Journal of Teacher Education for Sustainability,
vol. 21, no. 2, pp. 105–120, 2019

ESD for All: Learnings from the #IndigenousESD Global Research

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Abstract

Education is recognized a human right for all. Though, Indigenous communities do not yet enjoy their full rights to education and are put at risk of losing their Indigenous culture and identity. A new research initiative, holding dialogues discussing the perceived outcomes of quality education in the eyes of several stakeholders, shows that access and retention in equitable and inclusive quality education as described in *SDG 4* are highly valued. The research was jointly developed and carried out by researchers and Indigenous communities in 29 countries. Twenty-first century knowledge and skills are crucial for future Indigenous generations to create their livelihood and successfully engage in both Indigenous community life as well as mainstream society. Learning within formal school systems to understand their Indigenous heritage and keep the connection to their environment despite aspiring modern lifestyles, creates relevance which enhances both learning and retention. Beyond twenty-first century competencies, vital elements of education quality seen as relevant for Indigenous youth are aligned with education for sustainable development and applicable for all learners.

Key words: education for sustainable development, Indigenous youth, global research, research network

Introduction to the Research

In 2017, the UNESCO Chair in Reorienting Education towards Sustainability at York University in Toronto (Canada) launched a global research project named *Reorienting Education and Training Systems to Improve the Lives of Indigenous Youth*. The research project was awarded with patronage by UNESCO-UNEVOC and the Canadian Commission for UNESCO. First of all, we would like to express our appreciation and gratitude to Indigenous communities, researchers and other parties for providing the information to establish this global report on the perspectives of quality education focusing on Indigenous Youth.

This research was developed in a community-based participatory approach. In the initial phase of building partnerships and commitment for this project, i.e. engaging research institutions, seeking local research sites and community partners; five regional planning meetings were held in Malaysia, Chile, Nigeria, Kazakhstan, and Canada

with more than 150 representatives from universities, Indigenous communities, schools, governments, United Nations Agencies present. Additional online meetings were held upon request. Participants jointly defined three research goals, the concrete overall approach appropriate in all UN regions, ethical questions, and project organization with global and regional coordinators and guidance provided by advisory board. Three *final research initiatives* were adopted and approved by participating research institutions, including

1. What are the desirable education outcomes as perceived by relevant stakeholders that define the quality of education for Indigenous youth? – Exploring various perspectives on quality education and its desired outcomes as seen by ministries of education, Indigenous community leaders, principals and teaching staff, parents, students and other stakeholders.
2. What successful *Good Practice using Education for Sustainable Development (ESD)* is already being incorporated into school systems in delivering quality education for Indigenous youth using *ESD* approaches and what can be incorporated into the education and training systems from Indigenous knowledge and traditions to further sustain the community? – Collecting examples of *Good Practice using ESD* in delivering quality education for Indigenous youth.
3. How can such desirable education outcomes as identified in research initiative 1 be achieved through engaging *ESD* in formal and non-formal education environments? – Performing action research in selected environments to explore *ESD* approaches to improve the overall quality of education for Indigenous youth.

The goals of the research project included in an overall conceptual framework were:

Goal 1: To develop policy recommendations from the research findings carried out in three research initiatives on how to improve the quality of education of Indigenous youth to

- a. guide the international education community in policy making processes,
- b. assist ministries of education to meet their national goals for the *2030 Agenda*, in particular *SDG 4*,
- c. allow school systems and communities on the local level to develop a comprehensive understanding of how to improve the quality of education for Indigenous youth, and
- d. inform other stakeholders.

Goal 2: To create an international Indigenous education research network with a focus on *SDG Target 4.5*.

Goal 3: To develop innovative local teaching and learning approaches in improving the quality of education for Indigenous youth wherever applicable, as determined by the research institutions and partner sites.

Researchers were invited to further tailor the research initiatives to their particular settings and to carry out additional research initiatives working with one or multiple partner sites. Regional and Global Coordinators supported researchers in requesting and receiving the consent of their communities and – where possible – participated in meetings with Chiefs and Elders.

