

Reorienting Education and Training Systems to improve the Lives of Indigenous Youth (#IndigenousESD)

A global research project coordinated by the UNESCO Chair in Reorienting Education towards Sustainability, York University Toronto, Canada

Global Report on Research Initiative 1 *Outcomes of Quality Education*
(December 2019, final version)

Acknowledgements	4
Executive Summary	6
Part I Development of this research	7
Vision and scope of the research project.....	7
Funding and patronage	8
International education frameworks for this research.....	8
The underlying concept: Education for Sustainable Development (ESD).....	9
ESD in United Nations history	10
International quality education research using ESD	10
Who are Indigenous Peoples?.....	11
The current situation in education and training of Indigenous youth.....	11
ESD and Indigenous communities.....	12
Developing the specific research initiatives, their contribution to the international discussion	12
Project organization: research network, leadership, global and regional coordination	13
Research ethics and confidentiality challenges	14
Research initiatives, overall methodology	14
Phase 1: Creating the report template for research initiative 1.....	14
Phase 2: Carrying out the quality education dialogue and documenting the results	16
Phase 3: Categorizing and understanding the results, creating the global research overview	17
Part II Overall research findings from the application of the Delors-based model.....	19
Category 1 Human rights and fundamental freedoms (Article 1 UNDRIP with further Articles 8, 9, 16, 24), matters of physical, mental and spiritual health was included here but stated as subcategory.....	20
Category 2 Equality and non-discrimination (Article 2 UNDRIP with further Articles 15, 14, 11, 12, 17) including aspects of employability, employment	23
Category 3 Self-determination, participation, and free, prior and informed consent (Article 3 UNDRIP).....	25
Category 4 Cultural heritage, knowledge, traditional cultural expressions and languages (Article 11 UNDRIP).....	27
Category 5 Development with culture and identity (Article 23 UNDRIP)	28
Category 6 Conservation and protection of environment (Article 29 UNDRIP with further Articles 25, 26, 27, 28, 30 and 32).....	30
Category 7 Gender equality (Articles 21/22 UNDRIP).....	31
Category 8 Language (subcategory for Art. 11 UNDRIP)	32
Category 9 Health (as a subcategory of human rights, Art. 1 UNDRIP)	33
Category 10 Leadership (as subcategory for Art. 3 UNDRIP).....	33
Various views of stakeholder groups	34
Strengths and weakness of approach, limitations	34
Methodologies used to carry out the research initiatives.....	35
Part III Policy recommendations	36

Context for recommendations.....	36
Learning from each worldview: Reform within the existing school systems	36
Information sharing and learning	37
Resource mobilization, networks.....	37
Planning, Monitoring and Reporting.....	38
Promoting ESD as purpose of education to achieve SDG 4, in particular SDG Targets 4.5. and 4.7 .	38
Part IV About the research institutions, schools, and communities.....	40
Criteria for #IndigenousESD partnership	40
Background information on the research institutions.....	44
Background information on the research settings in this report	45
Data on students and community members, Indigenous students, and gender ratio within the research settings	46
Teacher qualifications in the research settings	47
Further knowledge about school and community settings: Internet and IT	47
Further knowledge about school and community settings: Community members as education resources	47
Further knowledge about school and community settings: Use of the environment in teaching	47
Part V Distributing the results, potential areas of further research and outlook on the next research report	48
Next steps, areas for further research	48
Overview on incoming samples of good practice and ideas for action research	49
References.....	56
Appendixes	59

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A special thanks goes to Andre E. Kozak and Carol Kozak and the John Dearness Environmental Society for their generous donations to initiate the work on this research project. Thanks also to UNESCO-UNEVOC and the Canadian Commission for UNESCO for their patronage.

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Executive Summary

This global research project *Reorienting Education and Training Systems to Improve the Lives of Indigenous Youth* aims to improve the lives of **Indigenous youth, in or from traditional communities by enhancing the quality of their education**. The research follows a **community-based participatory research approach**. The unique approach of this research on how education outcomes for Indigenous youth can be improved is by **engaging education for sustainable development (ESD)**, i.e. addressing local social, economic and environmental issues and designing appropriate pedagogy.

The **UNESCO Chair on Reorienting Teacher Education towards Sustainability at York University**, Toronto, Canada leads and coordinates the project by involving more than 120 (research) institutions and communities having schools with Indigenous students in approximately 40 countries/Indigenous peoples' territories. The research was designed to serve the 2030 Agenda with the Sustainable Development Goals (SDGs), in particular SDG 4 and the Global Education 2030 Agenda. By establishing this project, the first international research network on SDG Target 4.5 is launched with the possibility for research institutions to collaborate beyond this initial research project.

While researchers work with schools and community leaders, their research is based on the following three research initiatives providing tangible products emanating from these initiatives:

1. Exploring the **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. Collecting **examples of “Good Practice using ESD”** in delivering quality education for Indigenous youth; and
3. Performing **action research** in exploring ESD approaches to improve the overall quality of education for Indigenous youth based on how quality education is perceived by stakeholders as found in research initiative 1.

This first research report covers an extensive data analysis from the first research initiative covering 29 countries in all UN regions. It provides **concrete policy recommendations** to assist education and community leaders worldwide **to reorient existing education systems towards sustainability in addressing** regarding the following aspects: **programme coordination and curriculum; information sharing and learning; resource mobilization, networks; as well as planning, monitoring and reporting mechanisms**. Furthermore, suggestions **to enhance the implementation of SDG 4** are included. The findings will be disseminated through a variety of networks, including United Nations agencies, Indigenous communities, ministries of education and other means. The research project is awarded with patronage by UNESCO-UNEVOC and the Canadian Commission for UNESCO.

Part I Development of this research

Vision and scope of the research project

This global research project aims to improve the lives of Indigenous youth, in or from traditional communities, by enhancing the quality of their education. It is intended to generate and share findings into whether schools and formal education systems could enhance the quality of education for Indigenous youth when embedding the concept of *Education for Sustainable Development (ESD)*.

The main goals of the research project are:

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

Overall, respecting and building relationships are key underpinnings for collaboratively working *with* and learning *from* Indigenous communities. Knowledge and experience gained are to be given back to communities and schools to strengthen Indigenous voices in education discussions. Research institutions in this project are expected to closely collaborate with the local Indigenous community, school(s) and



their staff and students as well as ministries of education or other relevant institutions in building the local research community and carrying out the research in an ethically respectable and culturally appropriate way. Researchers were encouraged in adding supplementary goals to their specific project in order to match respective political or social expectations or secure further funding.

Funding and patronage

The initial phase of the research which comprised of creating the project infrastructure and research proposal was funded by private donations. The research in each country is individually funded by partnering research institutions (average cost of research per setting at USD 7500). To enhance visibility for partner institutions, National Commissions for UNESCO and several ministries of education/ministries of youth are regularly updated on the progress.

UNESCO-UNEVOC and the Canadian Commission for UNESCO endorsed this project with their patronage.



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, 2015a) with the *17 Sustainable Development Goals (SDGs)* outline 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: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.* (United Nations, 2015a, 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).

A person's level of education is often a major determinant of the individual's well-being and their potential of future income resulting e.g. 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. More and more, higher education and/or technical and vocational education and training are required for people to enter the workforce and function in both developed and developing nations.

Current reality is the continued exclusion of entire groups in society, e.g. identified by race, ethnicity, gender, socio-economic status etc. from access to education. To call for improvements, *SDG Target 4.5* specifically names groups in need, 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, 2015a, p. 17).



The underlying concept: Education for Sustainable Development (ESD)

The unique approach of this research is focused on engaging with the concept of **Education for Sustainable Development (ESD)**. Seen as an intent or purpose of education (UNESCO, 2014a), *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).

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, 2017a). 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).

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.

ESD in United Nations history

ESD has a longstanding history within the United Nations system. First established in 1987 in the *Brundtland Report* (United Nations, 1987) and stated in *Chapter 36* of the *Agenda 21* at the Rio Conference in 1992 (UNCED, 1992), an entire *United Nations Decade of ESD, 2005-2014* (UNESCO, 2005) was dedicated to promoting *ESD* worldwide. In parallel to the *2030 Agenda* negotiation process, where mentioned in *SDG 4* on Quality Education and recognized as a key enabler of all *SDGs*, *ESD* was seen as important and an additional platform was established: the *UNESCO Global Action Programme on ESD, 2015-2019* (UNESCO, 2014b). This *Global Action Programme* comes to a close in 2019 and is followed by the *Framework for the Implementation of Education for Sustainable Development (ESD) Beyond 2019, 2020-2030* (UNESCO, 2019a). Another new UNESCO Initiative launching a global dialogue will also put the future of sustainability into its focus: *The Futures of Education* (UNESCO, 2019b).

