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## Digitizing borderless higher education landscapes through curriculum policy change to educate global citizens

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## Digitizing borderless higher education landscapes through curriculum policy change to educate global citizens

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## Digitizing Borderless Higher Education Landscapes Through Curriculum Policy Change to Educate Global Citizens

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**Abstract:** *Advancements in science and technology are mobilizing higher education landscapes into borderless settings. Such changes also urge higher education settings to adopt transformative learning opportunities into their curriculum policy. Universities are accountable for helping youth build on their 21st Century competences by highlighting societal issues at global levels such as climate change, refugee crises or big human movements due to poverty, politics, conflicts, wars, or natural disasters. Youth need to build on knowledge, skills, and competences to recognize that any crises in one location can have an immediate impact on neighboring countries primarily and the whole world and challenge their potential to act as global citizens in their deeds and decisions as future change agents for a peaceful future. In this paper, we highlight the need to invest in global citizenship capabilities that will enable higher education students to go beyond their academic settings and network with international students via digital tools. In this paper, higher education students are regarded as future change agents who are willing to develop accountability toward the entire globe by investing in their socio-ecological, socio-critical and socio-emotional capabilities.*

**Keywords:** higher education curriculum policy, transformative learning, global citizenship, educational technology

## 1. Introduction

We are living in the first quarter of the 21st Century, and advancements in technology and science are speeding upwards, and the circulation of knowledge and production has reached its highest levels and travels without geopolitical borders beyond our imaginations due to global communication systems such as the Internet, and educational systems such as MOOCS (Massive Open Online Courses). Yet, humanity is facing a lot of sadness, wars, injustices, and poverty, and the cruelty witnessed at global levels reminds us of the Middle Ages. As educators, we are accountable for helping students build on their 21st Century competences by highlighting societal issues at global levels such as refugee crises or big human movements due to poverty, politics, conflicts, wars, or natural disasters. Universities need to help youth build on knowledge, skills, and competences to recognize that any crises in one location can have an immediate impact on neighboring countries primarily and the whole world and challenge their potential to act as global citizens in their deeds and decisions as future change agents. Such a knowledge-building process urges higher education students to be equipped with the transformative skills and knowledge to be able to prevent or solve emerging problems that may have started in their neighborhoods, and create a growing lambda reaching the entire globe. Ultimately, we can trust university students to improve their potential to reach out and act as globally informed citizens and become pioneers to invest in the resources available for a sustainable future and for the well-being of humankind and the ecology.

Alongside the digital transmission of ideas, the interaction between cultures explicitly or implicitly affects the social context of higher education. Digital

technologies had become a tool for teaching long before the Covid-19 pandemic broke out in late 2019 and accelerated the transformation of the 21st Century higher education landscape into a digitized platform. One of the latest reports by the OECD (OECD, 2021a) figures shows that more and more exposure to online learning is becoming a trend in education at all levels, and this has increased since the early closure of the Covid-19 pandemic in late 2019 and 2020. Undoubtedly, technology has opened a new landscape for higher education, and humankind should make the most of it. The experiences and the benefit of reaching out to students or faculty from remote spaces have triggered the educational landscape in the post-pandemic process as well. On the other hand, this shift might have also exacerbated already existing inequalities in higher education. Since the higher education landscapes are digitized, it is imperative to mitigate this exacerbation at both the levels of curriculum policy and educational practice. There is a body of research that suggests adapting the perspectives of connectivism and transformative pedagogy (e.g., Brieger et al., 2020), this article outlines a theoretical framework about how global citizenship capabilities of university students can be promoted via investment in the affective domain or 21st Century soft skills in higher education curriculum policy through identifying the role of digital technologies in an interconnected and interdependent world.

