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Re-thinking Education for Sustainable Development: Key Learning Insights from the SDSN USA Transformative Education Summit 2023

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Cover Page Footnote

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Re-thinking Education for Sustainable Development: Key Learning Insights from the SDSN USA Transformative Education Summit 2023

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Abstract

Keywords

Transformative
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Meditation and
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and Values; Social
Justice; Youth
Engagement;
Engagement Beyond
Classroom

This paper summarizes key learning insights from the 2023 U.S. Summit on Transformative Education organized by the Sustainable Development Solutions Network USA. Over 400 members from higher education institutions, nongovernmental organizations, think tanks, students, and teachers, joined the online event held February 23-25. The Summit created a bridge between social justice issues with an historical lens and sustainable development. Learning insights include those shared by session speakers, dialogue among participants during thematic conversations and regional networking forums, comments made by attendees on session Jamboards and the Zoom Chat function, and post-Summit feedback. A high-level thematic review was undertaken to cluster emergent themes and develop a rubric that might help education facilitators create curriculum, lesson plans, and activities together with signposting resources to support the global movement towards a more just and sustainable world. It is clear that higher education is embracing transformation, undertaking intentional self-disruption with a focus on action, ethics, and mindfulness. The Summit shows the sector is becoming more connected to the society it serves, engaging in radical collaboration with stakeholders, with sustainable development activities fueled by the convening power of universities and colleges and the agency of students.

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The Sustainable Development Solutions Network (SDSN) United States (U.S.) Transformative Education Summit 2023 (SDSN USA, 2023f) drew its inspiration from the 2022 UNESCO Transforming Education Summit (UNESCO, 2022). Held online from February 23-25, 2023, the Summit attracted over 850 registrants with some 400 participants joining across the three days and attendance surpassing 200 attendees on the first two days of programming. An Organizing Committee developed the program (see Appendix) by curating content received through an open call for abstracts and inviting over 40 speakers from across the United States and beyond. The Committee also moderated panels, facilitated discussions, and took notes.

SDSN is a global network of universities and their representatives (SDSN, n.d.) that convenes meetings and workshops to push dialogue and deliberation on achieving the Sustainable Development Goals (United Nations, n.d.). New thinking and directions are considered necessary to reshape the design and delivery of Education for Sustainable Development (ESD), especially given the Learning Poverty indicator highlighted by the World Bank (World Bank, 2021). On the sidelines of the UNESCO event, Mission 4.7 organized a panel of ministers of education from various countries and a discussion with practitioners on the urgency of introducing climate education in schools and the need for social-emotional learning within formal curricula (Mission 4.7, 2022). UNESCO launched the Greening Education Partnership (UNESCO, n.d.) comprising four key pillars: namely, Greening Schools, Greening Learning, Greening Capacity, and Readiness and Greening Communities. While over 100 organizations worldwide have signed this call to action and attended UNESCO workshops and discussions, the United States has been only marginally involved. As such, the SDSN U.S. Summit was organized to draw U.S. universities, Non-Governmental Organizations (NGOs), and youth together to promote dialogue and action.

In 2022, the SDSN U.S. chapter and the Secretariat of Mission 4.7 came together to discuss SDG4, Quality Education, in the U.S. context and specifically Target 4.7 that:

By 2030, ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. (United Nations, n.d.)

This discussion led to the creation of a *Community of Practice*, with over 100 individuals carrying out the mission to "bring together leaders from government, academia, civil society, and business to accelerate the implementation of Transformative Education around the world" (SDSN USA, n.d.). The assumption is that "to achieve the Sustainable Development Goals, every individual must acquire the sustainable development knowledge, global citizenship, and 21st century skills critical to tackling our shared challenges and promoting a future of equitable, inclusive, and resilient societies. Education is a crucial enabler of this transformation" (SDSN USA, n.d.).

The SDSN U.S. Summit was held in February 2023 and sought to explore the inclusion of the SDGs in formal curricula as well as in non-formal settings, curate and create educational resources to support educators across the United States, and develop policy briefs to highlight the importance of investment in quality education for sustainable development (SDSN USA, 2023f). This paper first presents key thematic learning insights garnered from the 2023 Summit. The key themes include (1) meditation and mindfulness for inner sustainability, (2) ethics in

action for sustainable development, (3) engaging children and youth, (4) engaging beyond the classroom, and (5) learning from history to inform the future. We also synthesize participant input to offer actionable recommendations that educational institutions, educators, and policymakers might usefully adopt to accelerate transformative education for sustainable futures. The Appendix includes the Summit program and Organizing Committee members, while session recordings and synthesis of the activity boards are available in the Supplementary Materials.

