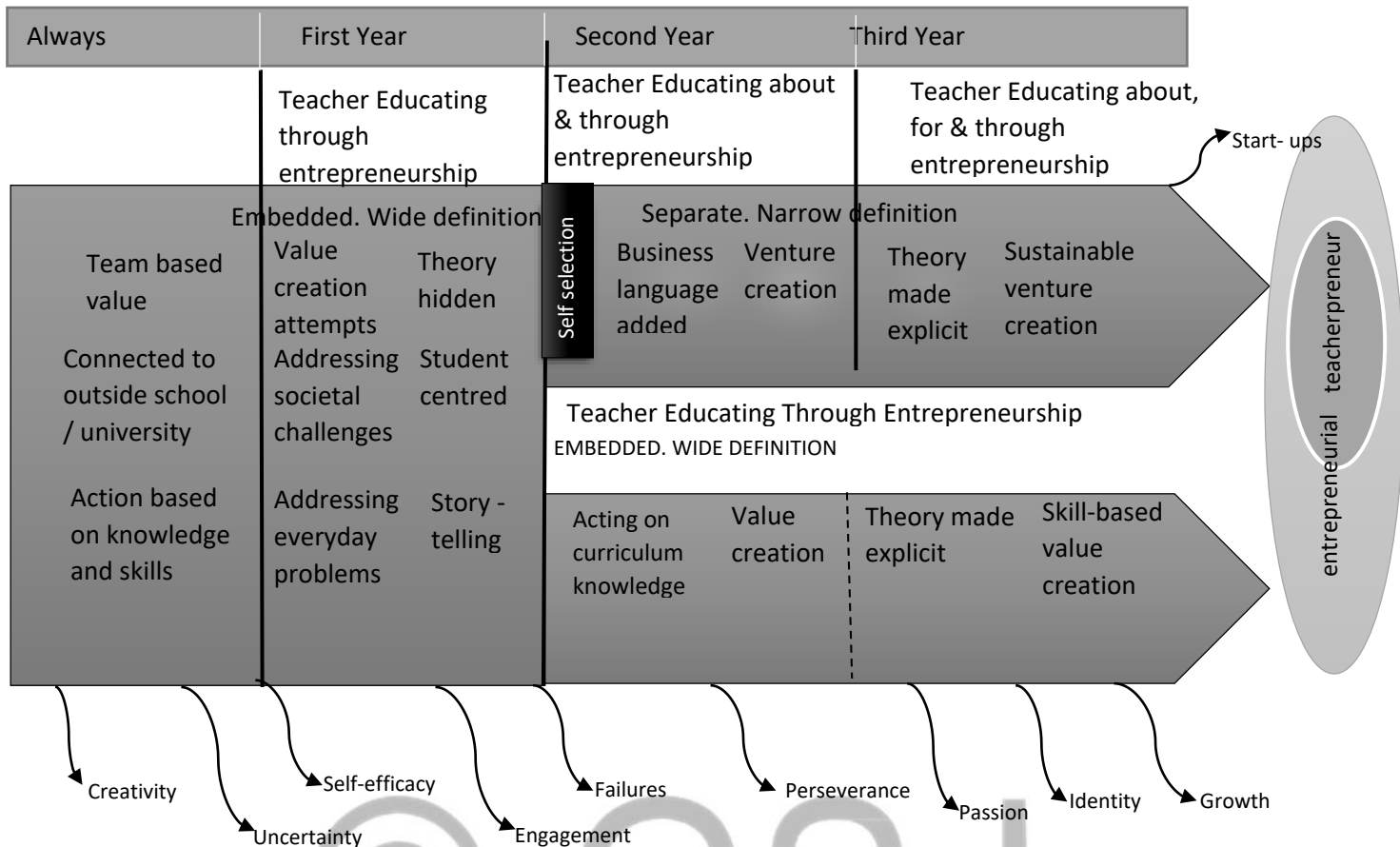
A conceptual framework is a structure which the researcher believes can best explain the natural progression of the phenomenon to be studied (Camp, 2001). It can be graphical or narrative and shows the relationship between main concepts of the study and the series of action the researcher intends to carry out (Adom, Agyem & Hussein, 2018). Conceptual frameworks offer many benefits to research. It assists the researcher to identify and construct own worldview on the phenomenon to be studied (Grant & Osanloo, 2014). The proposed conceptual framework for this study was identified as the Progression Model for Entrepreneurial Teacher Education (PMETE) which evolved during the study to become the later recommended Programmatic Framework for Entrepreneurial Teacher Education (PFETE). The key concepts that featured in this framework were entrepreneurship, entrepreneurship education, innovation, value creation and HTE 5.0. The PMETE of PFETE, like Lackeus' (2015) model, has three steps which, in this respect, are three years of pre-service teacher education.

In this proposed conceptual framework, EE should be viewed as a crosscut theme in all subjects of the TE curriculum. However, CE would take a leading role and address most of the entrepreneurial needs of student teachers. Over and above aiming at skill based value creation, CE is, in this context, expected to spearhead and enhance sustainable venture creation.

In the first year, students take action by addressing societal challenges and everyday problems based on own interests and ideas integrated into core subjects of the TE curriculum. This, according to Lackeus (2015), spurs creativity, engagement, self-efficacy and also uncertainty and ambiguity.

During the second year, TE continue on embedded approach but with more emphasis on acting on curriculum knowledge, that should include indigenous knowledge, as per HTE 5.0 policy framework.

Figure 2.2 The Programmatic Framework for Entrepreneurial Teacher Education (PFETE)



Adapted from Lackeus (2015)

The third year, of the diploma in education study, would therefore, focus on theory being made explicit, enhancing skill-based value creation and promoting sustainable venture creation (Lackeus, 2015). Ideally, the outcome of this whole process would, not only be a teacher graduate with entrepreneurial orientation, but also, an entrepreneur in their own right. Hopefully, such is the teacher needed for sustainable development of the nation.