In the First Forum of Tsinghua University, Prof. Yang Zongkai's statement mirrors George Siemens' connectivism theory (Siemens, 2005) indicating that digitalization will undoubtedly change organizational structure, factory relationships, and the functional utility of the higher education system. He argues that this transformation "be a cultural farm, and value proposition to create a more learner-centered, more open, more

integrated, more resident, and new ecology of higher education" (Zongkai, 2022). There have been tremendous studies that technology integration between teaching and learning may have high gains but also some drawbacks indicating the loneliness of the teacher or that of the learner who misses the social dimension in the digitized learning environment, which actually reflects a need for new pedagogies fit with the virtual environment.

In his paper "Connectivism: A learning theory for the digital age" George Siemens (2005) argued that the learning theories of behaviorism, cognitivism, and constructivism did not meet the demands of the digitized educational needs as knowledge production is complex in the new technologically mediated times and learning seems to happen through the connections of networks or communication platforms explored through the integration of principles taken from chaos, network, complexity, and self-organization theories. The learner needs to indulge oneself in a frequent decision-making process of what knowledge is worthwhile as the knowledge of today may have already transformed into different understandings for tomorrow. In that regard, the knowledge that is accessible based on the networks the individual is connected to matters for how humanity and nature can benefit from this transformation.

Higher education is inevitably connected with the virtual space and the internationalization process that urges the youth more likely to get access to knowledge via open programs or open higher education, Massive Open Online Courses, and off-campus programs are some examples. Such transformative learning processes inquire about the need to preserve the quality of face-to-face teaching with the benefit of using the advancements in technology (Kotzee & Palermos, 2021) at optimal levels. Likewise, Siemens' (2005) argument above those earlier

forms of instruction relied more on rule-based knowledge and basic skills, the new era inquires the learning of competences to be able to pace and cope with the rapidly multiplying knowledge formation. The difference between the traditional lecture-type teaching model, in the connectivist MOOCS model, learning, happens organically through networking activities and the cooperation among learners in a digitally mediated borderless higher education, and the level of input may include content reflecting the cooperation, or the self-education of students as presented in the work of Ivan Illich's Deschooling Society concept (Kotzee & Palermos, 2021).

In 2018, the Council of the European Union adopted a recommendation on eight key competences for lifelong learning to citizens for personal fulfillment, a healthy and sustainable lifestyle, employability, active citizenship, and social inclusion. This reference tool for education and training stakeholders highlights the competences needed for today and in the future that need to be adopted via innovative learning approaches, and assessment methods so that all learners should achieve their full potential (European Union, 2019). Competence in citizenship refers to knowledge, skills, and values as part of awareness of the aims, values, and policies of social and political movements. Knowledge of sustainable systems such as climate change and demographic change at the global level and developing a critical understanding of the reasons behind change need to be critically comprehended so that diversity and cultural identities can be understood at European and global levels. Therefore, the development of critical thinking and problem-solving skills are of utmost essential, as is the ability to access, and have a critical understanding of various forms of media and their role and functions. According to the EU Report, being a citizen requires the following essential principles,

attitudes and values: support for social and cultural diversity, gender equality, social cohesion, sustainable lifestyles, intercultural communication and promoting a peaceful and non-violent culture that respects the privacy of others. In addition, it promotes “taking environmental responsibility” (European Union, 2019, p. 12).

## **2. Objective**

If we consider technology as a tool for educational transformation (Fishman & Dede, 2016), via educational technology and connected networks, it can be used as a catalyst for curriculum policy change where higher education students are educated for global citizenship to receive social, ecological, critical, and emotional outputs for the common good.

Higher education curriculum policy, beyond its conventional meaning, needs to consider a transformed curriculum content that is responsive to the opportunities and challenges of the global context such as sustainable ecological policies and using this technology in the context of an ecology of learning environments, or instructional approaches. In other words, higher education landscapes are urged to adopt an international and global perspective and to change their conventional approaches to applying cognitively described curriculum policy and instructional practices. It inquires about reconsidering the social responsibility of higher education institutions, via technological means, higher education needs to invest in global citizenship development and investment in the capabilities of its students. When we look closer at the conceptual framing, it can be seen that ‘global citizenship’ is defined as; “to have a sense of belonging to a common humanity, sharing values and responsibilities, empathy, solidarity and respect for differences

and diversity” (UNESCO, 2015, p. 15).

