

Moving from the Edge to the Centre; the Role of Zimbabwe Higher Education in Achieving Education for Sustainable Development: Addressing the Quality Imperative

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Abstract

The need for sustainable development and societal transformation is gaining more and more relevance. Education for Sustainable Development (ESD) competes for curriculum and policy space in higher education and particularly in Teacher Education (TE). Education plays a key role in promoting sustainable development and developing people's capacity to address environmental and developmental problems. In Zimbabwe and the entire African continent, National Higher Education (HE) policies are increasingly regulated by international agendas like the Agenda 2030 Global Goals for Sustainable Development (SD). To put such policies into practice, teachers and teacher education must include them into their practices. Considering that education has a crucial role in active and critical citizens' development, teachers and teacher education must be prepared to integrate in their actions the importance of the SD agenda. Teacher education and initial teacher education (ITE) must include in their training and the preparation of future teachers to deal with quality and sustainability challenges. TE should take explicit strategies on board to promote the development of professionals with competencies that educate responsible citizens, in as far as SD is concerned. The main aims of the study are

- i) To establish how teacher education in Zimbabwe includes SD.
- ii) Analyse the challenges of implementing agenda 2030 in teacher education.
- iii) Suggest ways to improve SD, particularly focusing on quality in teacher education.

Based on the review of literature, this article suggests that there is need for teacher education to strategically adopt policies and strategies by integrating into policy, curriculum and practice in alignment with Sustainable Development Goals (SDGs) with the overall mandate of the Global Agenda for SD.

Keywords: Curriculum, higher education, sustainable development goals (SDGs), policy, teacher education

Introduction

Higher education in Zimbabwe is being significantly shaped by the global sustainability agenda. Two recent international developments (Burgener and Barth 2018) ^[2] would appear to be especially relevant for the necessary social learning processes and the role education for sustainable development must play in them. In this article we argue that to advance the impacts of ESD while increasing the capacity for education to respond to complex socio-environmental challenges, teachers and teacher education will play a significant role. The monitoring and evaluation of the Decade has shown that the support of teachers has been a key condition to the successful adoption and implementation of ESD (UNESCO, 2014b) ^[5]. The first can be seen in the recently ratified Agenda2030, which picks up the Millennium Development Goals and translates them into a global binding agenda (Firth and Smith, 2013) ^[18]. Agenda 2030 formulates 17 SDGs that are to be reached by 2030, and one of them which makes special mention of inclusive quality education for all and the promotion of lifelong learning (DESA, 2015, UN, 2015,

UNESCO, 2014) ^[17, 32, 15]. A shift in TE for SD policy, curriculum and practice is required in Zimbabwe for higher education to be in alignment with the global sustainability agenda. In Zimbabwe a major transformation in TE needs to occur across TE curriculum. Franco *et al.* 2018 tell us that, the ultimate purpose of TE teaching programme oriented around sustainability is to support the practical attainment of a sustainable future for economic development. Considering that education has a crucial role in active and critical citizens' development, schools and teachers must be prepared to integrate in their actions the importance of SD agenda (Chisingui and Costa, 2020) ^[12]. This means TE should take explicit strategies to promote (Chisingui and Costa, 2020) ^[12] the development of professionals with competences that educate responsible citizens with a specific focus on SD. Education, and education for sustainable development (ESD) in particular, plays a (Agebedahin, 2019, Holfelder, 2019) ^[11, 9] central role in building society's capacity to address some of the most pressing societal challenges faced today. Teacher education is a key arena for shaping progress towards more

sustainable futures (UN 2020) ^[10]. This important and crucial role is reflected in the commitment of the international community to the Sustainable Development Goals, which seeks to “ensure inclusive and equitable quality education for all and promote lifelong learning opportunities” (UN, 2015, P.14) ^[32].