2.3 Empirical Review

2.3.1 Curriculum-Policy Alignment

In various Organisation for Economic Cooperation and Development (OECD) member countries, the major policy trend had been to consistently promote the alignment of policy goals, content and processes especially in core areas of schooling like curriculum, teaching and assessment (OECD, 2009; OECD, 2016; Savage & O’Connor. 2017). The OECD favoured policy alignment that rested on the ideal position that actors and organisations should adopt processes that are centred on cooperation, coordination and shared strategies (OECD, 2016).

According to the OECD (2019) the students for the future generation need transformative competencies, which they (OECD) defined as the types of knowledge, skills and attitude (KSA) needed to transform communities and develop the future for improved livelihoods. These higher transformative competences, and minimum bodies of knowledge, skills and attitude (MBKSA), would

help learners to manage a diverse range of situations and experiences (Gayland, 2019). They identified three transformative competencies, namely; creating new value, reconciling tensions and dilemmas, and taking responsibility as necessary aspects of a transformative curriculum (OECD, 2016).

Entrepreneurship education was on the agenda in almost all countries of the world, either being in development, or already articulated in one form or another, that is according to the European Commission (2011). The Organisation for Economic Cooperation and Development/European Union (OECD/EU, 2019) noted that entrepreneurship and innovation were key drivers of industrialisation, inclusive (sustainable) economic growth and social cohesion. To that end, the two organisations were supporting entrepreneurship and innovation in higher education in Italy and many other member countries where they had identified the need for a strategic approach (OECD/EU, 2019). Entrepreneurship and innovation were being seen as relevant and useful when oriented towards industrialisation, inclusive and sustainable economic growth and social cohesion or alignment. The OECD have published, in their e-library publications, many articles on EE, entrepreneurship, industrialisation, innovation and sustainable development in their member countries. Among their aims as an organisation, were to promote and monitor EE towards sustainable economic development in the member countries (OECD, 2007).

The South East European Centre for Entrepreneurial Learning (SEECEL), a non-profit organisation initiated by eight countries: (Alabama, Bosnia and Herzegovina, Yugoslavia, Croatia, Kosovo, Montenegro, Serbia and Turkey), focused on learning as a key competence in EE, together with policy support, and best practices (standard based systems), with special focus on women entrepreneurs (SEECEL, 2021).

The logic behind standard based systems rests upon alignment which must involve both technical alignment (between curricula, methodology, content, assessment, etc.) and social alignment (social capital system: actors, organisations and systems, working cooperatively towards shared values, goals, etc.) happening mutually (Looney, 2021; Savage & O'Connor, 2017). The Heritage based education system, which is an outcome based education (OBE) can also be defined as a standard based system which needs both technical and social alignment for its effective implementation.

Wang (2022), in a literature sorting study, analysed the basic form of EE in Finland, which they said is basically the function of higher education, appreciating that, over the years, the development of EE in Finnish universities has resulted in teachers with EE experience and advanced technology. Finland has added entrepreneurship related courses in traditional teacher training and this course exists both as a compulsory and elective course (Wang, 2022). This shows that Finland noticed the importance of entrepreneurship in teacher education. Finland is one of the OECD countries of Scandinavian legal origin, together with Denmark, Iceland, Norway and Sweden (OECD, 2019).

In a qualitative comparative case study titled; A review of entrepreneurship education in TE, Deveci and Seikkula-Leino (2018) of Turkey and Finland respectively, concluded that in-service training should be given to teachers at the basic education level with regard to EE. This shows that in Turkey and Finland, the need for practising teachers to be equipped with entrepreneurial skills as a basic requirement was noticed and received due attention. Likewise, there was need for both student teachers and practising teachers to be equipped with entrepreneurial skills as a basic requirement in Zimbabwe, in the context of sustainable economic growth, hence this study.

In a study to assess how economic policy and institutional design affect entrepreneurship, Bjornskov and Foss (2007) found that the size of government is negatively correlated with entrepreneurship while sound money is positively correlated with entrepreneurial activity and that other measures of economic freedom are not significantly correlated with entrepreneurship. The alignment of economic

policy with institutional framework affects entrepreneurship and sustainable economic growth. So, policy misalignment could be the main problem affecting entrepreneurship and innovation in many countries struggling to develop economically. The need for policy-curriculum alignment for sustainable economic development can, therefore, not be overemphasised.

In Italy, it was observed that lack of alignment between national policies concerning entrepreneurship and innovation, scarce and fragmented resources, and tight regulations challenged higher education institutions (HEIs) to balance their activities between incentives and conflicting targets (OECD, 2018). This lack of policy alignment in EE seemed to be a global challenge that most countries were grappling with as they drive towards sustainable development. The Zimbabwean scenario was therefore not surprising.

Malaysia, is combining Education 5.0 and Industry 4.0 in their approach where they are advancing immersive and interactive experiences in education. The whole idea is to engage learners from the current generation whose style of learning is unique to the digital world (Kamal et al., 2017). This is evidence that Malaysia recognised the importance of and need for policy alignment, which they responded to, by adjusting methodologies to suit the prevailing needs of their current generation with unique way of studying, which is digital. The combining of Education 5.0 and Industry 4.0 in Malaysia is itself an education policy versus digital technology alignment issue that was being addressed. The education policy misalignment with the digital world was therefore a research gap and challenge that needed to be addressed globally, if sustainable economic growth was to be realised, more so in Sub-Saharan Africa, and Zimbabwe.

Japan is one of the countries that embarked on education reform in order to address various challenges that the country was facing. According to the OECD (2022), Japan needed to address the challenge of ageing population, underfunding of early child education and care (ECEC) and tertiary education. The call for education reform in Japan as a corrective measure meant that there was an acknowledgement that something was wrong somewhere, and it could be argued that, under such circumstances, a misalignment between the intended and the practised curricula could most probably have been one of the major challenges. The underfunding of ECEC and tertiary education sounded very much misaligned with any programme aimed at rejuvenating, skills wise, an ageing population in a society like Japan.