## **3. How can educational technology enhance such capabilities?**

To discuss possible answers to this crucial question, it is essential to identify what global capabilities mean. Arguably, the term, global capabilities can be predominantly conceptualized as globally-minded individuals with the capability to take actions locally and globally on multiple processes of globalization - social, political, environmental, technological, and economic (OECD, 2018). How will it be then possible to effectively empower higher education student populations to solve or mitigate the unpredictable outcomes of the global world with all its complexities? The urgent need for, and the increasing awareness that we may not know how best to accomplish this ultimate goal give rise to discussing the potential that higher education institutions hold. Horey et al. (2018) state that this is mainly due to the fact that higher education institutions hold a long history of education for sustainable development, and they have the capability to lead and bring educational reforms both for their curricular policies and as well as outside their organic contexts. As educators, we may assume that in case the young generations are empowered as future agents in the decision-making and social change processes by building on their global citizenship capabilities, the world may look more peaceful and greener. Taking global citizenship as an umbrella term, despite the diversity in the focus of education for global citizenship (Tawil, 2013), it is possible to explicitly refer to a set of formal and informal learning opportunities for targeting behavioral and attitudinal changes of individuals and promoting mind-sets specifically aiming for (a) being aware of global issues, (b) feeling personally accountable and responsible towards global issues, (c) feeling a personal

commitment to take constructive actions and (d) actively being engaged in resolving these issues beyond learning environments (OECD, 2018). The learning opportunities within the higher education curriculum policy should be balanced and integrated alongside the core cognitive elements of the field the students are in, and provide more emphasis on, and intersections between social, emotional, ecological, and critical capabilities for their development (Tawil, 2013).

## **4. Socio-Ecological Capability**

The socio-ecological aspect of global citizenship can be associated with the concept of the butterfly effect, in which a small initial action in one place creates larger and unexpected consequences somewhere else. Concerning the health and safety of humanity, the idea of small actions catalyzing unpredictable outcomes may look both frightening and encouraging as we all are facing tremendous tragedies and the slow recovery of the nature damages caused by human actions (e.g., pollution, climate change, ecological depletion, and resource scarcity). These concerns give rise to talk of responsibilities as well as rights (Dobson, 2003). The social objective to which these responsibilities relate is the “sustainable society”, and the questions posed by environmental politics are: What kinds of responsibilities relate to this objective, and to whom or what do they owe? The answers to these typical citizenship-related questions lead us beyond the ecological context of local citizenship to the global citizenship one since the ecological crisis is borderless and cannot be left to the concern of a single body or nation alone. It entails all nations as they are geographically interconnected, and ecological crises such as climate change, water shortages, and other similar processes need to be taken as common measures for the future.

From a relational and systemic orientation putting emphasis on the interconnected relationship between societal activities and the state of the ecosystem, we are inescapably operationalizing the socio-ecological aspect of global citizenship as cognitive, affective and behavioral knowledge, skills and values necessary to make social and ecological justice possible (Andrzejewski, 1996).

In 2015, the Sustainable Development Goals (SDG) 2030 Agenda was agreed upon by 195 nations with the United Nations claiming they can change the world for the better. As of May 2018, the European Commission proposed an EU Youth Strategy for 2019-2027 that targets the youth to encourage their investment in non-formal learning, voluntary activities, and mobility. Given the strategies set forth, higher education institutions (HEI) are undeniable in their role to improve the lives of the people and the natural ecology by the year 2030. Traditionally, HEI has been integrating environmental education and education for sustainability into curricula of different academic disciplines to provide the young generations with the skills and insights for adapting pro-environmental behaviors for the last two decades (Stough et al., 2018). Indeed, there is an increasing urgency for the young generation to improve both proactive and reactive capacities as global citizens to mitigate the adverse impacts of socio-ecological problems. Thus, such goals need investment beyond academic knowledge production, it requires investment in the learning of knowledge, skills, competences, and values to become global citizens who share and feel accountable to the globe as responsible unified endeavors. Although the integration of global citizenship concerning sustainability into higher education curricula is arguably still in the development phase, some of them make some attempts to link global citizenship to education for sustainability.