With a focus on the political visibility of this *#IndigenousESD research network*, the diversity of countries and research institutions was welcomed. Developing the research

initiatives with locally appropriate methodology of creating discussion rather than posing a set of research questions created slightly differing approaches. The intent was to start a participatory, thoughtful dialogue and building relationships in all research settings across the UN regions. The results from research settings were limited by what was politically and culturally appropriate and allowed to share.

International Education Frameworks for this Research

Since 2015, broad changes have been achieved for education at national and international levels. Transforming our world: the 2030 *Agenda for Sustainable Development* (United Nations, 2015) with the 17 *Sustainable Development Goals (SDGs)* outlines the global policy scope to guide United Nations member states in their collective quest for our planet's sustainable future. *SDG 4 and Education 2030* (UNESCO, 2015a) define the *Global Education 2030 Agenda Goal* as to *ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* (United Nations, 2015, p. 14).

Education is recognized as a fundamental human and enabling right (UNESCO, 2016a) and essential to successfully implementing the overall 2030 *Agenda*. The idea of quality education is a dynamic concept, not solely judged by international content standards. It evolves over time and is modified according to social, economic and environmental contexts. Quality education shall promote a value-oriented and holistic development of the personality and enable everyone to lead a successful life (UNESCO, 2015a; Delors, 1996). It is seen as a public good, enabling societies to contribute to their sustainable future and collective well-being (UNESCO, 2015b; Salite, et al., 2016).

A person's level of education is often a major determinant of the individual's well-being and their potential of future income resulting, for example, in more affordable access to nutritious food and/or comfortable housing away from disaster-prone locations. Globally, this trend of an ever-rising entry education level to access and remain in decent work is expanding rapidly in both developed and developing nations. Current reality, however, is the continued exclusion of entire groups in society, including for instance: identified by race, ethnicity, gender, socio-economic status etc. from access to education. To call for improvements, *SDG Target 4.5* specifically names vulnerable groups including Indigenous Peoples: *By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations* (United Nations, 2015, p. 17).

Although Indigenous Peoples have been granted full human rights (United Nations, 2007), still today and with few exceptions, youth, in or from traditional cultures, remains amongst the least-well served by their respective public education and training systems with some of the lowest graduation rates from elementary, secondary or tertiary education. There is a significant lack of understanding of why Indigenous students often do not function well in most education systems. This research also recognizes the lack of a universal definition of Indigenous Peoples in the United Nations system (UNDESA, 2008). In the spirit of the 2030 *Agenda*, researchers used the term in a respectful and appropriate attempt of engaging and learning both with and from Indigenous Peoples.

The Underlying Concept: Education for Sustainable Development (ESD)

The unique approach of this research was focused on engaging with the concept of *Education for Sustainable Development (ESD)*. Seen as an intent or a purpose of education (UNESCO, 2014), *ESD* is a means of engaging the world's education and training systems in creating a more sustainable future. Rather than being yet another discipline, *ESD* is implemented through four major areas of intervention of which two are crucial to this research: *access to* and *retention in* a quality basic education and *reorienting* education systems to address sustainability (UNESCO, 2012). Education research has proven how including *ESD* can enhance the quality of education in even high performing school systems (Laurie et al., 2016).

While the *2030 Agenda* identifies 17 *SDGs*, for which the need may or may not also exist in Indigenous communities, there are likely additional local concerns to the youth that need to be addressed. Hence, two key elements of *ESD* are to (1) address local social, economic and environmental issues in the curriculum and (2) engage appropriate pedagogical approaches to address the understandings and worldviews inherent within sustainable development to make the curriculum relevant (UNESCO, 2017). The potential impact of these concerns on present and future generations needs to be taken into account while evaluating a situation and in making informed decisions (United Nations, 1987).