Key Learning Insights

Meditation and Mindfulness for Inner Sustainability

It is increasingly recognized that the resolution of complex sustainability challenges transcends the scope of scientific or technological solutions, which represent the outward focus of sustainability transformations. A holistic approach necessitates the concurrent consideration of the psychological, cultural, and spiritual dimensions of human life and its future possibilities, i.e., the inner focus of sustainability like consciousness, values, worldviews, beliefs, spirituality, and human–nature connectedness (Woiwode et al., 2021; Komatsu, Rappleye, & Silova, 2022). In designing the SDSN Transformative Education U.S. Summit, the Organizing Committee introduced novel programming that covered these two dimensions of sustainability in both theoretical and practical ways. As outlined in the Summit schedule (SDSN USA, 2023e), the program included two meditation sessions in addition to keynotes and thematic sessions. These sessions were originally designed to offer an opportunity for participants to decompress from back-to-back online sessions and create a *pause* to reflect on their thoughts and ideas, as well as on comments shared by others from the earlier sessions. However, the impact of the sessions was more far-reaching than this.

The first session, led by Brian Jones, adopted the Heartfulness meditation philosophy (https://heartfulness.org/us/, n.d.) and was a guided tour focusing on the heart to find inner peace. The second session, conducted by Sairachana Darira (a recent graduate of Arizona State University), focused on the inner self. Participants noted that these reflective practice sessions connected naturally with the pursuit of more sustainable actions highlighting the importance of creating such spaces in our work.

Arne Naess coined the term *deep ecology* (Naess, 1973), which includes empathy as its central tenet, capturing the meditative experience that allowed participants to reflect on ecology in a *self-realization* experience, as interpreted by Fox (1990; 1995). That is, Fox elucidated deep ecology with a non-anthropocentric approach encompassing psychological-spiritual-metaphysical ideas referred to by Naess as self-realization. The meditation sessions appeared to help participants realize their own positionality in fostering care and love for Nature. In their feedback, participants recommended including more meditation and mindfulness practices aligned towards Nature as core to ESD. This sits comfortably with the Inner Development Goals (innerdevelopmentgoals.org, n.d.) that focus on enabling people to "live purposeful, sustainable, and productive lives." A working group has now been tasked to curate key educational resources on spirituality and meditation, connecting with one's inner self, while keeping environmental symbiosis in support of transformative education.

Ethics in Action for Sustainable Development

One of the Summit's key themes focused on Ethics in Action for Sustainable Development

(EIASD), an initiative set out by Sachs et al. (2022) in an effort to articulate a moral consensus on sustainable development with contributions drawn from religious leaders, philosophers, theologians, economists, and practitioners. The three pillars of sustainability--namely economic, social, and environmental (Benn et al., 2018; Elkington, 1997, 1998; RMIT, 2017) are drawn together in a common cause, i.e., the SDGs. Henceforth, in their book *Ethics in Action for Sustainable Development*, Sachs, Flanagan, Sorondo, Vendley, Annett, and Thorson call for a moral code of conduct for world leaders to meet the SDGs and frame these global goals as a moral compass for our common humanity to survive and thrive. Echoing this, the Summit explored the links between religious teaching and the acts of sustaining the planet and deliberated on the role of education going forward.

The panel *Ethics in Action for Sustainable Development*¹ highlighted compassion and empathy as key drivers of sustainable development and recommended that both be included in formal education. Reflections on what matters in life focused on ideas of happiness, well-being, flourishing, eudaimonia, and blessings. So, what makes people happy? One panelist noted that in Confucianism, one cannot be happy unless the person cares about the common good and this notion relates to protecting our planet. Other important virtues embedded in human relations, such as benevolence, justice, deference, ritual propriety, wisdom, trustworthiness, filial devotion, and loyalty, were also noted.