A shift in TE for SD policy, curriculum and practice is required in Zimbabwe for higher education to be in alignment with the global sustainability agenda. In Zimbabwe a major transformation in TE needs to occur across TE curriculum. Franco *et al.* 2018 tell us that, the ultimate purpose of TE teaching programme oriented around sustainability is to support the practical attainment of a sustainable future for economic development. Considering that education has a crucial role in active and critical citizens’ development, schools and teachers must be prepared to integrate in their actions the importance of SD agenda (Chisingui and Costa, 2020) ^[12]. Quality higher education is the basis for improving lives and for sustainable development (Garcia, Magana and Ariza (2020) ^[14]. Quality education in general is understood as one of the most powerful and proven drivers for ensuring sustainable development, which can be applied in various educational contexts, formal and non-formal, and which can generate multiple benefits for the general public.

Burgener and Barth (2018) ^[2] argue that, when it comes to schooling and the role of school teachers in bringing about change to the curriculum, the question needs to be answered of what sort of knowledge and abilities teachers need to acquire in order to become active change agents and what role teacher education can play in contributing to the development of these competences. Fischer *et al.*, (2022) ^[8] tells us that TE for sustainable Development is a niche innovation in TE that empower teachers to prepare learners for addressing global socio-environmental challenges. In Zimbabwe, how to structure and implement quality TE for sustainable development is a key challenge. Quality teacher education provides the necessary life-skills for individual well-being while also empowering society with the capacities for realising a sustainable future for all. To implement sustainability through all levels of education, a demand made by various policy initiatives, special attention must be paid to the training and education of current and future multipliers who will be expected to act as change agents (UNECEP 2013, UNESCO 2014) ^[16, 15]. In this article we introduce and specify an approach to the challenges of achieving quality teacher education that is linked to TE for sustainable development. Education and learning lie at the heart of approaches to sustainable development and are therefore also matters of concern in higher education, as this article discusses in greater details. It is against this background that this review aims to address and enhance HE teacher education quality and sustainability by calling comprehensive approaches towards achieving Sustainable Development Goals through quality TE. Teacher Education for sustainable development has emerged as a field to address fundamental questions in TE in the context of fundamental questions in teacher education in the context of sustainability issues and to develop evidence-based practical approaches integrating ESD into teacher education. Our review seeks to provide a comprehensive and systematic analysis of the field on TE and sustainability. We also seek to determine the innovation potentials that TE for sustainability offers to support and respond to socio-environmental challenges. In pursuit of this objective, we ask two main research questions.

- What is the role of quality TE towards the transition to achieve ESD Global Agenda 2030 goals?
- How does TE as a niche innovation empower teachers to prepare learners to address global socio-environmental challenges?

Implementing Quality and Education for Sustainable Development in Teacher Education.

The successful implementation of Education for Sustainable Development (ESD) into curriculum and school (Barth, 2015, Frisk and Larson, 2011) ^[21, 22] practice strongly depends on how competent and committed teachers are in terms of sustainability. More than ever, this is a time when TE the world over should and must play a decisive role in providing learners across the world with the knowledge, skills and values to address solutions to today’s sustainability challenges. TE for Sustainable Development has emerged as a field to address fundamental questions in teacher education in the context of sustainability issues and to develop evidence-based practical approaches integrating ESD into TE. As such it can be considered a subfield of teacher education research, the field can also be distinguished as an offshoot of ESD, which has been demonstrated as a growing field focused on intertwining education and sustainable development to advance critical, interdisciplinary, and action-oriented approaches to teaching and learning The United Nations Decade of Education for Sustainable Development (2005-2014) aimed at integrating the principles and practices of sustainable development into all aspects of education and learning, to encourage changes in knowledge There is now a growing international recognition, values and attitudes with the vision of enabling a more sustainable and just society for all. There is now a growing international recognition of ESD as an integral element of quality education and a key enabler for sustainable development. In 2002, the UN initiated the ESD initiative that would cover a decade from 2005 to 2014. As indicated before ESD seeks to raise awareness in individuals about how to develop a sustainable lifestyle and thus achieve positive transformations in societies in the long term. The UN’s 2030 Agenda for Sustainable Development and its 17 sustainable development goals aimed both to improve the environment and to provide a way of achieving a better future. Goal number 4 promotes quality education while target number 7 of this goal specifically addresses education for sustainable development. Since the 2002 Johannesburg Summit, the special role of our TE systems in facilitating, envisioning, and leading change towards sustainability has been the focus of renewed attention. ESD is defined as an uninterrupted education that enables individuals to perform actions for sustainability with systematic and innovative thinking abilities and provides them with the necessary cognitive, affective, and psychomotor equipment (such as knowledge, skills, attitudes, values) for them to meet their needs (Barth, 2015, UNESCO, 2011) ^[21, 19]. Akca (2019) ^[1] argues that, ESD has seven key characteristics:

- Interdisciplinary and holistic
- Value driven
- Critical thinking and problem solving
- Multi-method in its approach
- Participatory decision making,
- Applicability and
- Locally relevant

It requires self-confidence, emotional intelligence, responsibility, and systematic thinking (Akca, 2019) ^[1] ESD

does not require a single learning domain; it requires the integration of multiple learning domains and the interdisciplinary work of individuals.

Education for sustainable development is described as education that enhances sustainable development and whose mission is to provide an enabling environment and capacity for all sectors and stakeholders to contribute effectively towards the achievement of sustainable development (UNESCO, 2011) ^[19]. ESD can potentially help governments and development partners to ensure that capacity exists for achieving the Millennium Development Goals (MDGs) since ESD provides learning goals that help to achieve the MDGs (UNESCO, 2008). Teachers are the single most important factor when it comes to success in students' learning and it is the teacher's competencies that create learning opportunities with the greatest potential learning outcomes. Against this backdrop Burgener and Barth (2018) ^[2] raised the following questions:

- i) Which competencies do teachers need in general to act professionally in everyday school life,
- ii) Which competencies do they need to implement ESD and
- iii) How teacher education can contribute to support the achievement of 2030 global goals and the development of competencies to achieve quality and sustainability in education.

During the UN Decade ESD UNICEF developed a holistic approach to competencies, which educators need for the successful implementation of ESD into their daily routine (UNICEF, 2013). Considering that education has a crucial role in active and critical citizens' development, schools and teachers must be prepared to integrate in their actions the importance of the SD agenda. Chisingui and Costa (2020) ^[12] argue that TE the world over should take explicit strategies on board to promote the development of teachers with competences that educate responsible citizens, namely as far as SD is concerned. The 2030 Agenda for Sustainable Development clearly reflects the urgency to embed the principles of ESD into all levels of education. Cebraian, Junyent and Mula (2020) ^[23] remarked that ESD is understood as an integral part of quality education and all higher education institutions should foster the development of sustainability competences. ESD seeks to support learners through the development of competencies for sustainability problem-solving and enable them to participate in sustainable development while critically reflecting on their own actions (Burgner., and Barth, 2018) ^[2]. The ESD concept gained momentum with the Decade of ESD from 2005 to 2014 (Cebraian *et al.*, 2020) ^[23] and has developed into a well-established field of educational policy and practice. The Global Action Programme on ESD supported further extension and dissemination of the efforts of the Decade "so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development" (UNESCO 1014, P14).

The concept of quality in the context of higher education is hard to define (Hanussek & Wossmann, 2007) ^[25] precisely where Universities have broad autonomy to decide on their own visions and missions. Sustainable development is understood as the existence of a prosperous and fair economy which is sustainable for the environment which should become the world's first and most important concern as it is the only path towards the survival of our species. In this sense, ratification of the Paris Climate Agreement and other declarations like the Incheon declaration 2030 offer unique and