SDG Target 4.7 explicitly calls for *ESD* to be embedded within education at all levels. In November 2017 the United Nations General Assembly reaffirmed *ESD ... as a vital means of implementation for sustainable development ... and as an integral element of the Sustainable Development Goal on quality education and a key enabler of all the other Sustainable Development Goals* (United Nations, 2017, p. 3). This call is now being underlined by a new UNESCO *ESD* for 2030 Framework to further promote *ESD* (UNESCO, 2019a). In addition, the research augments this definition by acknowledging the Indigenous sustainability perspectives that have existed for thousands of years and define today's globally used perspective on sustainable development *Enough, for all, forever* (from an African Elder during the World Summit on Sustainable Development in Johannesburg, South Africa 2002). In the Americas, the Indigenous concept of *One dish, one spoon* is another approach of acknowledging the centuries-old deep understanding of sustainability principles.

Overview on Results from the Quality Education Dialogue (Research Initiative 1)

Data Collection

In 2019, the first research initiative in the *#IndigenousESD* project was successfully completed. The technical report contains an extensive data analysis covering results from 54 research institutions in 29 countries in all UN regions.

Figure 1. Courtesy Wikimedia Commons World Map (#IndigenousESD partners added). This file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license

The results were collected from the participating research institutions by requesting the completion of research templates to allow for global comparability and analysis. Intending to provide policy recommendations from evidence-based knowledge to the international UNESCO discussion on education, this research used the three global reports to shape the UNESCO vision of education as its basis: *The Faure Report* (1972), *the Delors Report* (1996) and *Rethinking Education* (2015). To date, the most known model of learning was laid by a report to UNESCO of an international commission chaired by Jacques Delors wherein *four pillars of education* were identified (Delors et al., 1996, p. 37):

- *Learning to know,*
- *Learning to do,*
- *Learning to live together, and*
- *Learning to be.*

The Delors-based model added by the three dimensions of sustainable development to give further structure for documentation was used to fill in the responses from stakeholders on the dialogue question: *What are desirable education outcomes as perceived by relevant stakeholders that define the quality of education for Indigenous youth?*

Figure 2. Delors-based model for data collection

Secondly, this Delors-based chart was actively used to carry out #IndigenousESD quality education dialogue while integrating information on the actual research setting, population and education data and describing the approach to data acquisition. Researchers provided aggregated results in accordance with their stakeholders' agreement and consent. Researchers and their Indigenous communities also made the decision how to carry out the methodology. The use of a toolbox of background literature and suggestions to guide the dialogue provided to every researcher was optional. On average, 78 community members of all stakeholder groups – ministries of education, principals and teachers, Indigenous Elders, parents and students – were involved.

In a third step, the results from all research settings were systematically examined and aggregated to identify overlap and differences in expected outcomes of a quality education by the various stakeholders and regions. Also, particular regions and various stakeholder groups were analyzed for potential reoccurring priorities.

Figure 3. Steps for collection and analysis of research results

In 2018, UNESCO published the *UNESCO Policy on engaging with Indigenous Peoples* (UNESCO, 2018) stating the importance of this engagement in achieving the goals of the *2030 Agenda*. Framed by the *United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) 2007* (United Nations, 2007), UNESCO carved out the provisions of specific relevance in the UNDRIP for their mandated areas to engage with Indigenous Peoples. The following areas were listed:

1. Human rights and fundamental freedoms (Article 1 UNDRIP with further Articles 8, 9, 16, 24), matters of physical, mental and spiritual health were included and additionally stated as a subcategory;
2. Equality and non-discrimination (Article 2 UNDRIP with further Articles 15, 14, 11, 12, 17) including aspects of employability, employment;
3. Self-determination, participation, and free, prior and informed consent (Article 3 UNDRIP) with leadership as a subcategory;

4. Cultural heritage, knowledge, traditional cultural expressions and languages (Article 11 UNDRIP) with language as a subcategory honouring the International Year of Indigenous Languages 2019;
5. Development with culture and identity (Article 23 UNDRIP);
6. Conservation and protection of environment (Article 29 UNDRIP with further Articles 25, 26, 27, 28, 30 and 32);
7. Gender equality (Articles 21/22 UNDRIP).

These areas of UNESCO's engagement defined the categories for the analysis of findings to prioritize and compare responses from the quality education dialogue. Items were categorized in several rounds of individual and collective examinations.