Values are "culturally defined principles and core beliefs shared by individuals and groups that guide and motivate attitudes, choices, and behavior, and serve as broad guidelines for social life" (UNESCO International Bureau of Education, 2013). Education for values takes into account knowledge and skills (Haste, 2018; OECD, 2019). While some curricula may incorporate values like "collaboration" and "critical thinking," there is often scant discussion surrounding values. The panel concluded that education should include character development, prosociality, and affinity for sustainable development and that the education of the whole person with values and ethics should be a core objective of education.

Dialogue with session participants explored the kind of moral or values education that might be offered through formal schooling, the breadth and constraints thereof, and what is accessed through other educational modes. There was general agreement that some subject areas that can be taught in most formal school settings, whereas other issues are somewhat or highly politicized (for example, in the U.S., climate change, sex education, race, gender identity, and sexual orientation). Given the systemic issues within educational institutions (and the role of schools and universities in reproducing inequities), educators play an important role in fostering safe environments where diverse opinions on how best to achieve the SDGs can be exchanged and debated (Anayatova et al., 2022; Merewether, Gobby, & Blaise, 2022; Common Worlds Research Collective, 2020; Komatsu, Silova, & Rappleye, 2022). There was consensus that a big gap exists in the current economy for co-ownership and power-sharing across the education spectrum, so that students young and old are encouraged to explore empathy, care, and the perspectives of marginalized people.

Engaging Children and Youth

Children and youth are at the forefront of mobilizing for climate action in powerful and

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¹ As introduced in Day 1 of the Summit schedule (SDSN USA, 2023d), the panel (SDSN USA, 2023b) included presentations by and discussion with Maryanne Wolf (UCLA), Nathan Schneider (UC Boulder), Anna Sun (Duke University), Anthony Annett (UN SDSN), and moderator Jesse Thorson (Third Partners).

creative ways. Examples include using social media, joining mass demonstrations, staging artistic performances, suing governments and companies over their failure to address the climate crisis, or participating in "everyday" environmental activism within their communities. However, youth representatives are rarely included in high-level decision-making that affects their own futures. Even UNESCO's flagship report, Re-imagining our futures together: A new social contract for education (International Commission on the Futures of Education, 2021), falls short of engaging youth beyond the consultation process, privileging the perspectives of adult experts in the conceptualization and writing of the report. In response, youth worldwide have mobilized to initiate a more inclusive and representative process to gather their own collective views and make recommendations and commitments on transforming education. Some of these were captured in the Youth Declaration on Transforming Education, a statement which presented young people's input to the UN Transforming Education Summit Chair Summary and UN Secretary General's Vision Statement (United Nations, 2022). In the Youth Declaration, the youth voices emphasize the urgency of intersectionality and of adopting an inclusive approach to transformational change as critical for planetary sustainability. They firmly stated,

We demand that our voices be heard, our lived experiences valued, our demands addressed, and our efforts, leadership, and agency acknowledged. We intend to achieve these goals not as passive beneficiaries but as partners and collaborators every step of the way (United Nations, 2022, p. 2).

In parallel, students at Arizona State University (in collaboration with faculty and staff) launched a socially engaged art initiative to crowdsource youth visions of education futures to address planetary sustainability challenges. Their project, Turn it Around! Youth Visions of Education Futures (turnitaroundcards.org, 2023), echoed the concerns expressed in the Youth Declaration, asking policymakers and politicians to stop "protecting and sheltering youth from the reality of the climate crisis" (Anayatova et al., 2022, p. 67); instead, youth should be included in all of the decision-making processes about their futures, while ensuring that age, gender, race, class, and ability considerations meaningfully inform policy action. Through the project's global campaign, children and youth shared their visions of education futures through artwork and narratives. Their responses emphasize the urgency of including climate, sustainability, and environmental education as one of the core (and mandatory) components of the curriculum. More importantly, their call to action seeks a more radical transformation of school curriculum – beyond literacy and numeracy – to embrace ecological literacy and ecological justice. This means changing how we live and relate to each other and to other species, which ultimately means also changing ourselves. These youth visions of climate futures resonated deeply with the discussions about ethics, values, education, and sustainability at the Summit.

Acknowledging the importance of engaging children and youth in deliberations about education futures, the U.S. Summit on Transformative Education in 2023 made efforts to create multiple spaces for youth participation and intergenerational dialogues. For example, youth representatives presented in keynote panels, facilitated sessions and discussions, and contributed to breakout sessions. Furthermore, the Summit included a *Youth Day* (February 23, 2023)², dedicating one of the three days of the Summit fully to listening to young people and celebrating student work and action; being a Saturday allowed the opportunity for learners and teachers to join online. Students from The Winston School in New Jersey and their teacher,

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² The agenda, including speaker biographies, is in Day 3 of the Summit schedule (SDSN USA, 2023d).