Rather than thinking of a technically well-described curriculum in its traditional way, like Fishman and Dede (2016), we suggest infusing the deep content that reflects up-to-date knowledge as it evolves rapidly and make students feel accountable in their actions for their surrounding environments and the larger global landscape.

Accordingly, alternative conceptual frameworks of how to integrate socio-ecological aspects of global citizenship into formal curricula have been suggested in recent studies, including an interdisciplinary approach (e.g., Yanniris, 2021), experiential learning approach (e.g., Bourn et al., 2017) and inquiry and problem-based learning approaches (Leite, 2022) and transformative learning approach (Winter-Simat et al., 2017). While each of them represents a higher order of integration into formal curricula, the common key elements include promoting (1) eco-literacy with deeper understanding of the relationship between human actions and the natural world through gaining a critical perspective, and (2) feeling accountable, responsible and commitment to take desired actions as a global citizen, (3) social learning occurring within social groups through observing, modeling, and imitating the behaviors of others (Bandura, 1977), given university students not alone, but also all citizens are obliged morally to see the world ecologically and act to address root causes collectively.

With that in mind, certainly, today it is possible to think and act globally and locally at the same time as a result of advances in technology and virtual networks through which the youth can engage in collective activities to make a significant contribution to sustainable development (O’Riordan, 2001), and holding a notion of not only personal but also collective commitment within the context of a “borderless world” (Dobson, 2003). Notably, it can be argued that information and

communication technologies have a significant potential for increasing socio-ecological capabilities and adapting associated behaviors (Charatsari et al., 2022). In line with that, through the connectivist learning approach accepting the information and communication technologies as a major factor in the learning process (Siemens, 2005), student work, or tasks, that may be technologically run, or blended need to be part of both curricular or extracurricular activities, and need to include challenges related to inequality injustice, and unsustainability all around the world. Those activities enable opportunities to develop essential capabilities for global citizenship.

### **5. Socio-Emotional Capability**

Living in a community in a peaceful environment enables its residents to develop belongingness and accountability. Through educational means, societies can mitigate the possible misunderstandings or conflicts that may arise from diversity and via building on the socio-emotional capabilities of individuals that include elements such as respect and understanding of cultures and the social norms of others and build awareness and acceptance of how to reach out and communicate and produce together are essential for a happy present and future for individuals under the global citizenship framework.

According to UNESCO (2022), global citizenship education consists of three essential domains of learning: (1) the cognitive dimension, (2) the socio-emotional dimension, and (3) the behavioral dimension. As for the socio-emotional dimension, empowering students with independent thinking and critical inquiry abilities is crucial in contributing to their understanding and respect of difference and diversity. Socio-emotional skills are closely interrelated with global citizenship in terms of one’s responsibilities towards every

other living being. Factors such as mutual respect, harmony, intercultural skills and communication, and mutual acceptance of shared responsibilities contribute to the socio-emotional aspects (Alazmi, 2022; Banks, 2017; Dague & Abela, 2020; Thieman & Hart, 2007; Tichnor-Wagner, 2017). The need for mutual acceptance of shared responsibilities and “working towards a common good” is urgent given the complexities that societies are facing today (Tichnor-Wagner, 2017). Understanding and respecting differences and diversity and having responsible and innovative ways of engagement with global issues might be a way of reaching a solution to such global societal issues.