Overall Research Findings from the Application of the Delors-based Model

The findings of all UN regions from the research allowed for the examination of 578 response items applied to the Delors-based model and were categorized according to the areas of UNESCO's engagement with Indigenous Peoples.

Forty-nine percent of findings came from the Asia-Pacific Region (Australia, China, India, Malaysia, Maldives, New Zealand, Philippines, Austronesian Taiwanese), 13% from the Sub-Saharan African Region (Ethiopia and Nigeria), 11% from the South American Region (from Bolivia, Brazil, Chile, Peru, Venezuela), 10% from Central Asia (Kazakhstan, Russia, Tajikistan), 8% from Central and North America (Canada, Nicaragua, USA), 7% from Southern Africa (Botswana, Lesotho, South Africa), and 1% from Europe (Finland).

Participating stakeholders could be identified from the following groups: community (1%), Indigenous Peoples (16%), ministry officials (4%), parents (7%), students (7%), and teachers (23%). Forty-nine percent of participants were not defined by the research teams. The response items were also classified according to dimensions of sustainable development (environmental, social and economic) in the data collection.

Figure 4. Research items categorized according to the three dimensions of sustainable development

Category 1: Human Rights and Fundamental Freedoms

Twenty-three percent of the responses from all stakeholder groups targeted the acquisition and understanding of various mainstream competencies (knowledge, skills and attitudes) common globally to students in schools. The category was seen differently in the regions but was of utmost importance in the Sub-Saharan African region (49% of responses) as well as in Finland (27%), and Central Asia (27%).

Figure 5. Total average results per UNDRIP-based category from all regions

The results showed that stakeholder groups in all regions were extremely concerned about Indigenous children often not succeeding within existing education systems acknowledging the need for access to education and acquiring competencies. The dialogue also showed that stakeholders were not against mainstream education but rather worried about children's success within the system. Most responses emphasized the importance of knowledge, skills and attitudes in a quality education as one of the highest priorities. Another aspect was the concern for appropriateness of teachers to teach Indigenous youth and the need for in-service training. To meet expectations, they need to update their knowledge and skills regularly.

Competencies suggested by various stakeholders in the regions were broad and often not further prioritized. Fortunate for education systems, what stakeholder groups wish students to gain is overlapping with mainstream twenty-first century competencies, such as suggested by UNESCO named *key competencies for sustainability* (UNESCO, 2017, p. 10 based on research by De Haan, Rieckmann, Wieck), Scott (UNESCO, 2015c) or OECD's Learning Framework 2030 (OECD, 2018). Moreover, health in all of its forms was seen as a subordinate concern. Overall, 73% of health-related comments came from the Asia-Pacific region. While health including physical, mental and spiritual dimensions was not perceived as relevant in both African regions and South America, it was still identified as an element of quality education.

Category 2: Equality and Non-discrimination

Beyond success in twenty-first century knowledge and skills, inclusion within society and the access to employment after successfully graduating from school are also named important in most regions. Sub-Saharan Africa (19% of responses) and Central Asia

(21%) show the most feedback in this category. Looking at the distribution of stakeholders, especially communities (24% of all responses target equality and non-discrimination) and parents (16%) emphasize the aspects of inclusion and equal non-discriminatory access to education. But also, the ministry officials from ministries and government (12%) recognize these questions as relevant.

The responses suggest that Indigenous children do not have sufficient access to a comparable education in an appropriate setting, such as school buildings, libraries etc. and schools sufficiently equipped with learning materials relevant to Indigenous youth and their settings. In some regions, the access to computers and internet for the learning process for students and teachers as well as to access their children's test results for parents are critical yet not sufficient. Transportation to and from school as well as availability of secondary schooling in some less-populated regions are pointed out by stakeholders.

At the center of much concern is the future employability of students and their ability to create a prosperous life based on the education they receive. All forms of work, such as employment or entrepreneurship, are mentioned as necessary opportunities by several stakeholders. Where possible, the opportunity to remain in the community and lead a prosperous life is favored. Parents in particular want their children to be able to live better than themselves.