Jahnav Bhatt, worked on various forms of artistic expression about nature. Aalok Bhatt, a student from Rutgers College in New Jersey, interviewed his professor, Jack Bouchard, about land acquisition and the changing agricultural patterns caused by the settlers in the United States. Bhatt also interviewed Barbara Landis of the Cumberland Historical Society in New Jersey, and Jeneda Bennall, a member of the local Dine Nation Native American tribe, to explore the historical implications of sustainable development. Students from the Millburn Education Foundation in New Jersey presented their opinions on their Environmental Challenge, while others formed a panel to discuss the implications of fast fashion. The day ended with Meghana Kunapareddy, a junior at Tompkins High School in Houston, interviewing Carolyn McGrath, an Art Teacher at the Hopewell Valley School District.

This day of the Summit was truly a youth-led event with youth organizing panels, interviewing experts, and highlighting their earth-inspired artwork. While youth voices came to the forefront in many of the discussions and reflections across the Summit, there is more to do here. For example, on the *Youth Day* of the Summit, attendance was markedly lower than on the other days that focused on the academic and practitioner communities. As such, the timing of intergenerational engagement (as well as inter-institutional engagement, i.e., K-12 schools, academic institutions, NGOs) needs to be considered. Additionally, some youth who engaged in the Summit did so as contributors related to their class projects and when their interests in sustainability were explored further, they did not always make connections to their own futures as stakeholders. Many of these students may have benefitted from attending earlier sessions (held during the school week) where they may have made more personal connections to their school assignments, the sustainability movement, and their own climate futures. The U.S. Summit on Transformative Education will make efforts to address these learnings in future programming so that youth may be better positioned to attend and engage across the Summit as stakeholders.

Engaging Beyond the Classroom

An important consideration for educators and organized forums like the U.S. Summit on Transformative Education is to authentically tap into the funds of knowledge (FoK; Moll et al., 1992) of our youth to better position our society for the future. The concept of FoK revolves around the idea that every household and community possesses a unique set of knowledge, skills, and cultural practices, which can significantly contribute to learning and education (Moll et al., 1992). If community participation is a key component to nurturing and leveraging the resources and ways of knowing and doing in households regarding environmental and civic knowledge, then the voices of our youth are vital to educational transformation (Cruz, Selby, and Durham, 2018). As Moll et al. (1992) shared in developing FoK, the use of this framework creates opportunities for social change that only become salient when an educator demonstrates a personal stake in engaging with youth about their communities' knowledge and resources, particularly in the ways they distill and actionize them. The mutual trust building between educators/adults and youth is a key mechanism toward re-positioning the role of youth as a resource-rich educator alongside the formal educators (Moll, 2010; Cruz, Selby, & Durham, 2018). Linking these values and resources between communal and organizational structures like schools, co-curricular activities, and forums like the Summit, can create space for youth to seamlessly serve as collaborators or contributors to the practice and production of transformational change we need.

It is important to acknowledge the grassroots organizing work that young people are doing

beyond the scope of the traditional classroom as they seek to address injustices at the intersection of race, education, immigration, and climate change. How might educators engage with and learn from these student activists? Peter Sutoris' Educating for the Anthropocene: Schooling and Activism in the Face of Slow Violence³, which considers political activism as a form of education in its own right, provides some helpful context (Sutoris, 2022). Applying Hannah Arendt's thoughts on the nature of freedom and (collective) political action to both education and the environment, Sutoris (2022, p. 8) argues that the system of education currently in place is itself an impediment to students' "ability to imagine and bring about alternative futures."