International quality education research using ESD

Education research has proven how including *ESD* can enhance the quality of education in even high performing school systems (Laurie et al., 2016) without detriment to traditional rankings. Many schools that have *ESD* throughout their policies, practices, and curricula reported an overall improvement across numerous metrics. Their educators not only talked of improvements in core academic achievement, but they also mentioned students' improvement in other areas, such as intellectual engagement, creativity, critical thinking, dropout reduction, and student-teacher relationships. This *#IndigenousESD research* will examine potential contributions of *ESD* in the education of Indigenous youth that would align with perceptions of quality education as determined by stakeholders including Indigenous Peoples from all UN regions.

Who are Indigenous Peoples?

This research recognizes the lack of a universal definition of Indigenous Peoples in the United Nations system (UNDESA, 2008). Therefore, the definition of the *Indigenous* as referred to in this project is based on the following aspects:

- Self-identification as indigenous Peoples at the individual level and accepted by the community as their member.
- Historical continuity with pre-colonial and/or pre-settler societies.
- Strong link to territories and surrounding natural resources.
- Distinct social, economic or political systems.
- Distinct language, culture and beliefs.
- Form non-dominant groups of society.
- Resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities.

The definition in national academic literature and their respective education systems widely varies. Research institutions from countries national/constitutional definition of Indigenous Peoples and known percentages of Indigenous living in a country to governments that hold no data available have contributed to this research. Therefore, this research identifies Indigenous youth, including those who continue to live in, or have recently left traditional cultures. In the spirit of the *2030 Agenda*, the Principal Researchers have used the term in a respectful and appropriate attempt of engaging and learning both with and from Indigenous Peoples.

The current situation in education and training of Indigenous youth

Although Indigenous Peoples have been granted full human rights (United Nations, 2007), still today and with few exceptions, youth, in or from traditional cultures, remain 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. Indigenous girls are more likely to be affected (UNESCO, 2016b). There is a significant lack of understanding of why Indigenous students often do not function well in most education systems. The social and economic disparities that arise from an inequitable education system are considerable (UNESCO, 2017b). Yet, little research-based knowledge is available to effectively address the situation.

ESD and Indigenous communities

One of the final recommendations in the *Millennium Development Goals Report* was to create more data on groups, such as Indigenous Peoples around the world (United Nations, 2015b). Until the adoption of the *2030 Agenda* in 2015, Indigenous Peoples were not explicitly listed in global UN goals and received little attention by UN/UNESCO programmes aiming at their education and focuses in policies on Indigenous Peoples on accepting traditional knowledge in the discussion of sustainability and climate change (UNESCO 2018a).

Developing the specific research initiatives, their contribution to the international discussion

In 2017, the initial phase of building partnerships and commitment for this project, engaging research institutions, seeking local research sites and community partners was carried out in a ten-month participatory approach. Regional Planning Meetings

- in Malaysia for the Asia-Pacific region (January 2017),
- in Chile for the South American region (April 2017),
- in Nigeria for the Southern African as well as the Sub-Saharan African region (May 2017),
- in Kazakhstan for the Central Asian region (June 2017), and
- in Canada for the Central and North American regions (October 2017)

with more than 150 representatives from universities, Indigenous communities, schools, governments, United Nations Agencies, etc. were held to develop an appropriate research approach that could be applied in all regions and would allow a mutual basis for all participating institutions. The research goals, ethical questions, concrete research initiatives, relevant data etc. were discussed and further developed. During the Regional Coordinator Conference (October 2017), the three *final initiatives of this research project* were adopted:

1. What are desirable education outcomes as perceived by relevant stakeholders that define the quality of education for Indigenous youth? – Exploring the 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 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 based on how quality education is perceived by stakeholders in research initiative 1.

The final conceptual framework with an executive summary, formalizing the shared understanding were shared with all partners for the use of this research after another online consultation with all researchers. Coordinated by the UNESCO Chair at York University, researchers together with their schools and local Indigenous communities adapted the research initiatives to their specific setting and carried them out in a locally and culturally appropriate way.

The initial timetables were planned:

- Research initiative 1 (January 2018 to July 2018, adapted to October 2019)
- Research initiative 2 (July 2018 to February 2019, adapted to March 2020)
- Research initiative 3 (March 2019 to June 2020, adapted December 2020)

Timetables had to be adjusted to accommodate the pace of the research institutions in working both within their own institutional research frameworks and with their Indigenous communities.

Project organization: research network, leadership, global and regional coordination

The actual groundwork has been responsibly conducted through the research network covering all 6 UN regions with approximately 120 institutions and their partners in approximately 40 participating countries/Indigenous Peoples' territories. Organizations involved had expertise in both educating Indigenous youth and focus on the pursuit of quality education in the context of *SDG 4* and *ESD*.

In some countries, research institutions collaborated with multiple partner sites. Researchers documented findings for sharing with the Regional and Global Coordinators but equally with the Indigenous community to distribute research results in a multi-layered approach.

With a focus on the political visibility of this *#IndigenousESD research network*, the diversity of countries and research institutions have been welcomed to date. Regional and national coordinators as well as an international advisory board have provided guidance.

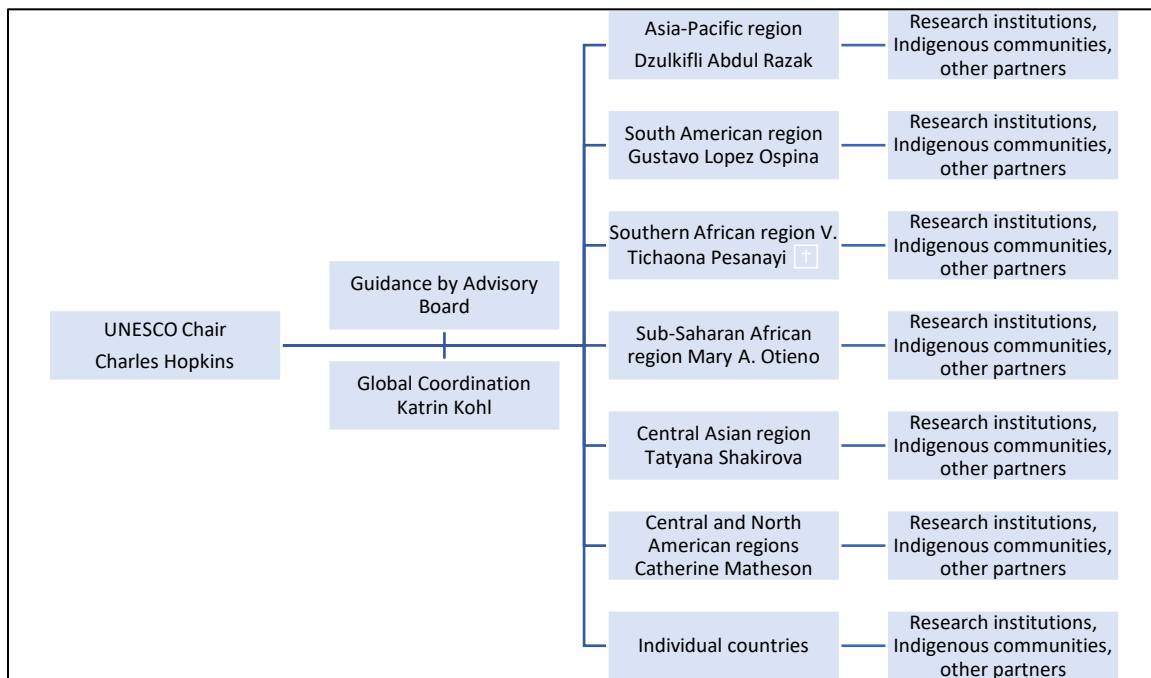


Figure 1: Overall research project structure.

Research ethics and confidentiality challenges

Based on a Memorandum of Cooperation with each research institution in the network, Principal Researchers have secured an ethically and culturally appropriate process within their institution in cooperation with their Indigenous community. The Regional and Global Coordinators have supported researchers in requesting and receiving the consent of their communities and – where possible – participated in meetings with Chiefs and Elders to respond to their questions.