Category 3: Self-determination, Participation, Free, Prior and Informed Consent

Article 3 UNDRIP covers the rights of people to pursue their right to freely determine their political condition and the right to freely pursue their form of economic, social, and cultural development as groups/nations. The findings from the quality education dialogue also suggested the interest of stakeholder groups in all regions to establish an understanding and skill development for such roles for students in the education system. Although of less importance than other categories, a total 7% of all comments correspond accordingly. This category occurred strongly in the Southern African region (13%). Parents, students and teachers seemed to be more concerned about the individual student than about the collective development as a group in future society forming processes. No stakeholder group insisted on a separate education system for Indigenous Youth, however, wanted them to participate actively in existing structures. Comments refer to Indigenous students being active members of society standing up for Indigenous values and helping their community to create opportunities and better access to resources for development. Moreover, only 1% of responses identified leadership as an aspect of quality education. The responses on leadership came from parents and teachers, both groups recognizing the need for this attribute for the future collective good of the community.

Category 4: Cultural Heritage, Knowledge, Traditional Cultural Expressions and Languages

Cultural heritage, knowledge, traditional cultural expressions and languages are vitally interconnected with the following category of development with culture and identity. All stakeholder groups wish that students respect their cultures and traditions including the responsibility for the environment and that they will be part of the students' future development and identity. When responses focused on Indigenous heritage, they often related to an expectation for the future and/or Mother Earth.

Generally, all stakeholder groups gave the second-strongest emphasis (20% of all responses referred to cultural heritage), and in particular Indigenous Peoples (29% of responses), wished to see heritage and traditions be part of a quality education. In some cases, elements of religion as part of culture were explicitly taken into consideration by stakeholders.

The main focus of heritage concern is Indigenous knowledge and keeping traditions and ways of living alive within the Indigenous community, even when modern circumstances no longer require such knowledge. Students are expected to be mindful of their cultural knowledge and traditions and combine them within their modern identity. Traditions and knowledge are also connected with the pursuit for economic stability (e.g., in Botswana) when making traditional arts, crafts, medicine or forms of cultural expressions that are valuable for business or employment. This was also true regarding fisheries management in Siberia and food cultivation/preparation in Venezuela. Cultural heritage had very strong results in the Asia-Pacific region (21% of responses).

The timeliness of the topic of Indigenous language during the *International Year of Indigenous Languages 2019* was recognized and language added as subcategory, only 4% of responses explicitly addressed matters of language in all regions. Ministries (26% of responses related to language) and students as well as teachers (with 17%/18%) addressed the importance of language. Comments covered both Indigenous languages and foreign language learning. It is unclear whether (Indigenous) languages were naturally subsumed when talking about matters of cultural heritage and traditions or not of relevance for stakeholders. When language was mentioned by stakeholders it was mostly in relation to the culturally dominant language to succeed in employment and communicating outside the Indigenous group.

Category 5: Development with Culture and Identity

The responses categorized in the *Development with culture and identity* widely overlap with comments on cultural heritage and conservation of nature. Equally, it is strongly connected with the identity-forming element of languages. Most comments given are subsumed in at least one of the other categories as well. While it is the third-most sought aspect of education quality amongst stakeholder groups integrating identity and culture in future development, concerns are of less importance than preserving past or existing Indigenous knowledge and traditions in modern life. Culture/identity development is at the heart of the Central and North American discussion on quality education (23% of responses related, while average result for this category states 17% of responses).

Category 6: Conservation and Protection of Environment

Stakeholders indicated relevant concerns for living harmoniously with and protecting the environment (9% overall responses), South America (18% of responses referred to the environment) and Southern Africa (16%). In comparison to the other categories, the conservation and protection of environment alone play a less important role than employability. Yet, most stakeholder groups saw the balance and involvement with nature as an element of development with culture and identity (such as defined in category 5). Also, the connection to the environment is in many comments related to the indigenous cultural heritage and traditions.

Category 7: Gender Equality

Aspects of gender were mentioned only twice in all dialogue documentations, once in the Sub-Saharan African region and once in the Asia-Pacific region. This is of interest for further study and research as much is written about Indigenous Peoples and gender and Indigenous girls and women often face challenges (see also UNESCO, 2016b).