While Sutoris' research focuses on activism in South Africa and India, there are notable examples in the United States of community-based and political organizing approaches that are empowering young activists beyond the classroom. For example, Voices of Youth in Chicago Education (VOYCE), a multi-ethnic alliance of students from Chicago Public Schools, is a youth-led coalition that successfully organized to put an end to zero-tolerance policies in publicly-funded schools in the state of Illinois (National Equity Atlas, n.d.) and shifted \$3.8M in funding for school policing toward support for holistic school safety practices (Communities United, n.d.). The Little Village Environmental Justice Organization (LVEJO) is a grassroots organization located in a part of the city that is home to a large Mexican population. The residents of Little Village, due to historic redlining and environmental racism, bear the brunt of industrial pollution and the impacts of climate change (Leadership Development for the Sustainable Self Determination of Little Village, n.d.). Environmental surveys and maps developed by Little Village Youth helped lay the groundwork for multiple environmental justice campaigns, including the closure of two coal power plants (Soglin, 2021). Other examples include various ward-level Independent Political Organizations that endorse candidates who will advance progressive legislation at the municipal, state, and federal levels. Decision-making structures and methods used by such organizations are democratic and inclusive, meaning all members, including youth, are involved and empowered to participate in every aspect of their work (Swartzman, 2021). Another example includes student-led school participatory budgeting processes, which have been set in motion across schools in Arizona. Engaging over 50,000 students across 39 school campuses, the School Participatory Budgeting (SPB) program supports students to work together through a process of curating ideas, developing proposals, and participating in a school-wide vote on how to spend a portion of the public budget⁴. The students leading the participatory budget processes in their schools are now turning attention to green school participatory budgeting where students, particularly those most affected by climate change, come together to ideate, fund, and implement environmentally friendly projects. Through these experiences, the learning is no longer focused solely on students' individual achievements; rather, students come together and mobilize on action that matters and contributes to their communities, in service to positive impact on for people and the planet.

Learning from History to Inform the Future

In a Summit keynote address⁵, Helen Bond examined history related to SDG target 4.7 (SDSN USA, 2023a) and showed how history can be a transformative education agent if we

³ The session, Book Launch Discussion, was in Day 2 of the Summit schedule (SDSN USA, 2023d).

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⁴ The program is led by Daniel Schugurensky and Tara Bartlett with the support from Arizona State University and the Center for the Future of Arizona. (Center for the Future of Arizona, n.d.)

⁵ The Keynote speech, *No justice, no sustainability: No sustainability, no justice: The Role of Equity and Justice in Sustainable Development*, was in Day 2 of the Summit schedule (SDSN USA, 2023d).

learn from it and do not repeat the same mistakes, enabling political judgment and understanding of today's context. Given racism is a major cause of marginalization, there is a need to explore discrimination and anti-racist education. For example, fewer trees in marginalized neighborhoods are an artifact of historic redlining, meaning residents today experience higher temperatures; this is a clear example of how race, poverty, and health are interrelated. The SDSN's report on *Leave No One Behind* (Neve, 2021) explains the progress (or lack thereof) regarding the SDGs and links it to racial marginalization. The intersection of the SDGs with anti-racist messaging can be a powerful tool for making SDG 4.7 a reality. With peace, justice, and human rights at the core of sustainability, green economies and climate adaptation strategies need to include race dialogue and students need to be knowledgeable about the past to make a path for a more just future.

The same thread of learning from history was visible in Rutgers student Aalok Bhatt's interview with Jack Bouchard, a scholar of environmental history (SDSN USA, 2023c). Bouchard discussed the land transformation by way of *Terraforming*, i.e., how the landscapes and biology/ecology of land in the Americas were transformed and shaped values and a way of life in meeting human needs. Bouchard noted that terraforming became normalized and destroyed Indigenous ways of life with lands and natural resources no longer available to Indigenous peoples. In the same conversation (SDSN USA, 2023c), Jeneda Bennally, a member of the Dine Nation Native American tribe, told Bhatt, "Where there is an environmental crisis, there is a cultural crisis. It is up to us to decolonize. It is about coming home, coming home to your heart, your own indigenous roots still pump" (SDSN USA, 2023c, 56:56).

The quantitative methods of learning from history were also discussed in the breakout session on *Digital Transformative Education for Sustainability and Equity*. The facilitators from Purdue University engaged the participants to analyze the learning outcomes for a college-level course in geographic information systems and highlighted the integration of geospatial knowledge, data analysis, computing skills, and values both within and beyond the classroom, emphasizing collaboration, communication, and community problem-solving. Recognizing the importance of data science (Cleveland, 2001; Donoho, 2017) and data literacy (Gundlach & Ward, 2021; Betz et al., 2020) in AI competency (Long & Magerko, 2020), the discussion made way for a value-centered approach to designing AI curricula, an urgent task at all levels of education. This approach affirms UNESCO's humanistic vision, promoting the use of AI in safeguarding human rights and equipping individuals with the necessary values and skills for effective human-machine collaboration in various aspects of life, including learning, work, and sustainable development (UNESCO, 2019).