The socio-emotional capability of university students cannot be developed easily; their background, and how they are trained are highly crucial points to consider in developing a plan or a curriculum to foster socio-emotional capability for that generation of people. By developing interpersonal and interactional skills of students, they will feel responsible, and act together in solving global problems as part of mutual responsibility. Developing intercultural competences (communication, collaboration, etc.) that include respect for other cultures, valuing diversity, or learning to live in solidarity with people outside their social, political, or economic cultures may be facilitated with technology, and university students may become fostered to take leadership positions as being change agents in various solutions to global problems.

### **6. Socio-Critical Capability**

Countless pieces of knowledge and colorful distractors and entertainments including graphical visuals are bombarded into our lives via social media, networking, and the visual and printed media, and

digitized illustrations are apt to instill certain philosophical, political or economic ideologies in the youth. This has been more visible since the emergence of the COVID-19 pandemic and climate change. For instance, there are examples of graphs and charts advertised that include irregular and inaccurate scales aiming to twist scientific data and support speculative claims about COVID-19. These twisted charts and graphs may have a huge impact on public understanding and behavior toward vaccines and spread prevention (Kwon et al., 2021). The situation is no different for climate change or the socio-ecology aspects of global citizenship as described earlier.

Thus, in an era of digitizing where the internet community rapidly shares and absorbs information and forms ever-evolving culture and pedagogy, it is now more important than ever to develop multiple literacies such as media literacy, mathematical literacy, computer literacy in the reshaping of education (Kellner & Share, 2005). Also, it is time to reflect on “what knowledge should guide our actions,” rather than asking the metaphysical questions of “what knowledge is true” and to be learned. In this sense, the socio-critical aspect of global citizenship inquires the need of whether individuals are equipped with the essential skills and competences to critically question the knowledge that is colorfully exposed in a frame to them. Concerning this, critical mathematical literacy and critical media literacy are important concepts in the socio-critical aspect since mathematics and statistics are at the heart of social sciences that enable individuals to interpret the information presented in numbers, percentages, and graphs used to obscure economic, political, and social realities and gaining control over such structures of the world to fully participate in society locally and globally.

Critical mathematical literacy is defined as “the ability to ask basic statistical questions so

as to deepen one's appreciation of particular issues, and the ability to present data to change people's perceptions of those issues" (Frankenstein, 1994, p. 1). In particular, critical media literacy entails skills to analyze "media codes and conventions, abilities to criticize stereotypes, dominant values, and ideologies, and competences to interpret the multiple meanings and messages generated by media texts" (Kellner & Share, 2005, p. 372). A growing number of studies have shown that media representations influence the construction of our images and understanding of the world and contribute to the exacerbation of inequalities through over-representing some dominant groups and underrepresenting some disadvantaged groups. In this respect, the socio-critical aspect is rooted in and informed by the scholarly works of equity, democracy, and social justice and relates vis-a-vis Paulo Freire's critical pedagogy.

In particular, critical consciousness is an important concept in critical pedagogy and hence in the socio-critical aspect of our conceptualization of global citizenship. Critical consciousness is defined as "learning to perceive social, political, and economic contradictions and to take action against the oppressive elements of reality" (Freire, 1970, p. 36). It involves interpreting facts and situations in their historical, socio-economic, political, and cultural context; understanding the boundaries and the possibilities of humans' actions for transforming the world (i.e., human agency); and using own knowledge of the world to reconstruct a society that is free of oppression (Giroux, 1981). In this sense, critical consciousness is an umbrella term that is tied to several literacies such as critical mathematical literacy and critical media literacy. Not only it enables people to learn from the media and use it intelligently without being exposed to manipulation, but also it helps to develop the skills and motivation required for being competent global citizens.