Policy Recommendations

Context for Recommendations

The stakeholders inferred that most Indigenous youth would relate through living or their workplace with mainstream education and society. Moreover, there was an identified need for youth to succeed in this broader world while remaining honorable members of Indigenous communities. The concern for the current lack of academic success on the part of all stakeholder groups was often expressed; however, there was no explicit call for separate schooling of Indigenous children. Often, even if requested, structures and resources do not allow a separation. Therefore, the following policy recommendations focus on existing education systems and highlight the need for changes to be made within. The request for schools to address Indigenous needs within the context, conceptual approaches and language of mainstream school systems has shaped and influenced the following policy recommendations. It is hoped that the recommendations provide guidance to make current school systems more effective and helpful for both Indigenous youth and all other learners in the system.

Learning from Each Worldview: Reform within the Existing School Systems

Programme Coordination and Curriculum

The results of this research showed that all stakeholder groups in all regions recognized the need of and were concerned about access to quality education to give students the opportunity to acquire twenty-first century learner competencies. In addition, Indigenous knowledge and perspectives should also be part of their education to make it relevant for Indigenous students and to support them in developing their future identities. They hoped to become viable responsible citizens, proud of their heritage and with a connection to the land, and manage the requirements of the workplace and well-being in modern societies. For the Indigenous, living in two worlds means learning for two worlds. Below, some policy recommendations regarding **program coordination and curriculum** are proposed:

1. Teaching twenty-first century competencies in locally relevant and culturally aligned contexts means to prepare all learners for a changing world dealing with major challenges in climate and environment, digitalization and artificial intelligence, globalization, migration and urbanization that will allow all Indigenous children to thrive in the mainstream school system and to succeed in both worlds.
2. Including Indigenous Elders and the local community in the learning process will be of mutual benefit as Indigenous knowledge and traditions as well as

striving for current media/information literacy are crucial elements of teaching for a sustainable future. Students need access to all forms of knowledge and perspectives.

3. Systematically strengthening technical and vocational training on all levels of education will create opportunity to revitalize Indigenous crafts and skills and to make appropriate economic use of the environment. Entrepreneurial education can create additional opportunity outside regular employment bolstering aspects of self-determination.
4. Intensifying engagement of Indigenous students in youth-appropriate settings could establish active participation and student leadership. Focal points in schools for Indigenous matters and Indigenous involvement in school leadership will support the learning and school development process.

Information Sharing and Learning

Many of the stakeholders in the dialogue appreciated the opportunity to share and discuss their knowledge and perspectives on a quality education. The majority of schools reported an existing access to the internet even if the full potential of including internet in the classroom is not used. Below, some policy recommendations regarding information sharing and learning are proposed:

5. Communicating on online platforms with other students, schools and communities will further media literacy and joint learning for all learners. Sharing education success stories of Indigenous students and schools with high Indigenous populations will further engagement and foster leadership amongst students.
6. Engaging teacher education institutions to work closely with local Indigenous communities in addressing locally relevant sustainability issues and appropriately including them in the learning process will create ownership and relevance of the curriculum. Collaboration in creating and delivering professional development for pre-service and in-service teachers will provide professional development and could be offered with online material and online learning circles.
7. Addressing teaching certification will respectfully allow Indigenous knowledge keepers to create and teach Indigenous perspectives.

Resource Mobilization, Networks

Challenges in Indigenous education are interconnected with economic, social and environmental matters and require all educators and education administrators to abolish their silo thinking to achieve improvements in student success. Below, some policy recommendations regarding resource mobilization, networks are proposed:

8. Providing information on and fostering access to (inter)national school networks (e.g., UNESCO ASPnet) and other networks (e.g., world heritage sites, biosphere reserves and geoparks, cities, etc.) will create or enhance relevant learning and network opportunities.
9. Strengthening cooperation of ministries of education with Indigenous Leaders and with other key stakeholders to co-develop mutual initiatives in revitalizing

rural/remote areas with economy and transportation services will create employment opportunities for Indigenous youth. Providing online access where necessary in coordination with local school programs will help youth bridge successful adaptation to living in two worlds. Processes for meaningful Indigenous participation in regional development could be used to enhance learning for self-determination.