Research initiatives, overall methodology

Phase 1: Creating the report template for research initiative 1

As a joint basis to carry out research initiative 1, a model to structure and document findings from around the world was needed. The results should allow an overall format and comparability of results for the dialogue question: *What are desirable education outcomes as perceived by relevant stakeholders that define the quality of education for Indigenous youth?*

Intending to provide policy recommendations (Goal 1) from research-based knowledge to the international UN/UNESCO discussion on education, the Regional Coordinators decided to create the research methodology in applying models used to describe UNESCO's humanistic approach to learning. Three global reports shape the UNESCO vision of education: *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, by combining a sufficiently broad general knowledge with the opportunity to work in depth on a small number of subjects. This also means learning to learn, so as to benefit from the opportunities education provides throughout life.*
- *Learning to do, in order to acquire not only an occupational skill but also, more broadly, the competence to deal with many situations and work in teams. It also means learning to do in the context of young peoples' various social and work experiences which may be informal, as a result of the local or national context, or formal, involving courses, alternating study and work.*
- *Learning to live together, by developing an understanding of other people and an appreciation of interdependence - carrying out joint projects and learning to manage conflicts - in a spirit of respect for the values of pluralism, mutual understanding and peace.*
- *Learning to be, so as better to develop one's personality and be able to act with ever greater autonomy, judgement and personal responsibility. In that connection, education must not disregard any aspect of a person's potential: memory, reasoning, aesthetic sense, physical capacities and communication skills.*

This model experienced reinterpretation during the process of negotiating the 2030 Agenda (UNESCO, 2015b, p. 39):

- *Learning to know – a broad general knowledge with the opportunity to work in depth on a small number of subjects.*
- *Learning to do – to acquire not only occupational skills but also the competence to deal with many situations and to work in teams.*
- *Learning to be – to develop one's personality and to be able to act with growing autonomy, judgment and personal responsibility.*
- *Learning to live together – by developing an understanding of other people and an appreciation of interdependence.*

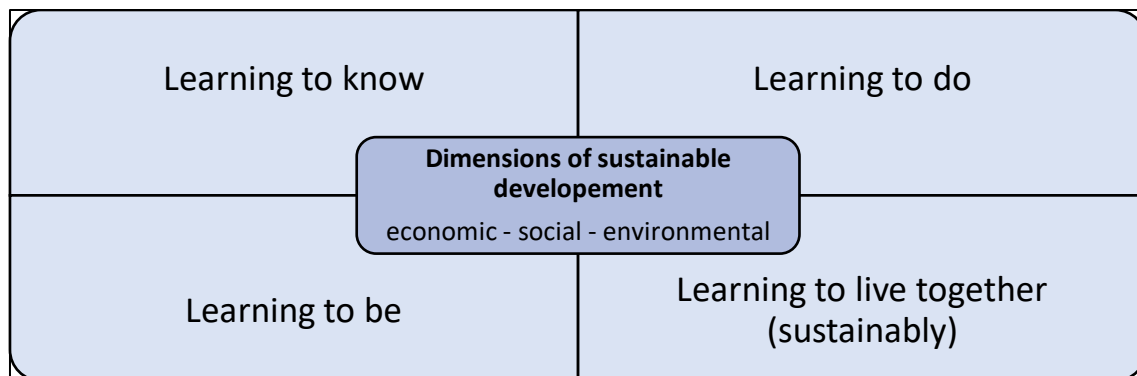


Figure 2: Delors-based model to data collection

The Delors-based model for data collection and documentation for this research was created accordingly and added by the three dimensions of sustainable development to give further structure for documentation. Researchers were provided with a report template.

Phase 2: Carrying out the quality education dialogue and documenting the results

Secondly, the Delors-based model was then 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.

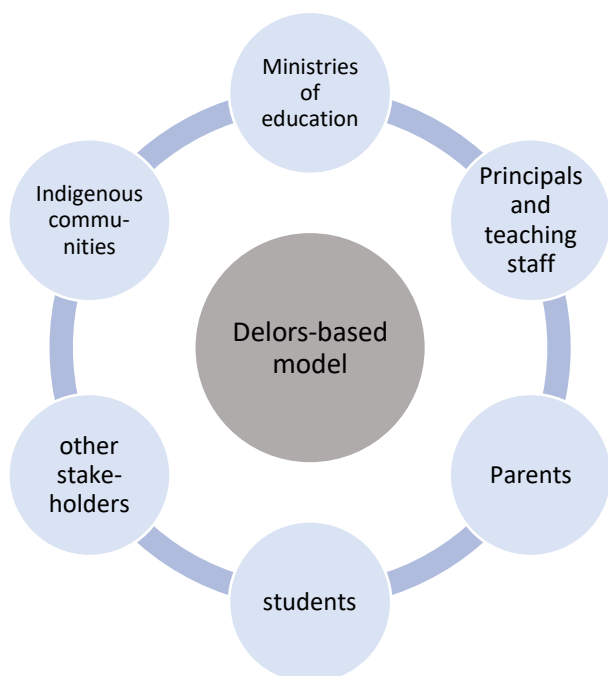


Figure 3: Delors-based model to data collection applied to stakeholder groups of quality education dialogue

Phase 3: Categorizing and understanding the results, creating the global research overview

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.

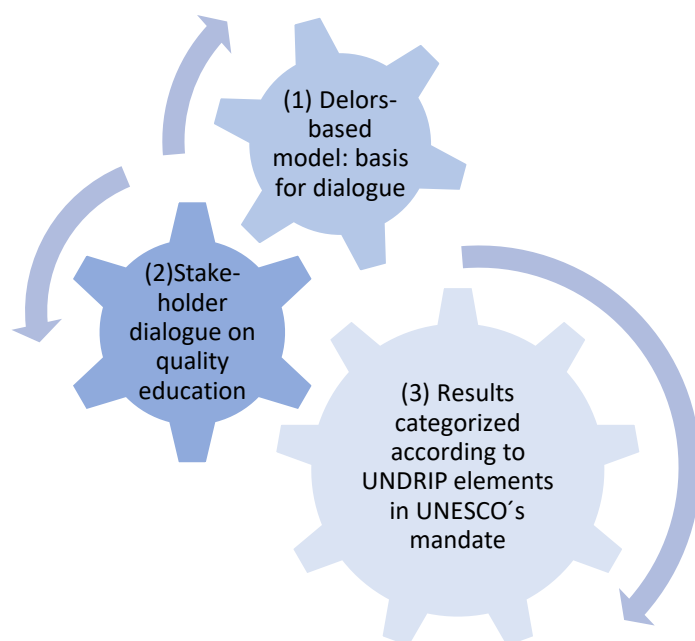


Figure 4: Steps for collection and analysis of research results

In 2018, UNESCO published the *UNESCO Policy on engaging with Indigenous Peoples* (UNESCO, 2018b) 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 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;

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 further analysis of findings to prioritize the responses from the quality education dialogue:

Human rights and fundamental freedoms including health	Equality and non-discrimination including employability, employment	Self-determination, participation, and free, prior and informed consent incl. leadership	Cultural heritage, knowledge, traditional cultural expressions and languages	Development with culture and identity	Conservation and protection of environment	Gender equality	Language (subcategory of cultural heritage)	Health (subcategory of human rights)	Leadership (subcategory of self-determination)
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Figure 5: Overview on UNDRIP-based categories applied to the results from the dialogue

Since 2019 was declared the *International Year of Indigenous Languages* (United Nations, 2016), a special priority was given to Indigenous languages and qualified as a subcategory of cultural heritage according to Article 11 UNDRIP. Also, health and leadership were expected from the discussions in planning meetings to be important subcategories of their respective UNDRIP category.

Items were categorized in several rounds of individual and collective examinations; an item could be applied to several categories when appropriate.

Part II Overall research findings from the application of the Delors-based model

The findings from all UN regions from the research allowed the examination of 578 items that had been applied to the Delors-based model. Categorizing the items led to the following regional distribution with 1,011 matches within the ten categories.