The OECD (2022) were hoping that the reforms planned in Japan would help them transition smoothly into to the future (2030s) in the context of sustainable development. Of concern to the OECD (2022) was that there was funding for mandatory levels of education and very little for early child education and care (ECEC) and tertiary education and this was limiting opportunity for women and students of low socio-economic status. Pursuant to that, the OECD recommended to Japanese government that they should improve access to tertiary education and adult learning through the promotion of new programmes to enhance lifelong learning in an ageing society (OECD, 2022). The problem of funding of educational programmes was not only unique to Japan. The third world was particularly vulnerable in so far as funding of educational programmes were concerned and this was inhibiting sustainable economic growth. There was most certainly need for more research into education funding possibilities especially in this economically volatile, and ever-changing world that cries for sustainable development.

It is believed that employment of Nigerian graduates, either part-time, full time or even underemployment, have eluded Nigerian youths, with Nigeria said to have one of the highest rates of youth unemployment in the unindustrialised world (Ojeifo, 2012). In another Nigerian study, Owhotu (2020) observed that the situation of entrepreneurship education in sub-Saharan Africa was that entrepreneurship education in tertiary education was marginalised and did not contribute to a force to reckon with in business programmes. They noted challenges of conservatism, structural inflexibility, and the primary focus of examination-centred curricula, as affecting entrepreneurship education (Owhotu, 2020). These challenges inhibit sustainable development. Of interest here was that, this marginalisation and misalignment appeared typical of the Zimbabwean scenario. A lot of curriculum

transformation for sustainable development was happening across Africa. It remained to be seen if Africa and indeed Zimbabwe could rise above these challenges.

In a quantitative, and panel modelled scientific study carried out in Ghana to examine whether entrepreneurship promotes sustainable economic growth, Adusei (2016), basing on data (extant literature) from 12 African countries: (Nigeria, Zambia, Togo, South Africa, Senegal, Mauritius, Lesotho, Gabon, Egypt, Botswana, Algeria and Ghana) found that entrepreneurship, even if it is of the replicative type, is instrumental to economic growth. It has been recorded that entrepreneurship enhances economic performance by promoting innovation, ushering in change, and improving competition (Adusei, 2016; Wong et al., 2005). Adusei (2016) further observed from their studies that Human Capital Resource (HCR) is one of the fundamentals of sustainable economic growth and that education supports economic growth by increasing the HC stock of individuals and improving their productivity.

Kenya initiated a Digital Literacy Programme as one of its reforms at both basic and higher education levels (Barasa, 2021). However, the programme faced a plethora of challenges like inadequate infrastructure (electricity and internet connectivity), high cost of digital devices, funding challenges, lack of proper teacher training and absence of continuous professional development, although the programme included collaboration with international agents and organisations. A digital divide between rural and urban areas perpetuated education inequalities (Barasa, 2021). This Kenyan case is typical of the kind of challenges that postcolonial African education systems were facing in trying to be relevant to national sustainable economic development requirements, and in order to catch up with the rest of the world.

Entrepreneurship in South Africa was confronted by various challenges which Chimucheka (2014) noted and are listed in Table 1.1 as;

Table 1.1 Entrepreneurship challenges in SA.

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| <p>Entrepreneurship challenges in South Africa are;</p> <ul style="list-style-type: none">a) lack of entrepreneurial element in the education system,b) inappropriate learning methodologies. Most programmes not being outcome or skills development based,c) entrepreneurship not being promoted as a career option, andd) education promoting large firm culture where students want to be employees rather than employers after graduation. |
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Source: Chimucheka (2014)

These problems could be viewed as system misalignment where the purpose of EE could have been at variance with the methodologies being employed, and hence the EE outcomes were probably not good enough, in spite of the South African stakeholders and government having introduced EE curriculum 2005 in schools. North (2002) however, thought, in spite of the challenges, South Africa did well, in improving entrepreneurship nationally, in the ten years after the introduction of EE Curriculum 2005 and this could be viewed as a right step towards achievement of SDGs.

In Zimbabwe, the policy-curriculum alignment issues as well as the entrepreneurship, innovation and sustainable development discourse can be traced back to the colonial days when "... education policies were guided by the need to preserve White interests against possible Black competition in controlling the economy, the policies of the country and its administration" (Maravanyika, 1990: 11). However, after independence and against stiff conservatism, the education system in Zimbabwe went through massive transformation, noted the Presidential Commission of Inquiry into Education and Training (PCIET, 1999). However, throughout these early years of independence, the success of entrepreneurship education in Zimbabwe, save for the Education with Production (EWP) in few ZIMFEP schools, remained elusive. It was against this background that the PCIET was tasked to inquire

into the relevance, quality and orientation of education in a rapidly changing socio-economic environment. The PCIET (1999) recommended that universities should produce graduates who can be entrepreneurs and job creators rather than mere job seekers and that college curricular should be reviewed regularly in light of ever changing socio-economic and political realities in order to achieve sustainable development in the country.

In Zimbabwe, Jonathan, in GZU (2019) referring to HTE 5.0 policy, noted that; it was then demanded of the nation's higher and tertiary education sector to not only teach, research, and community serve but innovate and industrialise Zimbabwe. This demand signalled the misalignment of new policy of HTE 5.0 with conservative practice that was neither skill nor outcome based, which was the source of the problem under this study. The problem and concern of this study was that; there was lack of entrepreneurship and innovation in the EE curriculum of TE in Zimbabwe contrary to the strategic objectives of HTE 5.0 policy which emphasised innovation and industrialisation for sustainable development.