valuable guideline for the implementation of Sustainable Development Goals as key frame and the challenges and also define ambitious objectives (WEF, 2016) ^[28]. To achieve true sustainable development and quality in TE humanity needs to be empowered with good ideas and clarity of thought, policies about well-being and the common goal should be the priority (Boeren, 2019) ^[26]. The goals of sustainable development especial in higher education are ambitious because the challenges that are faced can become irreversible catastrophes. Oziga (2012) ^[24] tells us that, higher education for a more sustainable future includes improving quality higher education, reorienting the education system to address sustainability, improving public awareness, and providing training to many sectors of society. TE institutions the world over should seek to orient their curricula to address issues of quality and sustainability and teacher educators are key change agents in orienting education towards addressing sustainability and quality. Higher education for a sustainable society means enabling people to develop the knowledge values and skills to participate in decisions that will improve the quality of life without damaging the planet for the future. TE therefore is taking a leadership role to prepare teachers and provide a sustainable society. The United Nations Sustainable Development Goals (SDGs) are not the first set of goals designed to help nations work together towards achieving quality. The initial Millennium Development Goals (MDGs) were formulated in 2000 at the Darker Framework for Action and included eight goals to be achieved by 2015 (UNESCO, 2004; World Bank, 2002, UN 2000, Gabay 2015, WEF 2000) ^[27, 29, 41, 13]. The second goal specifically focused on universal primary education but remains silent about quality in education yet universal education of poor quality is meaningless learners need to exit the education system with skills and competences for their survival. Enhancing quality TE should become a cornerstone of both the SDGs and the post 2014 Global Action Programme on ESD for quality education is essential for further progress across all dimensions of sustainable development (Gaby, 2015) ^[41]. SD is largely synonymous with quality education but requires far reaching changes to the way education functions in modern society. Higher education should play a pivotal role in mainstreaming education for sustainable development. Education is a human right and a force for sustainable development and peace. Every goal in the 2030 agenda requires education to empower people with the knowledge, skills and values to live in dignity, build their lives and contribute to their societies. On 25 September 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development (UN 2015) ^[32]. The UN luncheon Declaration 2015 significantly highlighted the pivotal role that education plays in the universal journey towards addressing sustainable development goals across the globe and serving nations. Agenda 2030 goal 4 advocates for providing the opportunity to progress towards implementing quality education for sustainable development that fosters the knowledge skills, values, perspectives and actions that lead towards a more sustainable future. Ambitions for education are essentially captured in Sustainable Development Goal 4 (SDG 4) of the 2030 Agenda which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030". The roadmap to achieve the education goal, adopted in September 2015, provides guidance to governments and partners on how to turn commitments into action Education 2030 Framework for Action (Shava, 2020) ^[31].

Higher education institutions are essential in the achievement of SDGs because they equip the next generation with skills, knowledge and understanding to address sustainability challenges and opportunities and perform research that advances sustainable agenda. Agenda 2030 for sustainable development seeks to shape global development policies and actions for the next 15 years, ensuring momentum and strategic direction for global quality higher education and concerted action to kick start the improvement of quality in teaching and learning. The UN (Dash and Mohanty 2018) [33] Decade of Education for Sustainable Development (UNDESD) (2005-2014) significantly highlighted the vital role that education plays in the universal journey towards sustainable development. The need to embed ESD in higher education curriculum and pedagogy is well recognized in international sustainable development dialogues (Tilbury and Ryan, 2013) [34]. Learning to change for a better world is the catchphrase most often associated with the term ESD. Underpinning this education movement is a commitment to rethink the purpose of education and to reorient curriculum and pedagogy framework practices. ESD seeks to shift education paradigms and extend learning opportunities so that people can contribute to more sustainable futures (Tilbury, 2010) [36]. In this article we argue that good quality education is an essential tool for achieving a more sustainable development. The major strategies for achieving ESD in higher education through this experiencing with critical thinking, provocative questioning and alternative ideas about current patterns of development and potential to devise new ways of living. Changing higher education curriculum and pedagogy is recognized to be one of the most intractable, difficult and complex area of ESD (Guni, 2011) [37]. With the adoption of the UN SDGs in 2015 ESD is now undoubtedly at the very top of the global agenda (WEF, 2016) [28]. UN Agenda 2030 seeks to transform the world focusing on orienting higher education towards sustainable development with a strong suggestion to review curriculum to ensure multi-disciplinary approaches. ESD is referred to in other SDGs and can safely be argued that ESD cuts across all the 17 SDGs and can indeed be seen as a key instrument to achieve the SDGs (UNESCO 2017) [35]. The 2030 Agenda and its enshrined goals, enhancing the economic, social and environmental perspectives of sustainable development provide a holistic and promising opportunity for the wellbeing of the world's future generations and the planet. UNESCO, (2014) [15] tells us that over the last decades, an emerging body of literature regarding ESD and sustainability competencies has emerged. In this article we argue that ESD is the combination of cognitive skills, practical abilities, and ethical values and attitudes mobilised in a real situation or context related to sustainability. ESD focus on the competencies that teachers and educators need to put in place in educational settings in order to promote sustainability competencies amongst their students.