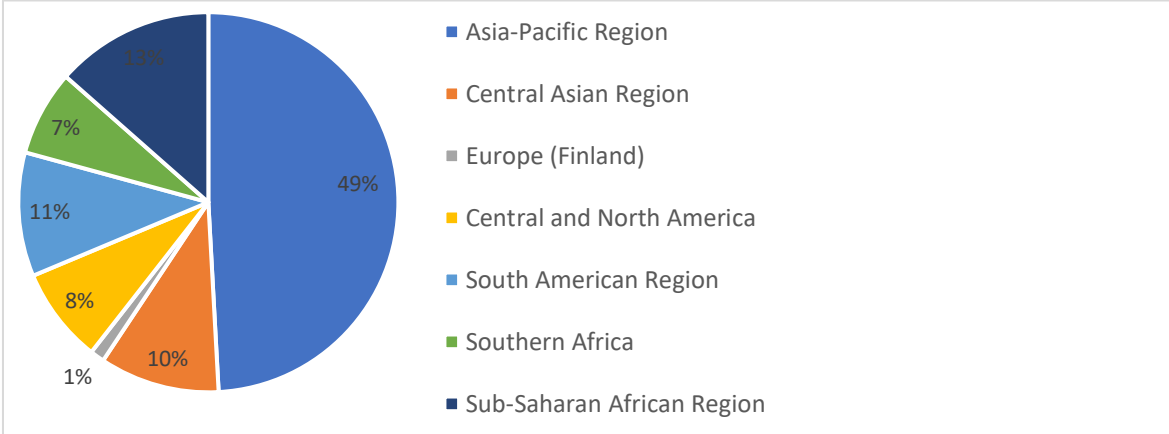


Figure 6: Regional distribution of total research findings

Participating stakeholders could be identified from the following groups: Community, Indigenous Peoples (including Elders), ministry officials, parents, students, teachers. The groupings of 41 % of all participants who participated in the discussions were not further defined by the research teams.

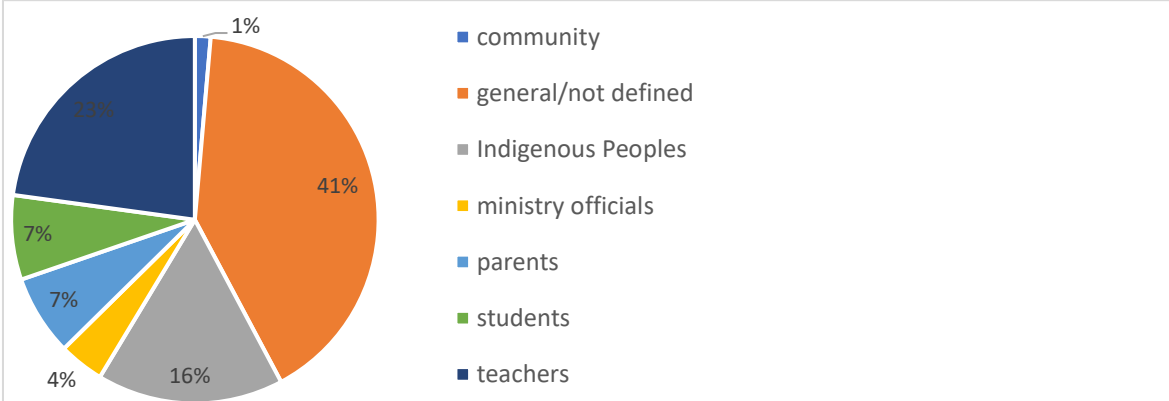


Figure 7: Total research findings coming from various stakeholders

The 578 ESD items were also classified according to dimensions of sustainable development (environmental, social and economic) in the data collection process at each research setting when possible.

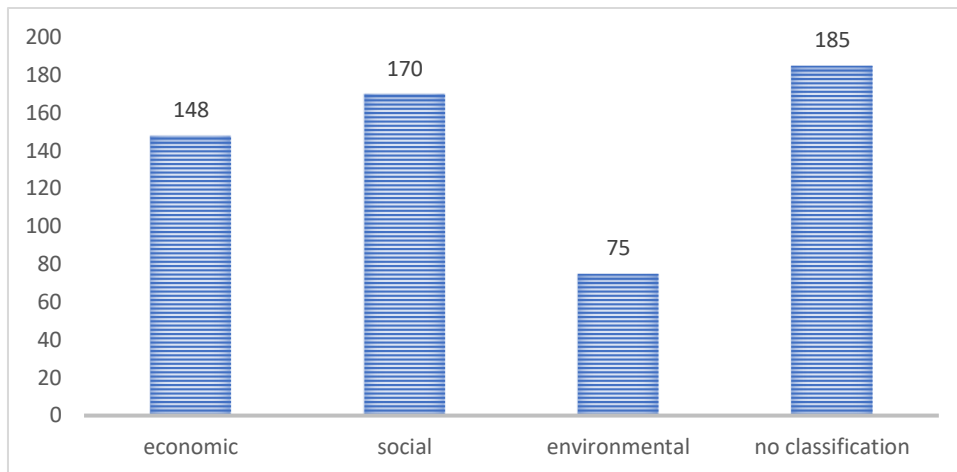


Figure 8: Research items categorized according to the three dimensions of sustainable development

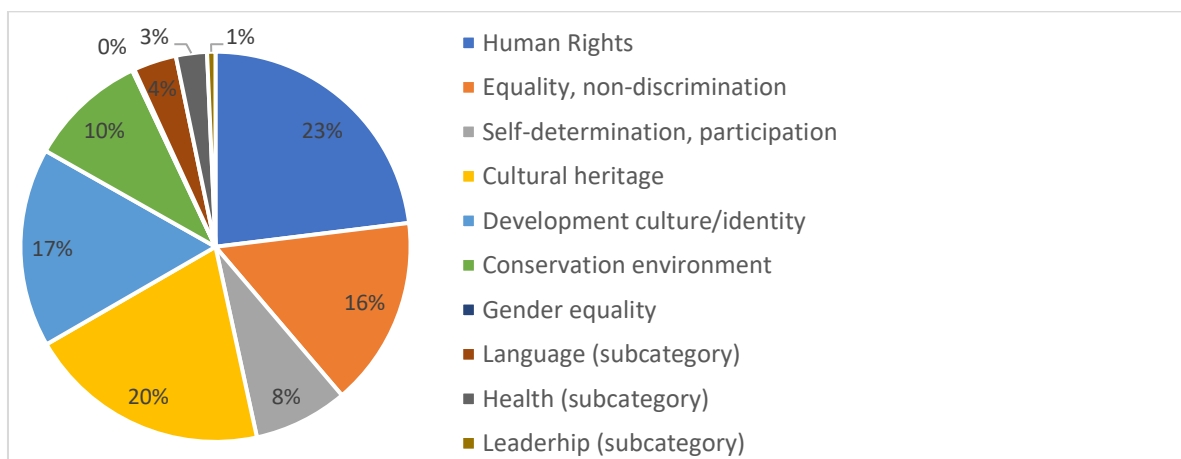


Figure 9: Total average results per UNDRIP-based category from all regions

Category 1 Human rights and fundamental freedoms (Article 1 UNDRIP with further Articles 8, 9, 16, 24), matters of physical, mental and spiritual health was included here but stated as subcategory.

Most mentioned were the acquisition and understanding of various mainstream competencies (knowledge, skills and attitudes) common globally to students in schools. This access to excellent education was seen as a human right (24 % overall). The category played a different role in the regions but was of utmost importance in the Sub-Saharan African region (49 % of responses fit this category, see Figure 10) and in Finland (27 %, see Figure 12), followed by Central Asia (27 %, see Figure 11).

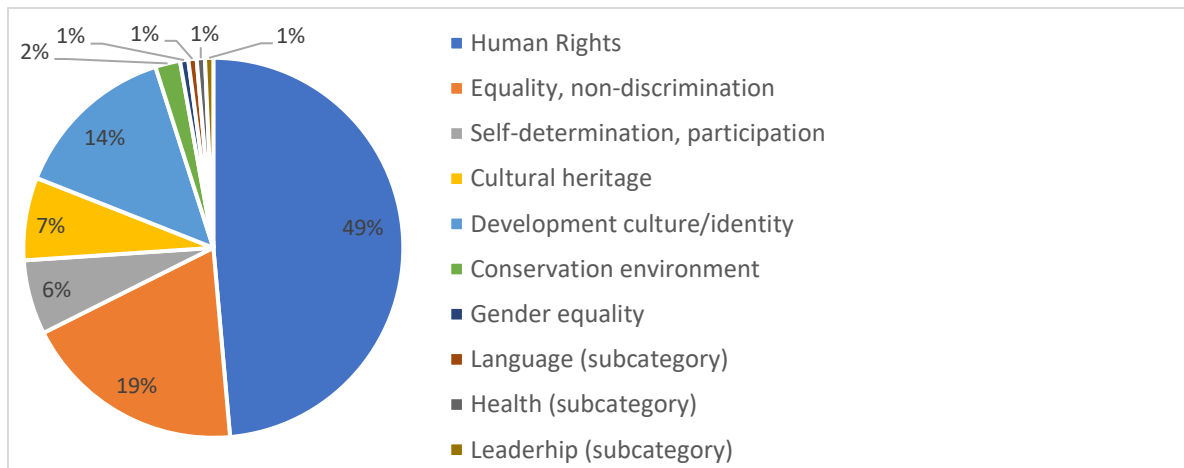


Figure 10: Research findings per UNDRIP-based category for the Sub-Saharan African region

Stakeholder groups in all regions are extremely concerned about Indigenous children often not succeeding within existing education systems. All stakeholder groups acknowledged the need for access to education and acquiring competencies. The dialogue also shows that stakeholders are not against mainstream education but rather worry about children's success within the system.