This was making the curriculum sound and appear irrelevant and not well-oriented to HTE 5.0 policy context (GZU, 2019). The need to align the national HTE 5.0 policy guidelines with EE purpose (i.e. its aims and objectives), curriculum content, instructional systems (pedagogy, andragogy, etc.), competencies, minimum bodies of knowledge and skills (MBKS) and assessment, for sustainable development, was found to be a gap that called for serious attention.

The next section examines the methodology adopted in this study.

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

The relevance & orientation of TE curriculum (EE in CE) to HTE 5.0 policy in Zimbabwe

4.1 Introduction

This section explores the respondents' views regarding the relevance and orientation of TE curriculum (EE in CE) to HTE 5.0 policy in Zimbabwe. The section conceptualises and explains the relevance and orientation of EE, TE within the prevailing political, socio-economic and sustainable development context, in Zimbabwe.

Issues interrogated in the study were; the change from HTE 3.0 to HTE 5.0; TE curriculum not fully aligned to HTE 5.0 policy (curriculum did not have well-defined MBKs), TE curriculum with limited access to and utilisation of advanced knowledge and technologies, contrary to the technological demands of HTE 5.0 and the 4IR; TE curriculum transformation efforts, that signalled an already identified gap; the Human resource issues including stakeholder participation; CBC and its influence on TE curriculum, and the question of alignment across the whole education spectrum, including the basic education curriculum.

4.2 Curriculum- Policy misalignment: The change from Education 3.0 to HBE 5.0

From the data generated in this study, HTEIs in Zimbabwe generally, and TE curriculum and practice in particular was not aligned with the HBE 5.0 policy framework. This was reported by **Case B KI.1** who noted that; *"Our curriculum is not yet fully aligned with HTE 5.0 despite ongoing efforts"* and **Case B, OI.3 concurred** by stating that; *"At the moment our TP syllabus is not yet in line with HTE 5.0 policy."* Participants thought aligning curriculum with policy was necessary and should start with TE. **Case B, OI.1** noted that, *"Transformation of the curriculum should begin with transforming teacher education. However, this should be based on research on how and what need to be done"*

One participant in the Lecturer Focus Group Discussion (**LFGD**) commented that,

"What is happening in HTEIs in terms of curriculum content, methodologies and assessment/evaluation is very much different from what is being said about Education 5.0 and it appears institutions are not willing and ready to embrace Education 5.0."

The **LFGD** voiced their concern over the heterogeneity of HTEIs and their students especially. **Case C, LFGD** noted that, *"Colleges are just different in terms of resource endowment for example."* Shortage of resources seemed to be quite an issue of concern in HTEIs.

Student participants also raised the issue of challenges being faced by rural and urban students. **Case C, SFGD** observed that; *"Embracing ICT mainly benefits the urban student but is a challenge for those in rural areas. There is need for government funding to cater for those in rural areas."*

This observation may be viewed as raising the inequality in education debate brought about by the rural urban divide. Perhaps, the inequality in education exacerbated by the rural-urban divide and impacting on policy alignment could be another research gap that needed interrogation.

The arguments and position about the misalignment were further corroborated by interview participants. For example, **Case A, OI.1** reported that the,

"Curriculum offered in TE is not yet fully oriented to HTE 5.0. and this was evidenced by CTEM of the UZ then working with colleges to try and align TE curriculum with HTE 5.0 policy."

In spite of the identified curriculum transformation efforts, **Case A, (QDA)** showed that; *"According to our College Response to Audit report dated 14/05/22, college curriculum was not yet fully oriented to HBE 5.0 philosophy."* Be that as it were, the concern to this study was the feasibility of a timely policy alignment in the context of HBE 5.0 framework.

The MHTEISTD's strategic objective 1. was to *"Reconfigure Higher and Tertiary Education from Education 3.0 to Education 5.0 to produce goods and services"* (MHTEISTD, 2021; 3.) The introduction of HTE 5.0 policy rendered the HTE 3.0 programs limited, limiting, and not well oriented to the new policy framework. The HTE 5.0 framework had two more pillars of innovation and industrialisation added (**RRL**). From **Case A QDA**; *Education 3.0 had 3 pillars, and Education 5.0 had two additional pillars; innovation and industrialisation.*

It could be argued that Innovation and industrialisation were, in this context, probably the major missing link in Zimbabwe's HTE Curriculum, including the rest of the TE curriculum. This study would, therefore, recommend further research focusing on this research gap, probably employing a different methodology.

4.3 Misalignment in expected competences

The previous section explored the misalignment as explained by the absence of innovation and industrialisation. This section examines the misalignment in learning outcomes or student exit competencies.

From **QDA & OI.3, (Case B)**, concerns were raised about teacher graduates lacking requisite skills that are relevant in the 4IR era and also for industrialisation. **Case B, QDA** revealed that *"The reviewed NASS and TP syllabi examined, ... did not show the competencies to be developed in learners."* This was corroborated by **Case B, OI.3** who remarked that; *"At the moment our TP Syllabus is not yet in line with HTE 5.0 policy. We want to try and infuse the project approach and ICT use into our TP syllabus."*

From the **QDA**, the misalignment was also being noted in that the expected learning outcomes or student exit competencies as defined by the HTE 3.0 curriculum, in use then, did not speak to the new HTE 5.0 framework. (**See Box 4.1 for suggested competences**) The **RRL and QDA** identified the expected competencies under the HTE 5.0 policy framework.

From the **QDA**, the Zimbabwe Council for Higher Education (ZIMCHE) did not have common or shared MBKs, under HTE 3.0, in HTEIs. (ZIMCHE was established a few years back and was then still putting into place a lot of these aspects). It was argued by **LFGD** participants that this (The absence of relevant institutions like ZIMCHE then) could have been the reason why the TE programmes produced employee and not employer-oriented graduates, because, it appears, no-one really bothered.