Pursuing Transformative Education

Gaps and Opportunities

During Summit breakout sessions and group discussions, Google Jamboard was used to collect participant feedback, which included links to educational materials, resources, and recommendations for action, and enablers/roadblocks in advancing the mission of Transformative Education. Table 1 distills the top ten gaps and opportunities identified by participants, arranged as a rubric that might help education facilitators create curriculum, lesson plans, and activities to support the global movement towards a more just and sustainable world. This information was synthesized from the Jamboard comments (see Supplementary Materials), noting that not all session facilitators used the Jamboard and not all participants made their contributions in this way. Despite this, the information offers a framework that

might be useful to guide decision-making and planning in an educational context. To this end, recommendations are given on making data relevant to an audience and sharing it with stakeholders.

Possible Practices and Actions

Adopting the themes in Table 1 as a call to action, Table 2 seeks to operationalize possible *practices* or activities, United Nations' actions or global movements, and examples of teaching practices and research, in pursuit of transformative education for sustainable development that might be adopted in educational settings.

Table 1. Pursuing Transformative Education: Gaps and Opportunities. Possible Practices and Actions

Quotes gathered from Jamboards during breakout sessions and group discussions, as detailed in the Supplementary Materials, were analyzed. Key points from each quote were identified and mapped onto specific skill focus areas in the rubric. The frequency of mentions per area was calculated as a proportion of the total 74 mentions. Representative quotes are included as illustrations.

Theme	Focus Areas	Count	Quotes
Professional development, resources, and support for teachers	Need for ongoing opportunities to learn about sustainability, access to tools and resources for educators, and receive support and guidance from colleagues when facing challenges, such as the risk of politicization of academic curricula.	20%	"Helping teachers make clear connections to core curriculum standards." "How to support teachers when their scope is limited" "How do we address implementing education that can have political resistance to it?"
Collaboration	Inviting colleagues to collaborate on projects and initiatives. Organizing forums and events that promote collaboration. Establishing collaborative spaces in schools and universities that encourage interdisciplinary work. Welcoming students to participate in shaping the curriculum and encouraging collaborations across student clubs and organizations. Communicating the importance of sustainability education for multiple stakeholders in a community. Translating the importance of sustainability education for different stakeholders.	19%	"Connect with like-minded educators to integrate standards-based environmental education into mainstream curriculum!" "Training admins to create space for teachers to collaborate across disciplines" "Facilitating opportunities across the curriculum for students to bring their voice in choice in their learning process"

Theme	Focus Areas	Count	Quotes
Integrating sustainability into the curriculum and curriculum design	Engaging in community conversations. Integrating standards-based sustainability education into the core/mainstream curriculum. To make sustainability relevant to students, curriculum/program design should prioritize applied learning and incorporate community-based studies.	14%	"Inspire each other about the future of curriculum design in sustainability education, integrating sustainable design and strategic technology." "Strategies for localizing big ideas of sustainability to students' place." "Conversations with community groups on curriculum revisions to see if what is being taught is connected to the community."
Addressing racial, gender, class, and other inequities in education	Understanding and teaching at the intersections of injustice. Educating and empowering self-advocacy. Focusing on skills and data that can be utilized to address SDG and equity issues. Being mindful of who determines how we should transform education and for whom.	9%	"How can we talk about justice in its totality, highlighting all of the intersections of injustice?" "We need to be mindful of WHO determines how we should transform education and for whom." "Education—Empower/skill people to advocate for their rights."
Solutions-based learning	Prioritizing hands-on, solutions-based learning that empowers students to take action to address real-world issues.	8%	"Taking action—leading people from theory/classroom to practice/community." "Students can be asked to identify the problem [and] feasible solutions, working collaboratively to account for multiple perspectives."
Networking	Connecting with educators and organizations to deepen knowledge of the SDGs, share best practices, and support and uplift each other's work.	5%	"A stronger network of people collaborating to transform education who support and uplift each other's voices and work"
Cultivating global citizenship	Cultivating a sense of global awareness and responsibility, and what it means to be a citizen of the world. Understanding how one's actions affect other people, systems, and the environment. Using stories and storytelling to encourage bridge-building.	5%	"Global loyalty and stake and responsibility to the world. Building global bridges in every sense." "An understanding of and sensitivity to how one's actions affect other people, systems, and the environment"