Analyzing each stakeholder group, participants gave different importance to category 1. Most groups emphasized the importance of knowledge, skills and attitudes in a quality education as one of the highest priorities (see also Figure 17).

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 (e.g. acquiring English language skills to teach subjects in English in Kazakhstan).



Competencies suggested by various stakeholders in the regions were broad and often not further prioritized. Fortunately 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).

The following examples show the broad responses:

- Asia-Pacific – Malaysia: *Introduce 21st century learning techniques to realise benefits from modern knowledge and preservation of traditional knowledge, and to also use appropriate learning approaches that Orang Asli (Indigenous Peoples) best respond to.* (stakeholder not defined)
- Asia-Pacific – Malaysia: *Graduates should know both, traditional and contemporary (formal) knowledge.* (parent)
- Asia-Pacific – Philippines: *Training of teachers in IPEd (Indigenous Peoples)*
- Asia-Pacific – New Zealand: *Students shall be skilled to understand the world, also an inconsistent world.* (teacher)
- Asia-Pacific – Maldives: *Know how to use computer technology, using media and technology, students should be aware of the latest technology.* (stakeholder not defined)
- Central Asia - Kazakhstan: *Schools are introducing a new education system. Many subjects at senior courses must be in English. But there are no educators who will lead in English in rural schools. Teachers who know English, go to work in the city.* (teacher and ministry)
- South America – Peru: *Acquiring Literacy skill* (stakeholder not defined)
- Southern Africa – Botswana: *Learn about their history and stories of their community* (stakeholder not defined)
- Sub-Saharan Africa – Nigeria: *Any education that makes me better than my parent is quality.; I am more excited when I am using my hand and my head to do something. So quality education should be the one that uses what I like to teach me what I need.* (students)
- North America – Canada: *To ensure that these learners have the tools to gain academic and economic success and remain in their community if they choose, with the understanding that Anishinaabe and Western knowledge imparts not only understanding but also responsibility to work for the greater good.* (student)
- Sub-Saharan Africa –Nigeria: *The school is trying but they should do more by getting quality teachers not adhoc teachers like Youth corpers that does not have the needed commitment most of the times. They should get seasoned and experienced teachers.* (Community)



Category 2 Equality and non-discrimination (Article 2 UNDRIP with further Articles 15, 14, 11, 12, 17) including aspects of employability, employment

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 %, see Figure 10) and Central Asia (21 %, see Figure 11) show the most responses in this category from their respective dialogues. Looking at the stakeholders, especially communities (24 % of responses, see Figure 17) and parents (16 % of responses, see Figure 17) emphasize the aspects of inclusion and equal non-discriminatory access to education. But also, the sub-group of officials from ministries and government (12 % of comments, see Figure 17) recognize these questions as highly relevant.

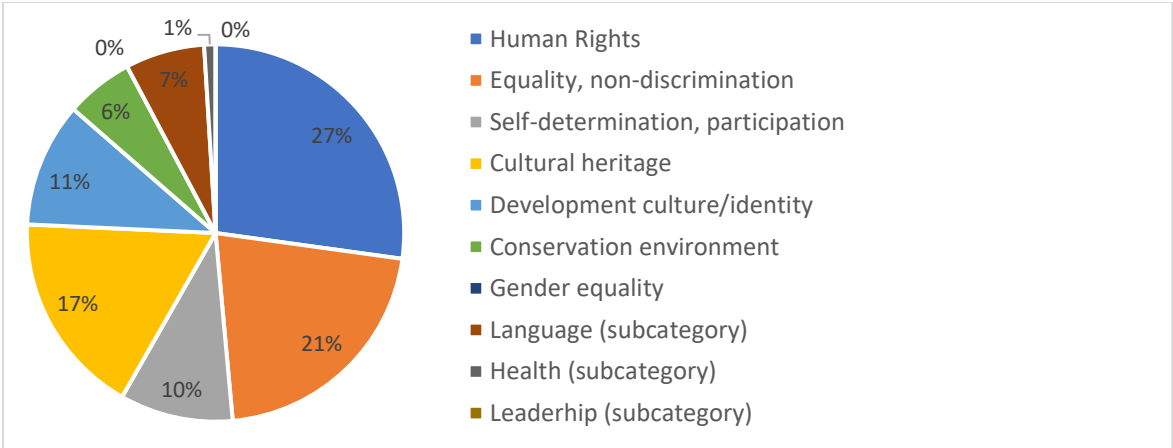


Figure 11: Research findings per UNDRIP-based category for the Central Asian region

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 do better in life than they.

Samples include:

- Asia-Pacific – Malaysia: *Providing a lot of infrastructure in the community, and support system such as daily bus drive them to the school. At the same time, they are providing TVET program for those has no formal certificate.* (ministry official)
- Asia-Pacific – Malaysia: *The main problem of Orang Asli (Indigenous Peoples) in the mainstream economy system is their employability is low. This is happening due to education status and low of possession of formal certificate to ensure them to involve actively in the mainstream economy system in Malaysia.* (stakeholder not defined)
- Asia-Pacific – Malaysia: *Eco-tourism could not only bring economic benefit but increase exposure to Orang Asli (Indigenous Peoples) lifestyles, traditions and sacred sites.* (stakeholder not defined)
- Central Asia – Kazakhstan: Learning should be *...Aimed at developing students' general understanding of the economic state of the country in the context of the global economy, the role of the economy in the life and activities of people; knowledge of entrepreneurship and the foundations of a market economy...* (ministry official)
- Europe – Finland: *What we need is that there is no organized educational support for the Sámi education, currently no Sámi (Indigenous Peoples) education support exist, that consist the supervision and guidance of educational support for Sámi educational content.* (stakeholder not defined)
- South America – Bolivia: *Understand the productive socio-community model with the participation of social actors* (stakeholder not defined)
- South America – Chile: *To recognize the value of their traditional territories and ways of life and to find/develop employment and sustainable development options within their communities.; Implement options for the improvement of the personal, family, and community economic positions for improved quality of life and livelihoods.* (stakeholder not defined)
- Sub-Saharan Africa- Nigeria: *The Current National and State subjects and curriculum for Secondary Schools in Nigeria are adequate to deliver quality education but the tool for the delivery is limited and as such limits quality delivery.* (teachers)



One additional aspect from Sub-Saharan Africa is the affordability of schools. Samples include: *We will do our best to make sure we pay their school fees as at when due.* (parent) or *We pray for God to help our parents make more money to pay our school fees.* (student)

In Finland, the basic access to education and economic prosperity of the Sami People (Indigenous Peoples) is recognized as both important and possible for them to attain. Economic viability is central to them as a cohesive People.