From the **QDA**, the HTE 5.0 policy required that *"Our HTEIs ... must produce graduates who can think scientifically, analyse problems objectively and apply facts learned in class to problems in society"* (MHTEISTD, 2021-2025, v). In this respect, graduate unemployment would probably not be one of the challenges bedevilling Zimbabwean society in the HTE 5.0 policy era and beyond. If unemployment could be addressed by the HBE 5.0 informed programmes through self-employment of graduates, there would in turn be, all things being equal, **sustainable economic development**. From **Case A, QDA** and **observation** of the Vice Chancellor's Teacher Education Curriculum Transformation Workshop (TECTW) held at Mkoba Teachers College in Gweru, Zimbabwe (8-9 September 2022), the Business and Entrepreneurship Cluster (BAEC) came up with a list of HTE 5.0 TE (curriculum), competencies and expected learning outcomes, shown in **Box 4.1**.

Box 4.1: Teacherpreneurial Competences

At the end of the course students should be able to;

1. Describe the nature and significance of entrepreneurship;
2. Apply the education 5.0 principles in business and entrepreneurship content delivery and assessment of learning;
3. Develop problems solving critical thinking and analytical skills in doing entrepreneurial activities for sustainable development;
4. Raise an awareness in student on risk management, preparedness, mitigation, response and recovery;
5. Apply ICT in business operations to enhance growth;
6. Come up with business ideas which are developed into business plans which are then developed into small businesses or companies;
7. Distinguish between social entrepreneurs, corporate entrepreneurship and entrepreneurship;
8. Outline the characteristics of entrepreneurship and disprove entrepreneurship myths;
9. Distinguish and evaluate the paths to entrepreneurship, and venture creation;
10. Prepare and critique business plans;
11. Distinguish and evaluate the different sources of financing for small business;
12. Assess the risks facing small businesses and their mitigation.

There was evidence from the **QDA** and **OBS** that it was generally accepted in TE in Zimbabwe that the TE practice was no longer desirable and practitioners were consequently seized with the business of transforming the curriculum to align it with the HBE 5.0 philosophy. **Case A, LFGD** reported that, *“Our College is seized with the teacher education Curriculum Transformation process spearheaded by the UZ’s VC. The thrust of the transformation is to align the curriculum with HTE 5.0 policy.”*

Be that as it were, from **observation**, a lot still needed to be done and participants were generally worried about the slow progress and wondered if the proposed timelines would be met given the possible challenges already noted in the **RRL**; i.e. the lack of inevitable transformative competences identified by the OECD (2016), namely; **creating new value, reconciling tensions and dilemmas, and taking responsibility**. Perhaps, this could be another research gap in curriculum transformation for sustainable development.

4.4 UZ Vice Chancellor’s TECTW & Alignment

From **OBS**, and **QDA**; the Vice Chancellor’s TECTWs held in Harare and Gweru were enough testimony that there was some misalignment in TE practice with policy that necessitated the initiative and this was also identified in this study as the research gap.

The **LFGD** perceived the transformation programme as inevitable given the misalignment scenario; *“HTE 3.0 practices in the wake of HTE 5.0 policy provisions or requirements”*. The Minister of HTEISTD referred to HTE 3.0 as *“The tragedy of reading from the wrong manual.”* The **LFGD** appreciated the political-will demonstrated by the ministry in the **VCTECTP**. They also appreciated that, the transformation efforts were placing more emphasis on *“doing and producing goods and services”* and that is what the HBE 5.0 philosophy was calling for. From **Case A, LFGD**;

“Our College is seized with the teacher education Curriculum Transformation process spearheaded by the UZ’s VC. The thrust of the transformation is to align the curriculum with HTE 5.0 policy.”

Nevertheless, the **LFGD** pointed out the need to involve all stakeholders in the Teacher Education Curriculum Transformation Programme (**TECTP**), for it to have traction, harmony and a national

character. **Case A, LFGD (Table 4.3)** suggested that; *“We understand that every sector intends to produce graduates who should fit into HTE 5.0 framework, so all stakeholders should participate to achieve harmonisation of programmes.”*

More so, the curriculum transformation efforts were not without their own challenges. Vice Principals were saying they were not being fully engaged, yet they were purported to be the key drivers of the TECTP in HTEIs. **Case C, OI.1** pointed out that, *“There was a serious omission in the VCTECTP, that Vice Principals did not attend any of these workshops.”*

Case B, LFGD (Table 4.3) participants observed that, *“All stakeholders should be involved to enhance buy-in and ownership of programs.”* They also noted that the participation of MoPSE and its Curriculum Development Unit (CDU) were very low and insignificant, raising concern that they were probably being marginalised for reasons better understood by the organisers. **Case C, OI.3** noted that, *“Synchronisation is lacking between MOPSE’s CBC and HTEISTD’s HTE 5.0 curriculum.”*

From **observation**, time seemed to have been a challenge with the VCTECTP as well and buy-in of the programme seemed uncertain. This probably revealed the complexity of systems challenge at play. The research gap and lesson learnt from this scenario was that there was need for thorough research, communication, and consultation with stakeholders before rolling out the curriculum transformation programme.

4.5 Human Capital Resource misalignment

LFGD participants also noticed a gap in human capital issues of poor remuneration, low productivity and poor staff retention, which they felt also contributed to the curriculum-policy misalignment. There was an observation in the **LFGD** that lecturers were probably resisting change and that they lacked the motivation to innovate and embrace new ways of doing business espoused by the HTE 5.0 policy.

Other informant number 2 (**OI.2**) in **case C** noted that, *“Lecturers are not motivated to interrogate HTE 5.0 issues because of low salaries.”* On low productivity in HTEIs, **OI.3 in Case C**, lamented the state of infrastructure, noting that, *“Machinery in the workshops has become so obsolete that there is no production to talk about.”* There was need to align the curriculum with the HBE 5.0 philosophy through re-equipping workshops with modern technology compliant equipment.