Theme	Focus Areas	Count	Quotes
Connecting Human	Highlighting the importance	3%	"How can we integrate ethics in
Rights Education	of Human Rights Education		the discussion of human rights
(HRE) to	(HRE) in discussions of		and in human rights education?"
Education for	sustainability. Centering ethics		"Talking about property rights in
Sustainable	in Human Rights discourse.		the context of human rights."
Development (ESD)	Talking about property rights		
	in the context of human		
	rights.		
Building Social	Embedding SEL into the	3%	"Building SEL competencies
Emotional Learning	curriculum.		through building advisory
(SEL) Competencies	Developing and utilizing the		boards."
	support of advisory boards.		
Sustainability-focused	Involving community	1%	"How do you work with the
community	residents and organizations		community around your
engagement	around sustainability efforts,		campuses or organizations who
	especially those not already		don't have sustainability as part
	engaged in sustainability work.		of their studies?"

Table 2. Possible Actions in Pursuit of Transformative Education for Sustainable Development

Practices/Activities	UN Action/Global	Examples of Teaching Practice &
	Movement	Research
Values-based education	Alignment with Ethics in Action for Sustainable	Providing time and opportunity to discuss ethical questions within a
	Development by Sachs et al. (2022)	moral framework of sustainability.
Interfaith dialogue and cooperation that teaches the principles of humanity, secularity, and inclusiveness	Framework of UN's Human Rights Declaration (1948)	Explore synergies across different religions and belief systems, especially in terms of how they view nature, the relationship between humans and nature, as well as human stewardship of Earth. Organize students to represent a religion (not their own if they have one) and set up a roundtable discussion on empathy, compassion, and love for humankind and nature.
Connect with the inner self through meditative	UN's Happiness framework (UN SDSN, n.d.)—example	Students get time to reflect on their actions through meditation, followed
practices	from Bhutan (World Economic Forum, 2021)	by an act of kindness for people and for the planet.
Solutions-based framework on sustainability	UNESCO's Youth network (UNESCO, n.d.) to connect with like-minded youth across the globe	Encourage students to collaborate to bring solution-based framework to sustainability

Practices/Activities	UN Action/Global Movement	Examples of Teaching Practice & Research
Higher education's emerging interests in sustainable development Support educators integrate Sustainable Development in their scope, sequence, and lesson plans.	International Association of Universities (iau-aiu.net, n.d.) in partnership with UNESCO UNESCO webinars, networks, and panels aligned with the global movement (UNESCO, n.d.)	Agree on a common framework to bring sustainability into every higher education institution. Creating lesson plans collaboratively through teacher networks locally to discuss successes and challenges.
Getting the wider community involved	Register with UNESCO's Greening Education Partnership and share your practices developing the 4th pillar- Greening Communities	Connect schools and communities through parental mobilization and awareness campaigns. Share your visions of climate futures through the socially engaged art campaign "Turn it Around! Youth Visions of Climate Futures (turnitaroundcards.org, 2023)"
Find ways where social- emotional learning can be integrated into learning about sustainability.	UNESCO's Education for Sustainable Development Goals: Learning Objectives Report (2017) focused on using social-emotional learning more effectively.	Nature walks, school gardening, urban gardening, composting, and reducing waste are all ways students can connect with the ecosystem.

Conclusion

The SDSN Transformative Education Summit 2023 was a practitioner-led event that drew together educators and related stakeholders across the United States. The aim was to explore what is needed to advance education for sustainable development given the urgency at large and the need to enable students to realize their agency. This is against the startling observation by Hess and Collins (2018) that fewer than one in six students across the top 100 universities and colleges of liberal arts in the United States take a climate change or climate science course as part of their core general education curriculum. While Table 1 identifies some of the drivers and barriers to adopting sustainability in higher education curricula, along with other drivers and barriers already known (Weiss et al., 2021), there is a lot more to explore. As such, the Summit was designed to create safe spaces for constructive dialogue among peers with a focus on actionable next steps. Being wide-ranging in its content and innovative in its programming enabled participants to both reflect on what is needed and plan for the future. Here, those key insights from the event are brought together with Table 2, drawing out ways to rethink Education for Sustainable Development for high impact at scale.