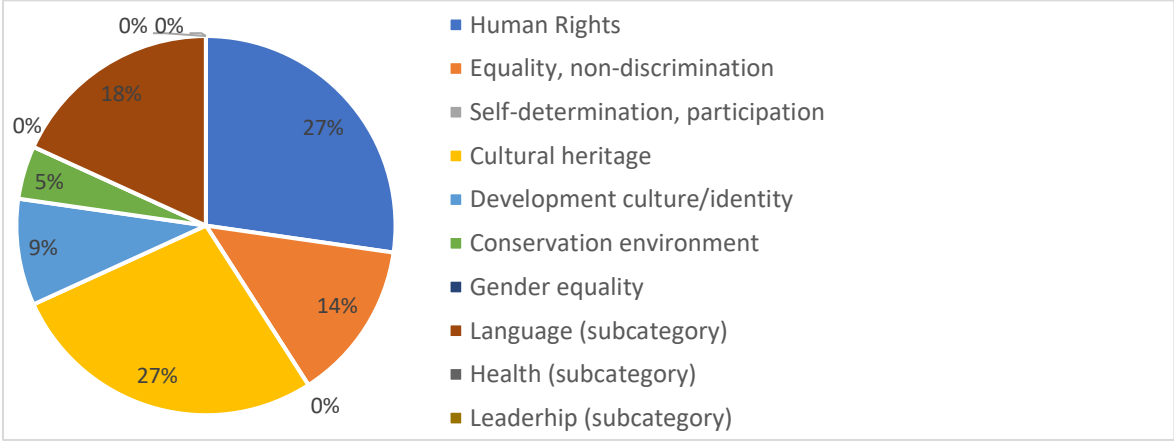


Figure 12: Research findings per UNDRIP-based category for Finland (Europe)

Category 3 Self-determination, participation, and free, prior and informed consent (Article 3 UNDRIP)

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 suggest 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 comments correspond accordingly, mainly coming from ministry officials (12 %, see Figure 17) and Indigenous Peoples (8 %, see Figure 17) involved in the discussion. This category occurred strongly in the Southern African region (13 %, see Figure 13). Parents, students and teachers seem to be more concerned about the individual student than about the collective development as a group in future society forming processes. No stakeholder group insists on a separate education system for Indigenous Youth but want 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.

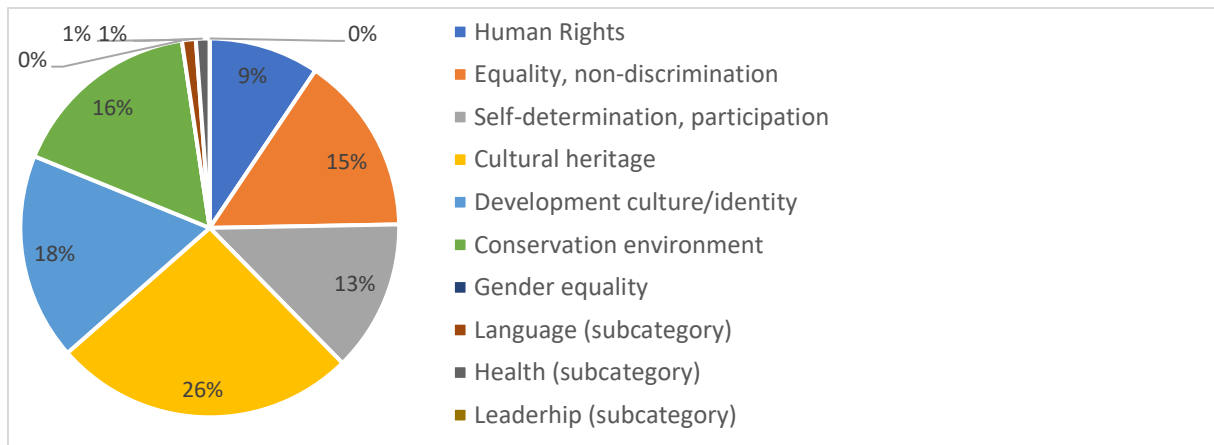


Figure 13: Research findings per UNDRIP-based category for the Southern African region

Sample statements are as follows:

- Asia-Pacific – Malaysia: *Understand existing welfare schemes and develop skills to create new, relevant and unambiguous systems that are transparent and accountable* (stakeholder not defined)
- Asia-Pacific – New Zealand: *Skilled to negotiate and shape an inconsistent world* (teacher)
- Asia-Pacific – Philippines: *Produced citizens who could provide for themselves; IP Mainstream: Research on own tribe; immerse in community* (Indigenous Peoples)
- Central America - Nicaragua: *Cultural practices in the community, as part of the educational process, entail enriching to the formation of the new community* (teacher)
- Central Asia – Russia: *to create conditions in the villages to return young people to their communities; Development of self-awareness and self-determination as a representative of indigenous Peoples; creation of conditions for development of traditional types of management (animal husbandry)* (stakeholders not defined)
- North America – Canada: *To contribute to the academic and scholarly manner in the spirit of Canadian reconciliation* (teacher)
- South America – Bolivia: *active participation of the indigenous youth in the political life of the country* (stakeholder not defined)
- South America – Peru: *Be part of the community.* (stakeholder not defined)
- Southern Africa – Botswana: *To be able to access information on community & national development issues* (stakeholder not defined)



- Sub-Saharan Africa – Ethiopia: *Quality education needs to be the one that leads to the intellectual development of a whole learner and the one that competent, caring, critical, responsible and active members and lovable people in the society.* (ministry official)

Category 4 Cultural heritage, knowledge, traditional cultural expressions and languages (Article 11 UNDRIP)

The following category of cultural heritage, knowledge, traditional cultural expressions and languages is 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 give the second-strongest emphasis (20 % of responses referred to cultural heritage, see Figure 9), and in particular the stakeholder group Indigenous Peoples (29 % of responses, see Figure 17), wish 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 (e.g. in the Maldives and in Kazakhstan).

A 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, see Figure 14) followed by the Central and North American regions (see Figure 15):

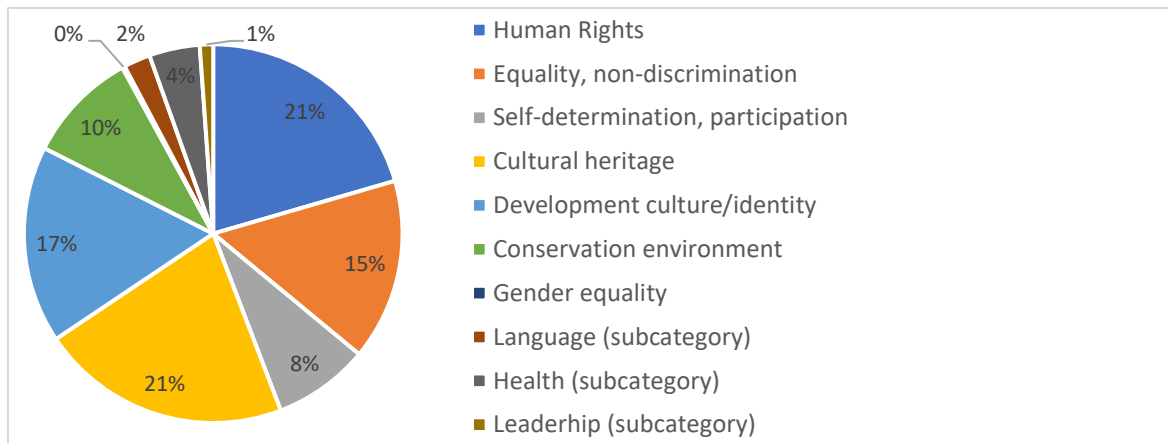


Figure 14: Research findings per UNDRIP-based category for the Asia-Pacific region

Samples statements are:

- Asia-Pacific – Malaysia: *To learn how they can assimilate with the non-indigenous world, without having to devalue their inherent traditional knowledge, culture, language and values, although in pursuit of economic stability* (stakeholder not defined)
- Central America – Nicaragua: *Young people aware of the natural resources that we have and that in the future can be managed in a sustainable way for the wellbeing of the community.* (teacher)
- Central America – Nicaragua: *Young people with knowledge and skills to develop environmental education, aware of the importance of the environment throughout the process of training indigenous students to understand three basic things: what we have at hand, what we can take advantage of in a sustainable manner and what we must do to recover the natural resources that are disappearing in the community. Thus, getting the harmony with Mother Earth back.* (teacher)
- Central Asia – Russia: *protection of the rights of indigenous Peoples, their territories, traditional knowledge, and languages* (stakeholder not defined)



Category 5 Development with culture and identity (Article 23 UNDRIP)

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.

Identity/culture development are at the heart of the Central and North American discussion on quality education (23 % of responses related, see Figure 15, average result for this category states 17 % of responses, see Figure 17). In Peru, a sense of identity is mentioned to overcome existing discrimination and exclusion.