Case B’s KI, and **LFGD** identified brain drain as another matter of concern in HTEIs. Low remuneration and poor working conditions were given as the main reasons for low staff morale, which they acknowledged to be a push factor of the brain drain challenge. (**OI.2 of Case A; KI in Case C; FGD and QDA**). From **observation**, high staff turnover, seemed to be negatively affecting HTEIs embracing the HBE 5.0 culture in that this disrupted staff development programmes, and institutional work continuity.

Case C, OI.1 pointed out that,

“Lecturers are not motivated to interrogate these issues because of low salaries. Only those wanting promotion or doing their studies seem to care much about the new policy and the transformation business. Otherwise people are thinking of leaving the country and some are fortunate to find somewhere to go, like those who have gone to Rwanda.”

Through the HBE 5.0 policy, their concerns would probably be addressed through the Ministry’s strategic objective “to enhance productivity through recruiting and retaining competent staff and operationalising the Ministry Promotions Infrastructure Framework” (MPIF), (MHTEISTD, 2021-2025, v). From **QDA**; The MHTEISTD wanted “... to ensure that elevations and promotions to position grades amongst HTEIs lecturing staff were standardised and enhanced.” The Manpower Planning and Development (Amendment) Act (2020) which gave a legal effect to the transfer of employees in HTEIs from PSC (Public Service Commission) to TESC (Tertiary Education Service Commission) and this was regarded by the **LFGD** participants as a giant step in operationalising the MPIF. From **Case A, QDA, RRL**, and according to MPD (A) Act, (2020, 58), *“The objects of this act shall be- (c) to promote the operational independence of technical and vocational institutions and teachers’ colleges.”* **Case B, KI submitted** that,

“Entrepreneurial practices should be supported by policy. We need autonomy, for example, and we should have a policy to that effect. The transition to TEC provides a window of opportunity to have relevant policies in place and also address the challenge of the red tape.”

4.6 Ministry efforts to address misalignment

Another observation from QDA was MHEISTD’s efforts to align all curricula in HTEIs with the HBE philosophy. In areas such as research and innovation, infrastructure development, resource use, and human capital development, MHEISTD was making frantic efforts to align HBE 5.0 policy framework with practice, in all HTEIs. This observation, to a larger extent, enhanced the argument that TE in Zimbabwe, at the time of writing this research, was not yet aligned to HTE 5.0 policy framework. Be that as it were, this study sought to establish the possibility of policy alignment in the MHEISTD in Zimbabwe and the possible impact the harmonisation could have in the context of sustainable development.

However, **Case A, KI** doubted if the transformation would ever happen and was seeing nothing but confusion, in the absence of prior research, in the whole process, *“The CTEM of the UZ is working with colleges to align TE curriculum with HTE 5.0 policy, but there appears to be some confusion and lack of prior research to guide the process.”* **Case A, KI** thus acknowledged efforts being made to address the misalignment of policy with practice in TE. However, they doubted if a thorough research had been done to guide the alignment of TE with HTE 5.0 policy. It appears participants like **Case A, KI** were not aware of such a research.

Of concern to this study, however, was to establish the feasibility of policy/practice alignment happening timeously and effectively, and the impact the harmonisation would have, in the context of sustainable economic development and to find out what could be done to expedite the process.

4.7 Misalignment with the basic national education curriculum

Participants also observed misalignment and the necessity of aligning with the basic education curriculum in Zimbabwe, and the entire education curriculum; from ECD to university. TE was seen to be misaligned, not only with HBE 5.0, but also with MoPSE’s CBC. **Case A, FGD** commented that, *“We notice that there is a need for alignment across the board. So the CBC needs to be examined as well.”* The misalignment gap was observed by **Case B FGD** participants who noted that the misalignment could be traced back to history that, *“Colleges were not fully consulted when the CBC was drafted (by MoPSE) yet are expected to produce teachers who are fully conversant with CBC.”* **Case A, observation** provided evidence of misalignment in that; *“Colleges were slow in embracing the teaching of CALA (for example). Some students got to know about CALA when they were already on TP.”* The misalignment gap was corroborated by **Case C, OI.3** who voiced their concern on the need for HTE 5.0 curriculum harmonisation with basic education, noting that, *“Synchronisation is lacking between MoPSE’s CBC and HTEISTD’s HTE 5.0 curriculum.”*

Case A, QDA revealed that efforts were made previously by the CTEM to harmonise the TE curriculum with MoPSE’s CBC in the context of HBE 5.0, through workshops held in Redcliff and Mutare, from year 2020 to 2021. However, these efforts seemed to have achieved very little because the project was allegedly aborted before the various syllabi were approved by the CTEM then known as the Department of TE (DTE) at UZ.

From **observation, QDA** and **FGD**, the CBC was found to be falling short of the new HBE 5.0 dimension, that is, the production of goods and services. In the **QDA**, issues around the Continuous Assessment of Learning Area (CALA) component of the CBC were seen to be lacking the production of good and services which was no longer an issue in CALA. **Case B, observation** was that, *“It seemed schools’ enthusiasm with CALA was fast fading away as there was no emphasis on production of goods and services.”* The ideal practical research aspect that was in CALA initially, from the **RRL**, was said to have been removed as the planners and implementers gave in to the pressure from other stakeholders; parents especially, who thought that it was too demanding. This could be interpreted as the resistance to change on the part of the parents who were probably finding it hard to embrace the new CBC. This kind of attitude was expressed by **SFGD in Case C** who said; *“CALA was unnecessarily burdening the*

parents or guardians.” It was sad to observe that these students, who had experience with CALA during TP, had such a negative attitude towards an otherwise HTE 5.0 compliant tool like the initial CALA (not the pen and paper type).