There is no doubt that education and critical consciousness are closely connected in the sense that critical consciousness and related literacies are socially constructed in educational settings as well as through cultural practices. Thus, it is imperative that educators should develop novel strategies to support university students' critical mathematical and media literacies to help them tackle the problems and challenges of contemporary life. The process of empowerment is a critical aspect of educating youth. This can include supporting youth's self-esteem to elaborate on meanings and misrepresentations of social, economic, and political inequalities and injustices and create alternative voices that support a healthy multiculturalism of diversity, and a more robust democracy (Kellner & Share, 2005).

Students learn to elicit information that is just and credible throughout the instructional process and build on transformative skills for their future professional and civic lives. Through the curriculum, they need to develop a socio-critical capability to be able to study or research practical, real-world examples that deal with social, economic, and political justice (Gutstein, 2016). One way of doing this could be addressing and negotiating cases of inequality and injustice in the media and sensitizing youth to such kinds of inequality and injustice (Kellner & Share, 2005). This could include integrating figures and numbers broadcasted into the instructional process, and discussing or reflecting on the information presented in graphs and tables with numbers and percentages as obscure economic, political, and social realities. Building on those capabilities may develop university students as agents for change for a more peaceful globe.

### **7. How can instruction for transformative learning be designed in a digitized context?**

Curriculum policy change needs to

couple with instructional change that urges the university educators to adopt a culturally responsive pedagogy and a digital ethicist stance let alone the diversity of student populations they are confronted with. Instructional student-centered approaches such as inquiry-based learning, or case-based learning in single or interdisciplinary curricular and extra-curricular tasks are some ways to develop the essential soft skills and values to become responsible active global citizens toward emotional, social, and ecological issues, especially in down to earth or on-ground higher education landscapes. Pardo and Siemens (2014) refer to learning analytics that can be a way to help students to gather and analyze events captured while they are interacting in a digitized learning environment. Yet, the authors highlight the issue of ethics and trust and refer especially to the challenges that it can provoke while using social networks such as Facebook that especially target student populations or transparency in declaring how data are obtained and manipulated. Thus, becoming critical global citizens also urges one to develop the skills and competences of how data is progressed, and how it is presented, which indicates the development of global citizenship skills "respecting privacy, being transparent, and accountable" (Pardo & Siemens, 2014) are part of socio-emotional and socio-critical capabilities and assess and evaluating the data for analytics need the accountability of students and urges a need in developing socio-critical capabilities.

Certainly, in light of the significant potential of technology-integrated learning environments for building any global citizenship capability, other critical questions should be addressed: What are the roles and responsibilities of university educators in empowering all graduates to become professional and responsible global citizens for the globalized world? Do the students

automatically promote global citizenship capabilities by engaging in technology-enhanced learning environments? Although transformative learning in all its forms has been increasing with the opportunities for virtual experiences (Jørgenson et al., 2022), we can argue how the transformative learning approach and digitized learning environments may intersect to promote the global citizenship capabilities of university students is in its infancy. Along this line, one possible way to answer the questions mentioned above might be to offer constructive, collaborative, critical, and reflective methodologies through which the graduates of higher education are able to address highly complex global challenges and enact mitigation and adaptation behaviors. As might be expected, this is unlikely to happen unless sufficient support and scaffolds are provided to extend students' global citizenship capabilities, existing between multiple sources such as educators, peers, curricular and extracurricular activities, digital and cognitive tools and knowledge both inside and outside of the higher education landscapes. This is vital, especially in a digitized context that is isolating and requires a greater level of student autonomy and self-regulation of learning (Littlejohn et al., 2016), therefore, an optimal level of support and scaffold provided can be the key to students' progress in any complicated learning process (Song & Kim, 2021). Within a supportive and collaborative environment, HE students can embed lifelong capabilities shaping a sense of self, values, and responsibility as global citizens. Notably, it is important to ensure that all students can have regular and effective access to digital devices and technical support in the case of need. Otherwise, the serious issue of the digital divide among students from different socioeconomic backgrounds will be increased (Hess et al., 2016). Thus, it is significant that higher education institutions need to put the issue of the digital divide into their agenda.