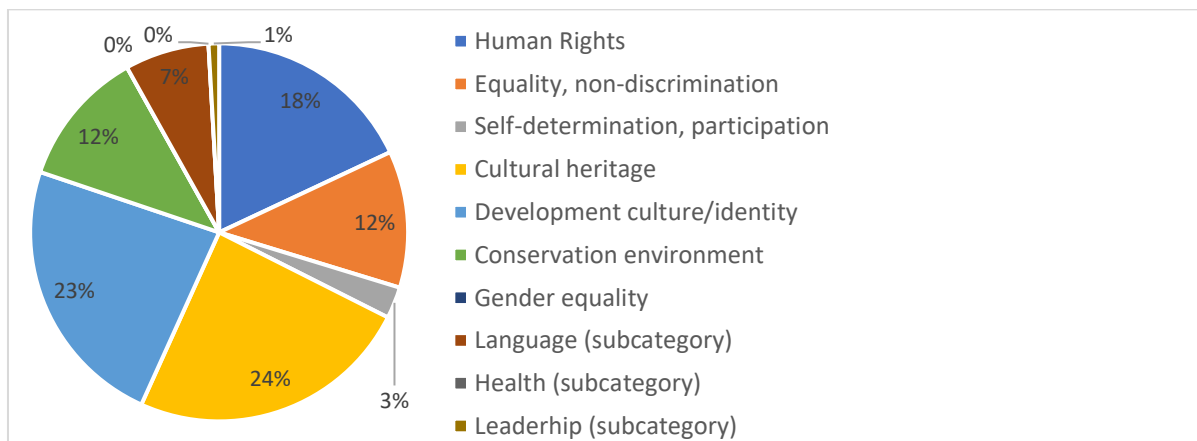


Figure 15: Research findings per UNDRIP-based category for the Central and North American regions

Samples statements are as follows:

- Asia-Pacific – Malaysia: *Live well in both worlds and carry on understanding for traditional identity.* (parents); *To live well both inside and outside indigenous community* (stakeholder not defined)
- Asia-Pacific – New Zealand: *Be positive in their own identity and have a sense of belonging* (teacher)
- Asia-Pacific – Taiwan: *Indigenous elders have deep understanding of traditional ecological knowledge (TEK) and strong sense of place; however, today's indigenous schools often neglect the integration of the indigenous place in their education. Thus, we believe that the primal foundation of quality education for indigenous youth is its roots in local TEK, and the ultimate outcome of quality education for indigenous youth is a strong sense of place.* (Indigenous Peoples)
- Central America. Nicaragua: *Young people proud of their identity, worried about the needs of the community. Their commitment is based on the community needs.* (teacher)
- South America – Peru: *To live on both ends of society without losing identity; Overcome discrimination and exclusion through the strengthening of their identity.* (stakeholder not defined)

Category 6 Conservation and protection of environment (Article 29 UNDRIP with further Articles 25, 26, 27, 28, 30 and 32)

Stakeholders indicated relevant concern for living harmoniously with and protecting the environment (9 % overall, see Figure 9), South America (18 % of responses referred to the environment) and Southern Africa (16 % of responses, see Figure 13). In comparison to the other categories, the conservation and protection of environment alone play a less important role than employability. Yet, most stakeholder groups see 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 connected to the Indigenous cultural heritage and traditions.

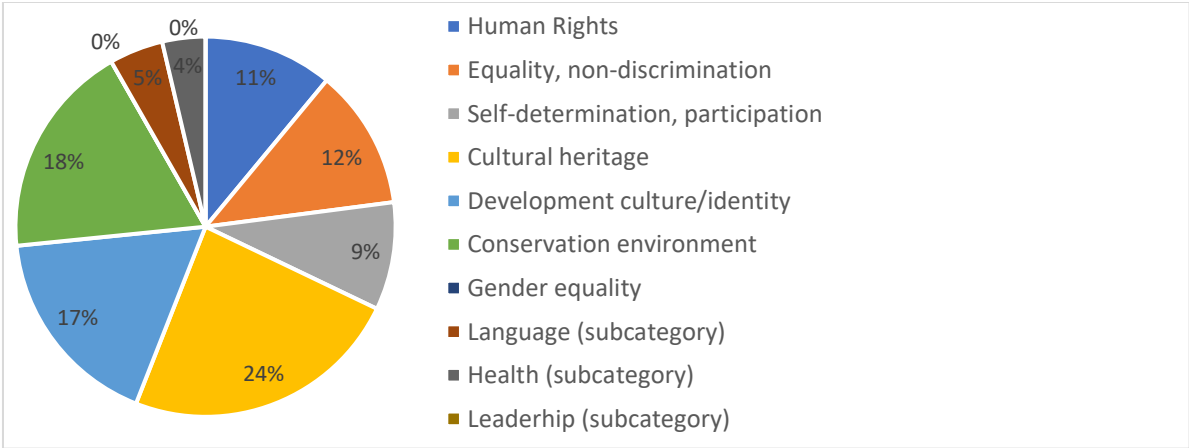


Figure 16: Research findings per UNDRIP-based category for the South American region

Samples include the following statements:

- Asia-Pacific: *To understand the impact of own behaviour on the environment today. Mother Nature today is ready to show her wrath if mishandled. (parents)*
- Central America – Nicaragua: *Young entrepreneur leaders with ethical and moral values that in the future take the management of their own resources with transparency and respect for Mother Earth. (teacher)*
- Central Asia – Russia: *assistance in the preservation and development of all other spheres of life; restoration of traditional environmentally friendly activities; development of their environmental responsibility and readiness to protect small rivers, Lake Baikal, and the forests of Buryatya (region) (stakeholders not defined)*



- North America – Canada: *To be people who continue to love living and learning on the land, and who respect and live up to their responsibilities to the earth as Anishinaabek (Indigenous Peoples).* (student)
- South America – Chile: *To re-establish their deep connection with Mapu Ñuke (Mother Earth)* (stakeholder not defined)
- South America – Peru: *'Good Living' comes from indigenous words Sumak Kawsay (in Quechua language) and Suma Qamaña (in Aymara language), which means life in fullness, in harmony and balance with nature and in community.* (stakeholder not defined)
- South America – Venezuela: *1.Fertile lands where to sow. 2.Community members who know to sow and can teach it to others. 3.Cooking their own food is a tradition. 4.They've got places where to sow in each house.* (stakeholder not defined)
- Sub-Saharan Africa – Nigeria: *Tree planting in school., awareness on sanitation through Environmental Clubs* (stakeholder not defined)



Category 7 Gender equality (Articles 21/22 UNDRIP)

Aspects of gender were only mentioned twice, 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).

Sample statements include:

- Asia-Pacific – Philippines: *Require all children to attend formal education* (Indigenous Peoples)
- Sub-Saharan Africa – Nigeria: *All I want is for my daughter not to suffer the way I am suffering. I want her to be educated, get a good job and live a good life. So the teachers should teach her very well to pass.* (parent)



Category 8 Language (subcategory for Art. 11 UNDRIP)

In recognizing the timeliness of the topic of Indigenous language during the *International Year of Indigenous Languages 2019*, a subcategory was added to analyze data on the matters of language and its relevance for a quality education as perceived by the dialogue stakeholders. Only 4 % of responses explicitly addressed matters of language in all regions (see Figure 9). Ministries (with 26 % of their responses, see Figure 17) and students as well as teachers (with 17%/18% of their responses, see Figure 17) 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 often took place in relation to the need for the acquiring the culturally dominant language that might enable to succeed in employment and communicating outside the Indigenous group. The topic is of interest for further study.

Sample responses from the quality education dialogue are as follows:

- Asia-Pacific – Malaysia: *Orang Asli (Indigenous Peoples) has their own language and different from 18 tribes of Orang Asli in Malaysia. That means, each Orang Asli tribe has their own language. In the context of Jahai, they use the Jahai language for daily communication among them. But, to communicate with other people, they use the Malay language, this include has been using in the formal education system. (...) There is a new Jahai's language was discover in which known as the Jedek language. This language is believed as a variance from Austroasiatic language.* (stakeholder not defined)
- Asia-Pacific – Malaysia: *Two other languages were seen as important to the youths, namely English and Mandarin. One of the youths who was part of the study noted that while he had dropped out of the formal curriculum and schooling system, he had gone on to study Mandarin to enable him to secure a job.* (student)
- Asia-Pacific – Philippines: *Language is of highest concern for them as it perceived as identity-forming for their community. They speak two languages – one within the community and one with others (Bisaya/Cebuano).* (parents)
- South America – Peru: *Teachers education and training on Initial and Primary Bilingual Intercultural Education...* (stakeholder not defined)



Category 9 Health (as a subcategory of human rights, Art. 1 UNDRIP)

Health in all of its forms seems of subordinate concern, mostly mentioned in the Asia-Pacific region (4 % of the responses in the region, see Figure 14) and by stakeholders in other regions. Overall, 73 % of health-related comments came from the Asia-Pacific region. While health including physical, mental and spiritual dimensions was not a relevant topic in both African regions and South America, it was still explicitly identified as an element in quality education as such. It is not clear if the stakeholders saw the broad spectrum of health including mental and spiritual as part of education. Certainly, with the incidence of suicide, drug addiction and other indicators of an absence of community health and well-being, this is an area for study and research.