Quality Education Historical Overview

Quality Education and Education for all (EFA) have been a worldwide movement coordinated by the United Nations Education, Scientific and Cultural Organisation (UNESCO) and whose main objective was to satisfy the basic needs of the population in terms of education and leaning by the year 2015 (WEF 2000) [13]. This movement (WEF 2000) [13] started in 1990 at the World Conference on Education for All: Meeting Basic Learning Needs, held in Jomtein, Thailand and convened by the world Bank, the United Nations

Development Programme (UNP), and the United Nations International Children's Fund (UNICEF). The Jomtein Declaration brought together members from both countries and associations recognising the need to provide a broad vision of quality in education for present and future generations by proclaiming the World Declaration on Education for All. According to the United Nations Educational, Scientific and cultural organisation (UNESCO) quality higher education is unquestionably an indispensable part of achieving sustainable development. Access to quality higher education allows learners to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. Quality education and education for sustainable development consequently promotes competences like critical thinking, imagining future scenarios and making decisions in a collaborative way. Quality and access in higher education is placed at the centre of the 2030 sustainable development agenda and has been widely acknowledged as a key enabler of all the 17 sustainable development goals. While concerns for quality and access to higher education has been an important future of higher education and has been dubbed as the quality revolution which has emerged as a worldwide phenomenon within the context of widening and deepening access to higher education. Agenda 2030 seeks to transform higher education focusing higher education towards sustainable development with a strong suggestion to review curriculum and pedagogy to improve the quality of education. With the adoption of the United Nations (UN) Sustainable Development Goals (SDGs) issues and quality in higher education are now undoubtedly at the top of the global agenda. The UN decade of Education for Sustainable Development (ESD) significantly highlighted the virtual role of quality in higher education that it can and must play in the universal journey towards achieving sustainability and development. ESD addresses target goal 4 of the SDGs ensuring inclusive and equitable quality education and promoting lifelong learning for all. Quality TE education lies at the heart of all development as higher education makes a difference to the quality of a country's workforce (UNESCO, 2004) [27]. The American Commission on Teacher Education also argue that the quality of a nation's citizens depends upon the quality of its education, and the quality of education world over depends largely upon the quality of its teachers (UN 2000) [38]. The notion of quality in the context of higher education is hard to define (Hanushek & Wossmann, 2007) [25] precisely where universities have broad autonomy to decide on their own visions and missions. The rapid growth of higher education systems in the Southern African region has raised concerns about quality sustainability and development of the education system offered by higher education institutions. Sustainable development is understood as the existence of a prosperous and fair economy which is sustainable for the environment should become the world's first and most important concern as it is the only path towards the survival of our species. In this sense, ratification of the Paris Climate Agreement and other declarations like the Inchon declaration 2030 offer unique and valuable guidelines for the implementation of Sustainable Development Goals as key frame and, also define ambitious objectives (WEF, 2015). To achieve true sustainable development and quality in higher education, humanity needs to be empowered with good ideas and clarity of thought, policies should be about well-being and the common goal should be the priority (Carlos Blanco-Prerez., Perez-Casares & Rodriguez-Riesco, 2019) [40]. The goals of sustainable development especial in education are ambitious because the challenges that are faced can become

irreversible catastrophes. The United Nations Sustainable Development Goals on the current global education policy and system climate, which is strongly oriented towards various benches, indicators and targets (Oziga 2012) [24]. Education for a more sustainable future includes improving quality higher education, reorienting the education system to address sustainability, improving public awareness, and providing training to many sectors of society. Higher education institutions the world over should seek to orient their curricula to address issues of sustainability and teacher educators are key change agents in orienting education towards addressing sustainability. The United Nations Sustainable Development Goals (SDGs) are not the first set of goals designed to help nations work together towards creating a clear planet and more just global society. The initial Millennium Development Goals (MDGs) were formulated in 2000 at the Darker Framework for Action and included eight goals to be achieved by 2015. These are