Planning, Monitoring and Reporting

The interest in this research has shown that stakeholders wish their voice to be heard. It is often recognized to include stakeholders when planning a process. Yet, it is not established to continue involving stakeholders in monitoring and reporting steps during the project and after completion. Below, policy recommendations regarding planning, monitoring and reporting are proposed:

10. Ensuring participation of stakeholders as an element in all steps of the learning and education management process will sustain their ownership of local issues and foster mutual understanding of responsibilities.

Promoting ESD as a Purpose of Education to Achieve SDG 4, in Particular SDG Targets 4.5 and 4.7

The aspects of education quality that came forward in the stakeholder dialogues not only addressed the quest for twenty-first century competencies but also went beyond to address concerns that align with the concepts inherent in sustainable development. Concern for the well-being of Mother Earth and all life on the planet was prominent. Stakeholders in all regions expressed their need to preserve Indigenous knowledge in all forms and expertise in environmental management as elements of identity preservation and development. Many of the worldviews that Indigenous People wish to protect and nurture are closely aligned with the mainstream education approaches to sustainable development through both *Education for Sustainable Development (ESD)* and *Global Citizenship Education (GCED)*.

As sustainable development is an overarching goal pursued by all of humanity as evidenced by the global adoption of such instruments as the *2030 Agenda* and *Education 2030*, it is most appropriate to share perspectives, insights into ecological knowledge and worldviews. It is recommended that to fulfill the commitments to *SDG 4* in general and *Targets 4.5* and *4.7* in particular, all education systems are invited to:

- Consider the applicability of the recommendations from this research not only for Indigenous learners but for all learners;
- Adapt the recommendations for their specific systems with the support of teacher education institutions and local Indigenous communities and other relevant stakeholders;
- Embed *ESD* and *GCED*, enriched by appropriately represented Indigenous perspectives, in the education systems of all learners;
- Promote awareness and understanding of Indigenous and other concepts of individual and collective well-being to achieve sustainability;

- Recognize the relevance of international education policies applicable for the local setting in an interconnected world and learning from one another, which are the essential elements of learning for a sustainable future;
- Promote research, exchange and learning of ESD within and between teacher education institutions in international networks in order to help prepare future generations for an unknown tomorrow.

Next Steps, Areas for Further Research

This global report on research initiative 1 has been submitted to UNESCO and UNESCO National Commissions of participating countries. It will also be widely shared with the *#IndigenousESD research network*, interested Indigenous Communities and other research institutions. During the next phase until mid-2020, the examples of good-practice (research initiative 2) will be analyzed for the second global research report.

Also getting involved with the new *UNESCO Global Initiative on the Futures of Education* (UNESCO 2019b) aimed at finding a new vision on education, it is hoped that the relationships built through this research will allow further dialogues in partnerships with the research institutions to bring a strong Indigenous perspective to the global discussion.

Conclusions

Conducting research jointly with Indigenous communities around the world has shown that stakeholders from different backgrounds and regions have similar perspectives on their expectations towards the outcomes of quality education and are equally concerned about future Indigenous generations.

While primarily hoping for students' success in their individual well-being and functioning in both worlds, taking an active role in society and protecting their land is still relevant. The learnings from the dialogues on quality education in Indigenous communities align with the goals of *SDG 4*, in particular the targets of *SDG 4.5* and *4.7* and therefore are relevant for all education systems. Following the policy recommendations could create benefit for all learners.

The collaboration within the *#IndigenousESD research network* has initiated a new global and ongoing learning circle and discussion spanning all UN regions. This new research community aiming to improve the education for one of the most vulnerable groups named in the *2030 Agenda* can inform national education policies. There is potential for further findings to add to the evidence-based policy recommendations from this first initiative supporting nations to enhance policy and pedagogy that can simultaneously improve education quality for all students and meet *SDG* commitments.

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