Another essential component of the transformative learning approach that has been highlighted by several researchers is to confront students with authentic cases/problems/issues to which they would face as professionals and citizens in the real world (e.g., Leite, 2022; Thomas, 2009). Along with this component, giving the importance of situating students in a context relevant to their professions, students can have real-life experiences about not only what to do but also how to do when they encounter ill-structured and complex issues and problems that are uncertain and incomplete with no single solution existing (Morris, 2020). These experiences will be carried into their personal and professional lives. This process can allow students to make deep shifts in the way they think about and see the world and how to care about the world (Calleja, 2014). The connection between encountering ill-structured problems and changing perspectives about the problem itself and suggested solutions are valuable to their capability of being engaged citizens. In that case, the recognition of critical reflection as an integral aspect of the transformative learning approach has been evident (e.g., Lundgren & Poell, 2016).

Huddle together, we hold a deep commitment to interweaving the transformative learning approach into global citizenship curricula where the youth's voice and actions are empowering by nurturing them to become mindful and responsible professionals and citizens within collaborative and supportive digitized learning environments so that they can develop a sense of commitment to take actions and a culture of care starting from HE landscapes towards their daily lives and future professional lives.

## 8. Discussion

As we started the paper with the topic statement that humankind is living in the

first quarter of the 21st Century and it faces human-mediated disasters in many forms from climate change to immigration that affects the geopolitics, the economics, and the natural environment of countries (McAuliffe & Ruhs, 2017). The notion of peace, gender equality, social cohesion, understanding diversity and responsibility towards the environment, and critical understanding of various forms of media and understanding its causes has been critical and urgent aspects in the development and learning of global citizenship. Climate change has been one of the main causes of poverty and the reasons for weather-related displacement. The displacement figures were estimated to be 23.1 million for the years between 2010 and 2019 (OECD, 2021c). While the number of refugees was 14 million in 2020, they were 26.4 million in 2022. The World Migration Report 2022 indicates, in 2020, 21 million people were internally displaced, and it raised dramatically to 55 million in 2022 (McAuliffe & Triandafyllidou, 2021). The pandemic caused school closures at the global level, education had to be transformed into virtual platforms in synchronous or asynchronous ways of education. Nevertheless, it did not guarantee equal access to education for all (OECD, 2021b).

Digitizing borderless higher education landscapes needs investment in curriculum policy change to educate university students as scientific-oriented global citizens in addition to the arguments set forth above. This cannot be realized independently from investing in technology in higher education, more specifically, adopting transformative teaching and learning processes need to be invested in as transforming knowledge and skills do not happen suddenly. In digitized higher education platforms, investment in critical skills development and metacognitive skills where students learn to take ownership

of their learning makes them responsible to act in an ethical way while using online resources and engaging in oral or written discourses. Digitizing higher education learning contexts urges university students to acquire "the global language" so that they reveal an inclusive approach towards the diversified communities they appeal to both in virtual learning contexts or on-ground. As there is no guarantee that markets will provide equal access to education, government funding of educational services may look essential to ensure access to education via those digitized technologies. Ultimately, we recommend implementing transformative learning opportunities into the higher education curriculum policy agenda as an effective tool for enhancing global citizenship needs beyond academic workload and underlining the importance of investing in building higher education students' socio-ecological and socio-critical capabilities, and socio-emotional capability via digitized borderless higher education landscapes.

In conclusion, considering a well-time shift from a local to adopting a global perspective is urgent in times of complexity. The recent developments of information and communication technologies call for designing pedagogical innovations in higher education curriculum policy that enables the integration of connectivism, experiential, and transformative learning approaches with real-world or authentic situations in its formal or non-formal education agenda. It is regarded as the responsibility of the public and specifically that of higher education youth to build a global society for the next generations who are critically conscious of emotional, social, political, economic, and ecological problems, and who have developed essential knowledge, skills, competences, and attitudes to mitigate or solve problems mutually as globally accountable citizens.

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