1. To eradicate extreme poverty and hunger;
2. To achieve universal primary education;
3. To promote gender equality and empower women;
4. To reduce child mortality;
5. To improve maternal health;
6. To combat HIV/AIDS, malaria and other diseases;
7. To ensure environmental sustainability; and
8. To develop a global partnership for development (UN, 2000, Gabay, 2015; WEF, 2000) [38, 41, 13].

The second goal specifically focused on universal primary education but remains silent about quality in education yet universal education of poor quality is meaningless, learners need to exit the education system with skills and competences for their survival.

Quality Teacher Education for Sustainable Development

The development of any country into a great nation is only possible if there are competent and dedicated teachers to impact the appropriate knowledge, attitudes and skills. The quality of education often depends on the quality of teachers and teachers' professional development is closely linked to teaching effectiveness and student learning outcomes (UN, 2000) [38]. TE is seen as a complex process of professional development and education given to intending teachers to equip them with skills, knowledge and competencies, which they need to assist individual learners to receive quality educational experiences that will enable such individuals to become independent lifelong learners, which they need to maintain their wellbeing throughout life. Fischer *et al.*, (2022) [8] argue that TE for Sustainable Development is the area of policy, practice, and research focused on the integration of ESD related concepts and objectives into teacher education. As the Decade of ESD and the Global Action Programme supported more countries to embed ESD in their TE policies, curriculum and practices, research on TE sustainability and quality began to grow substantially. The field has witnessed the emergence of dedicated journals, conferences and networking bodies. In Zimbabwe the National University of Science and Technology holds annual conferences on ESD and this has led to a range of conceptual and practical approaches implemented in diverse contexts but as a transition towards achieving ESD.

Education has been regarded as a multidisciplinary knowledge base that has contributed immensely in the development of many nations. More than ever, this is a time when education can and must play a decisive role in providing

learners across the world with the knowledge, skills and values to discover solutions to today's sustainability challenges. Teacher education in particular, is a key pre-requisite (UN 2000) [38] for the promotion of education for sustainable development (ESD). Teachers constitute the backbone of any education system. They are presumed to be agents of change. As change agents, they require knowledge, skills, competencies, attitudes and values that promote sustainable development. Teacher education programs in Zimbabwe are still characterised by the traditional courses, course content, methodologies and assessment and evaluation procedures that fail to respond to sustainable development goals. There are hardly any significant structural and cultural changes in teacher education and training that promote ESD concept. ESD (Firth and Smith 2013) [18] argue that it has galvanized pedagogical innovation in TE. Stretching to the school system, education policy, including curricula changes, now promotes learning for sustainable development in many countries, from early childhood learning through to private sector training. In Zimbabwe student teachers are gaining direct experience of sustainability through a wide range of college based learning by doing ESD initiatives that have been introduced in the college curriculum. Awareness of education for sustainable development is very low in the teacher education community in Zimbabwe. Education for sustainable development is thought of as something new that will overcrowd the already overcrowded teacher education curriculum. Teacher education institutions are still far behind in terms of working towards eradicating poverty, ensuring healthy lives, providing inclusive and equitable quality education among other sustainable development goals. Such complex issues require new ways of thinking, collaboration and solving problems. Sustainable development goals form part of the United Nations 2030 Agenda for sustainable development which was unilaterally agreed upon and adopted in 2015 by all member states as a plan of action for people, planet, prosperity, peace and partnership. Teacher education institutions have to comply and prepare the current and next generation of teachers, education administrators and scholars who are able to help people learn how to address challenges they are faced with.