The **SFGD in Case C** further argued that, *“The technological demands of CALA favoured urban schools at the expense of rural schools.”* This could be an issue of inequality in basic education brought about by the rural-urban divide, and how this impacted on communities, which could also be another research gap needing interrogation, maybe through a comparative case study of the rural and urban schools. However, the HBE 5.0 philosophy on the use of local heritage in the development of relevant competences and skills in learners, seem to be awake to the challenges around the perceived urban/rural inequalities. Be that as it were, perceived urban/rural inequalities impacting on education delivery could be an interesting research gap worth interrogating.

The parents’ position, as observed by **SFGD**, could probably be a typical case of conservatism, rigidity and resistance to change highlighted in the **RRL** of this study. **QDA** assessment of CALA assignments revealed that learners were initially expected to do community research projects, which were practical and in line with the heritage-based education philosophy, but schools gave in to the pressure of conservatism to scrap it and they ended up resorting to the otherwise simple pen and paper CALA. **Case B, observation** was that; *The pen and paper type of CALA was the one mostly in use in schools as facilitators chose simpler ways of meeting this requirement.*

The pen and paper type of CALA mostly in use in Zimbabwean schools was, however, **observed** to be far away from HBE 5.0 expectations. The case of CALA implementation of the CBC could be interpreted as a case of two steps forward and then three steps backwards, that is, from the LFGD participants and the HBE 5.0 viewpoint.

While it was quite evident, from the foregone, that the misalignment was there, of concern to this study was the feasibility of the gap being addressed through curriculum-policy alignment, so that the Zimbabwe economy would successfully transition to become an industrialised one, as is anticipated by the HTE 5.0 policy, and the HBE 5.0 philosophy.

4.8 Misalignment in access and utilisation of advanced knowledge and technologies

LFGD participants reported misalignment or gap, between the TE curriculum and HTE 5.0 policy framework, around access and utilisation of advanced knowledge and technologies, research and innovation. **Case C, OI.4** suggested that *“Research, Digitalisation and innovation in TE are quite ideal and they should be scaled up.”* This was corroborated by **Case C. Observation** that; *“The need for modern equipment that utilises the 4IR era technology was quite evident.”* The MHTEISTD observed the need to *“Develop disruptive innovative capacities in HTEIs to harness new ideas that translate to high quality goods and services.”* (MHTEISTD, 2021-2025: v). From the **RRL**, this was a culmination of observation that HTEIs were not fully utilising advanced knowledge and ICT. From observation, entrepreneurship and innovation, in the 21st century TE, should therefore fully utilise advanced knowledge and ICT, in line with the 4IR. However, two of the colleges under this study have shown understanding and willingness to embrace HTE 5.0 by changing and equipping rooms for research and innovation; RI-HUB libraries. **Case B, KI** acknowledged establishing RI-HUB, saying; *“We have already introduced and established our own Research and Innovation Hub.”* This was seen as a commendable effort towards aligning with HTE 5.0 policy. However, from **RRL**,

“Kamal et al. (2021) observed that creating immersive and interactive educational experience is a real challenge for educators, especially those without technological know-how and those who do not see the need to invest in the creation of technology based educational content.”

So, having research and innovation laboratories may not be enough if they are not properly resourced and if they are not put to full utilisation and it is that aspect that seemed to be lacking in HTEIs. *“HTEIs’, access and utilisation of advanced 4IR knowledge and technologies for sustainable development”* could be another research gap worth further exploring.

5.0 SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The misalignment between TE and HTE 5.0 policy was well pronounced. This misalignment was explained by; the transition from Education 3.0 curriculum to HTE 5.0 framework; TE curriculum (Education 3.0) with limited access and utilisation of advanced knowledge and technologies; the VC's (UZ) TECT efforts; inappropriate exit competencies and undefined MBKSA in TE curriculum; the deficiencies in Human resource outlook; unresolved CBC issues relative to TE curriculum, and the perceived misalignment across the whole education spectrum.

HTEIs seemed to be quite aware of this misalignment and the need for curriculum-policy harmonisation amid challenges of complexity of systems. The purpose and context of curriculum-policy alignment and its implications on industrialisation and sustainable development should perhaps not be taken for granted. Perhaps, curriculum-policy alignment requires periodical interrogation in each and every nation, given the ever changing socio-economic and political contexts. The need for "research" to guide education policy alignment, given the diversity of policy issues and the heterogeneity of institutions and countries, cannot be overemphasised.

5.2 Findings

The findings of this study were that the relevance and ideal orientation of EE in teacher education, that is offered in Zimbabwe should be informed by the HBE.5.0 philosophy, with the entrepreneurship, research and innovation focus, employing emerging (programmatically, digital and design thinking) approaches, and geared towards industrialisation, modernisation and sustainable development (attitude, content, context and purpose).

The findings were discovered against the backdrop of an irrelevant and misaligned education 3.0 tertiary education in Zimbabwe, which had become out of step with the new HTE 5.0 policy framework, and was described as 'the tragedy of reading from the wrong manual'. The lack of relevance and disorientation can be explained by weak and misaligned educational programs that did not produce goods and services; (This necessitated the policy shift from HTE 3.0 to HTE 5.0 and Ministry activities towards curriculum transformation); limited access to and utilisation of advanced knowledge and techniques contrary to demands of HTE 5.0 policy and the 4IR; deficiencies in resource mobilisation and utilisation (Physical and financial infrastructure including ICT and HCR); and the mismatch between TE curriculum and CBC (showing misalignment and disorientation that was national and beyond tertiary education).