Rather than being averse to change, it was clear that those involved in ESD were actively engaged in self-disruption of education for the betterment of society. This was fueled in part by a level of frustration that education has yet to realize its full agency to deliver on the SDGs and enable students to make their fullest contribution to creating a world that leaves no one behind. Students were firmly key agents of change in this regard, both encouraging and at

times demanding that higher education places a greater emphasis on ESD as key to their employability and setting them up for success in life. This includes wider consideration of structural and historical barriers to inclusion and a focus on the pursuit of antiracism as part of ESD. So too, community building and community engagement were seen as ways to embrace a living labs model of higher education (Purcell, Henriksen, & Spengler, 2019) as a means of transformational change.

While higher education scholars must continue to critique work in this field, they cannot maintain a bystander position, given that engagement with sustainable development is necessary for transformative education; doing so does not restrict academic autonomy. Key areas identified during the Summit reinforced the need to rethink education for preferred futures. For example, designing academic programs and learning experiences that span traditional subjects or disciplinary silos provide for a deeper learning experience that includes a focus on solutions-oriented thinking and a more systematic approach. Partnering with and otherwise supporting students who are conducting research within their communities and acknowledging their community-based projects as part of the academic credit system helps expand the reach of this work. By fully incorporating community engagement into the academic credit framework, we ensure that these opportunities are equitable and accessible to all students, not just those students with more available time. Inviting students to co-teach and/or train their peers enables them to use their expertise and play a vital role in scholarship and wider institution building.

Going forward, transformative education situates self and society as a continuum, with sustainable development being an agenda firmly rooted in equity and ESD a means to realize change. In this way, students are enabled to participate fully in society through skills development as well as focus on their personal growth, nourishing their inner environment while they act to sustain the planet and society at large. Highlighting the importance of mindfulness, well-being, and resilience, ESD provides an opportunity to connect with self and be in community. This means sustainable development is positioned as an adaptive challenge with the need to honor the accompanying fear and loss of change and transformation with empathy and compassion (Heifetz, Linsky, & Grashow, 2009). The convening power of education was recognized as a powerful sectoral resource, enabling radical collaboration and co-creation with the community with education both locally rooted and globally connected through the SDGs. Overall, the Summit reinforced the need for 'human *doing*' and 'human *being*' as two sides of the same education coin and necessary for transformative education in pursuit of sustainable development.

Appendix

Details of the Summit

Summit Webpage: https://www.sdsnusa.org/events/us-transforming-education-Summit-2023 Communiqué: https://www.unsdsn.org/sdsn-usa-holds-us-Summit-on-transformative-education

Organizing Committee Members⁶

Matthew Arush, Earthday.org Mary Blaunsa, Northern New Jersey Community Foundation

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⁶ Summit organizers' webpage (SDSN USA, 2023d)

Caroline Fox, Sustainable Development Solutions Network, USA Chapter

Taylor Hausburg, University of Pennsylvania

Radhika Iyengar, Center for Sustainable Development, Columbia University

Derek Lough, Illinois State University

Tim Mahoney, Independent

Ellen Metzger, San Jose State University

Jazmin Mora, Center for Sustainable Development, Columbia University

Allison Mulch, New Jersey Audubon

Sonja Neve, Sustainable Development Solutions Network, USA Chapter

Ann Nielsen, National Institute for Excellence in Teaching

Wendy Purcell, Rutgers University

Elizabeth Quigley, Arizona State University

Fabiola Riobe, SUNY Rockland University

Karen Robinson, RFK Human Rights Organization

Haein Shin, Center for Sustainable Development, Columbia University

Iveta Silova, Arizona State University

Sumie Song, The GREEN Program

Deepak Sridhar, Independent

Tara Stafford Ocansey, Children's Environmental Literacy Foundation

Wen-wen Tung, Purdue University

Matthew A Witenstein, University of Dayton

Supplementary Materials

Slides containing the compilation of the Jamboards (link)⁷

Mapping of skills to the post-its from the Jamboards (link)

Sheet containing a list of skills identified from the Jamboards and prioritization (link)

All videos of sessions: https://www.youtube.com/@sdsnusa8999/videos

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⁷ Also refer to the Summit schedule (SDSN USA, 2023e)

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