The need for sustainable development and quality TE and transformation is gaining more and more relevance. Social learning according to (UN, 2015) [32] will be needed to contribute to real change which is why the 2030 Agenda (UN, 2015) [32] and Global Action Programme pick up on the importance of quality TE and education and establish it as one of their priorities. Strengthening the competencies of teachers is one good way to ensuring inclusive, quality education for all and to empower everyone to support sustainable development. The implementation of sustainable development will depend not least on competent and committed teachers who are motivated to act as change agents. Two recent international developments would appear to be especially relevant for the necessary societal learning processes and the role quality TE play for sustainable development. The first is seen in the recent ratified Agenda 2030 which picks up the Millennium Development Goals and translates them into a globally binding agenda (UNGC, 2013, Firth and Smith, 2013) [3, 18]. To develop sustainability into a golden thread throughout all education levels as envisaged in the Incheon Declaration of 2015, more will be needed than political will. To support the transition towards achieving ESD, the Global Action Programme included a priority key action area explicitly aiming to "strengthen the capacity of educators,

trainers and other change agents to become learning facilitators for ESD” (UNESCO, 2014a p.35) [4]. If we create a world that is more just, peaceful and sustainable, our teachers, individual, and societies must be equipped with and empowered by knowledge, skills and values as well as be instilled with a heightened awareness to drive transformational change. ESD is an integral element of quality education and a key enabler for sustainable development. Sustainable development cannot be achieved by political agreements, financial incentives or technological solutions alone. Sustainable development requires changes in the way we think and act. Higher Education and more specifically TE plays a crucial role in bringing about this change or transformation. There is also need for actions at all levels of education and fully mobilize the potential of ESD and enhance learning opportunities for sustainable development for all.

Conclusion

The important role of TE in sustainable development has long been recognised. Improving and reorienting education for sustainable development has been one of the Global Agenda for 2030, which was adopted at the Incheon declaration in 2015. Since then the United Nations and its ESD partners has been successful in raising awareness regarding ESD, has mobilised stakeholders across the globe, has created a platform for international collaborations and networking to influence policies and contributed to the coordination of stakeholders at the national levels, and generated large amounts of concrete good practice projects in all areas of education and learning. At the same time, considerable barriers have been experienced, successful activities in ESD often merely operated within fixed time-frame and with limited budgets from governments and ESD policies, strategies and practices are often not properly linked. In this article we have argued that ESD allows every human being to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development and take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations. In Zimbabwe and probably the entire world over, there is growing international recognition of ESD as an integral element of quality education and a key enabler for sustainable development. Educators and trainers are powerful agents of change for delivering the educational response to sustainable development. For them to help usher in the transition to a sustainable society, they must first acquire the necessary knowledge, skills, attitudes and values. To address sustainable development issues, they must also develop the requisite motivation and commitment. Despite the efforts which have been put forth by politicians and leaders of many countries. around the world, especial by signing the Agenda 2030 Global Goals and the declaration which established the 17 goals for sustainable development, such efforts will not be successful without the commitment of all citizens and also without addressing TE curriculum. With its origin in the broader field of sustainability science, TE for sustainable development can be considered a niche innovation that has been brought into the teacher education from the outside. However research produced in this area of TE points to the potential contributions that TE for sustainable development can make to the broader field of TE research. Considering that education has a crucial role in active and critical citizens’ development, schools, higher education institutions, and

teachers must be prepared to integrate in their actions the importance of the Sustainable Development agenda. TE and initial teacher education must include in their formative paths the preparation of future teachers to deal with such challenges. TE must take explicit strategies on board to promote the development of professionals with competences that educate responsible citizens, namely as far as Sustainable Development is concerned. Through our systematic literature review, we have demonstrated that TE for sustainable Development is a growing area of research aiming to enhance the quality and capacity of teacher education to navigate pressing socio-environmental threats such as climate change and social injustice. Looking ahead, TE for sustainable development research must continue to evolve to further its contributions to the broader teacher education discourse. We conclude that TE for sustainable development research related activities should explore how to link approaches in teacher education towards the transition to achieve ESD and specifically goal 4 on quality in education. There is need to identify potential strategies that can facilitate mainstreaming and implementing ESD, thus advancing empirical research in TE and ESD areas as well as more robust conceptual and theoretical work will strengthen the link between TE and ESD to inform innovation, transformation and the required transition towards achieving Sustainable Development Goals by 2030.

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