5.3 Conclusions

From the forgone discussion and research findings, it was concluded that;

- The relevance and ideal orientation of (EE in) TE, in Zimbabwe, should be informed by HBE. 5.0 philosophy for the purpose of innovation and industrialisation (the two additional pillars of Education 5.0 policy). Considerations for policy alignment, curriculum review and transformation should go beyond the global and trendy expectations but should also consider the context and emerging and innovative, heritage-based methodologies, in order to effectively address socio-economic challenges like unemployment. The organisational/institutional context, because of the heterogeneity of HTEIs, was of great significance. The heterogeneity of HTEIs and the need for autonomy to enhance innovation and industrialisation should be understood.
- There was a need for a holistic and comprehensive curriculum and curriculum transformation process to embrace the demands of HBE 5.0 of entrepreneurship and innovation in order to gear the whole education fraternity (from Primary to University) toward industrialisation and modernisation. Entrepreneurship and innovation in HTEIs could lead Zimbabwe to industrialisation, but there was a need for institutions to be capacitated and for relevant socio-

economic and political considerations to be made, for the context to be understood. Teachers' Colleges should be capacitated through the application of the MPD (A) Act (2020), NDS1 (2021-2025), the MHEISTD S&MAP (2021-2025), UZ Strategic Plan (2021-2025) and respective college strategic plans.

- Digitalisation, research, innovation, programmatic approach, entrepreneurship, and design thinking were identified as entrepreneurial TE practices and activities, that could lead HTEIs to industrialisation in Zimbabwe, if employed contextually. Digitalisation (adoption of Emerging ICTs, like Big Data, AR, VAR, IoT (that is sharing economy), design thinking and the programmatic approach could have a great and positive impact on industrialisation. The establishment of RI-HUBs and mainstreaming Business and Entrepreneurship Studies into tertiary education could expedite industrialisation and sustainable development.
- The Curriculum review and transformation process to achieve the alignment of TE with HTE 5.0 policy, could lead to industrialisation if the right attitude (human capital), desired (curriculum) content and (institutional and other) contexts were understood and an effective implementation matrix employed. HTEIs could become instrumental in the industrialisation agenda if they were well capacitated, their heterogeneity understood and autonomy granted. However, more research and innovation was required.

5.4 Recommendations

i. Recommendations for Policy Makers

- The mainstreaming of entrepreneurship and innovation into teacher education is recommended.
- It is recommended that relevant policies giving effect to national alignment should recognise heterogeneous contexts of institutions and should, therefore, be suggestive and not prescriptive. Government should be less interventionist. Autonomy should be granted to HTEIs unconditionally, to remove unnecessary red tape and enable these institutions to be innovative so that they can develop into business units on the basis of their unique individual capabilities.
- The affiliate and associateship of teachers colleges with a university should be revisited to establish if such policy is any longer necessary given the provisions of Manpower Planning and Development (Amendment) Act (2020) and the call for HTEIs autonomy. This may also be a recommendation for further study.
- It is recommended that curriculum-policy alignment and national curriculum framework should transcend the whole national education landscape (from ECEC to university), to avoid discordance within the same national education system.
- The (suggested) HBE 5.0 curriculum frameworks; the PFETE and (The Programmatic Education Framework) PEF models were recommended. The PFETE was recommended for TE and the PEF for the whole education fraternity (from ECD to university).

ii) Recommendations for Teacher Education Principals

- The following TE practices and approaches were recommended for Principals to adopt in their colleges: digitalisation; research and innovation; entrepreneurship; programmatic approach; design thinking and the establishment of RI-HUBs.
- This study recommends to Principals; the PFETE as an ideal teacher development framework that can lead to innovation, industrialisation and sustainable economic development.
- This study recommends that Principals interrogate and implement the provisions of the Manpower Planning and Development (Amendment) Act, 2020, in the context of diversity, capability and heterogeneity of their institutions, to promote innovation, industrialisation and sustainable economic development.

iii) Recommendations for Lecturers

- It is recommended that lecturers embrace digitalisation, design thinking, research, innovation and entrepreneurship and appreciate that these are inevitable in modern tertiary education.
- Lecturers should adopt team-based approach; focus on artefact, value and venture creation; connect students and self to the outside world; let student teachers act on their knowledge; and emphasise on active rather than passive learning.
- It is recommended that lecturers acquaint themselves with the provisions of the Manpower Planning and Development (Amendment) Act, 2020, and other related regulations, so that they improve practice and make informed decisions in the context of the envisaged transformation.
- They should have the right attitude and genuine entrepreneurial intention for them to be able to inculcate the same values in their students and positively influence innovation and industrialisation for sustainable development through teacher education.

iv) Recommendations for practising teachers

- This study recommends, to already practicing teachers, a comprehensive HBE 5.0 In-service Teacher Education Programme (ITEP) guided by the Programmatic Education Framework (PEF), to equip themselves with the relevant MBKSA commensurate with the HBE 5.0 philosophy and the HTE 5.0 policy (to achieve alignment of the entire education system).
- Practising teachers should also have the right attitude and genuine entrepreneurial intention as teacherpreneurs in their own right and for them to be able to inculcate the same values in their learners.
- It is recommended that teacherpreneurs adopt team-based approach; focus on value creation; connect to the outside world; let learners act on their knowledge; and emphasise on active rather than passive learning.

v) Recommendations for Student Teacherpreneurs

- Student Teacherpreneurs should be aware of the expected learner exit competences that are consistent with the emerging outcome and heritage based education for sustainable development.
- They 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 the right attitude and genuine entrepreneurial intention for them to be effective teacherpreneurs.

vi) Recommendations for further studies

- It is recommended that further studies be carried out to interrogate the harmonisation, alignment and/or economic impact of Education with Production, Competence Based Curriculum and the HBE 5.0 curricular. The suggested study gap seemed quite relevant to the alignment for industrialisation and sustainable development discourse but was not covered by this study as it was outside its purview. All three curricular seem to have different backgrounds yet they appeared to somehow contribute to the industrialisation agenda in Zimbabwe, hence the need for research to establish their feasibility, impact and alignment status. It would be interesting for researchers to explore how effective these curricular impact the industrialisation and the sustainable development agenda, if at all.
- Further research should be undertaken to establish the proper alignment, context and feasibility of various TE programmes. In light of the established need for college autonomy, it

is recommended that further studies be carried out to establish feasibility of having some teachers colleges evolve into universities.

- Further studies on the gaps emerging or substantive to this study are also recommended.

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