Samples include:

- Asia-Pacific – Malaysia: *Learn about their hygiene practice.; Know about the cost of unhealthy lifestyle; learn Traditional medicine skill* (stakeholders not defined)
- Asia-Pacific – New Zealand: *Succeeding as Maori and be of physical, mental and spiritual health* (teacher)
- South America – Peru: *Recognize ancestral practices such as Andean-Amazonian traditional medicine.* (stakeholder not defined)
- South America – Venezuela: *1.They can access to medical services. 2.The state bring medical services to the community.* (stakeholder not defined)



Category 10 Leadership (as subcategory for Art. 3 UNDRIP)

Leadership relating to the areas of concern *Human Rights and fundamental freedoms* and *Self-determination, participation, free, prior and informed consent* was mentioned in three regions (South America and both African regions). Only 1 % of responses (see Figure 9) 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.

Samples include:

- Asia-Pacific – Maldives: *Improve leadership* (teacher); *Be more confident in taking leadership* (stakeholder not defined)
- Asia-Pacific – New Zealand: *Foster leadership of based on strengths, passions, values and character* (teacher); *understand the leadership role to fight climate change* (parent)

Various views of stakeholder groups

Stakeholder groups clearly showed different views and priorities in the dialogue which is shown by the following overview:

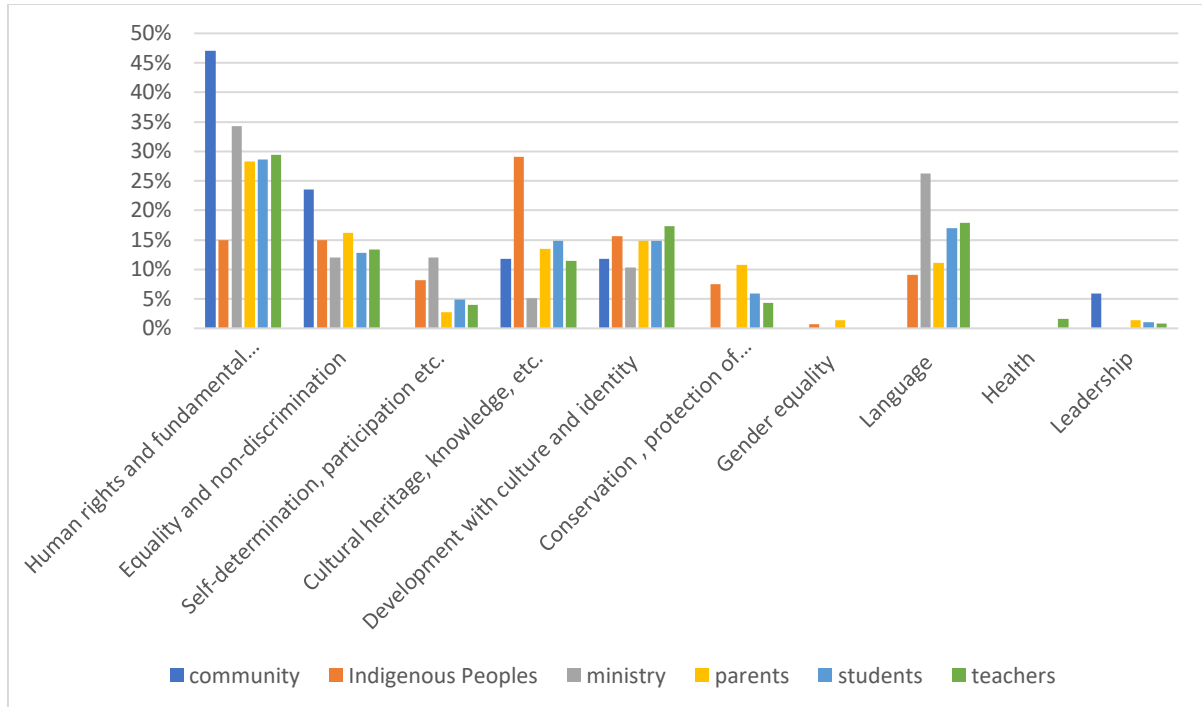


Figure 17: Priorities of a quality education for different stakeholder groups

Strengths and weakness of approach, limitations

Developing research initiatives with locally appropriate methodology of creating discussion rather than posing set research questions created differing approaches. The intent was to build participatory, thoughtful dialogue and relationships in all research settings across the UN regions. It made it possible to pursue this research by initiating the first international research network focusing on Indigenous education with a possibility of future engagement.

Yet, this broad non-uniform approach necessary to carry out the research globally and on an equal footing with the indigenous groups of all countries also had its limitations. Participating research institutions from around the world worked in differing school and community settings with various levels of resources, political engagement, differing priority in underlining results with academic research (literature reviews etc.), required adaptations in methodology, ethical approvals and culturally appropriate communication create challenges in defining the overall research outcome.

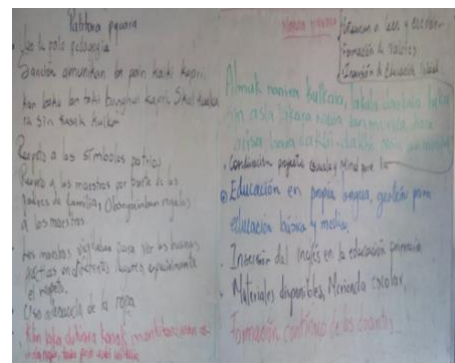
Results from research settings were limited by what was politically and culturally appropriate and allowed to share. Also, they were influenced by personal perspectives and values of Principal

Researchers in giving priority to certain topics with a rather open report template. In one region, only positive outcomes from the research were permitted for sharing. The overall quality of the research was secured by working with institutions of higher education in each research setting to facilitate the results. In categorizing the results, *UNESCO's policy on Engagement with Indigenous Peoples* provided a framework generally accepted by member states and therefore valuable for developing policy recommendations but it showed limitations to topics, such as health or employment, as other UN agencies maintain the prerogative for these matters.

Methodologies used to carry out the research initiatives

Researchers and their Indigenous communities made the decision how to carry out the methodology. The use of a toolbox 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 each of the dialogues. The following data collection methods – often combining of several instruments – were applied for the research:

- Analysis of case studies from existing research activities; research outcomes from similar projects; SWOT-analyses; literature analysis;
- Dialogue settings, such as structured individual and group interviews; (focus) group discussions, children's groups, online conversations, presentations; roundtable discussions, workshops, Nominal Group Technique; Questionnaires and surveys (written, online).



The following reports were not tailored to the Delors-based model but were adapted:

- Canada: RCE Peterborough Kawartha Haliburton with Trent University and Fleming College
- Ethiopia: Hawassa College of Teacher Education
- Finland: University of Lapland
- Kazakhstan: International University of Information Technologies
- Malaysia: Universiti Pendidikan Sultan Idris
- New Zealand: University of Waikato
- New Zealand: Victoria University of Wellington
- Nigeria: Ibrahim Badamasi Babangida University
- Philippines: Southern Leyte
- Venezuela: Gran Fraternidad Universal

Part III Policy recommendations

Context for recommendations

The stakeholders inferred that most indigenous youth will relate through living or their workplace with mainstream education and society and there was an identified need for youth to succeed in this broader world while remaining honorable members of Indigenous communities. Concern for the current lack of academic success on the part of all stakeholder groups was often expressed but 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

This research has shown that all stakeholder groups in all regions recognize the need of and are 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 are hoped to become viable responsible citizens, proud of their heritage and with a connection to the land, and yet manage the requirements of the workplace and well-being in modern societies. For the Indigenous, living in two worlds means learning for two worlds.

1. Policy recommendation: 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 will allow all Indigenous children to thrive in the mainstream school system and to succeed in both worlds.
2. Policy recommendation: 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. Policy recommendation: 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. Policy recommendation: 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.

5. Policy recommendation: 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. Policy recommendation: Engage teacher education institutions to work closely with local Indigenous communities in addressing locally relevant sustainability issues and appropriately include them in the learning process. 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. Policy recommendation: 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.

8. Policy recommendation: Providing information on and fostering access to (inter)national school networks (e.g. 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. Policy recommendation: 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 programmes 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.

10. Policy recommendation: 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 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 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*, 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 are essential elements of learning for a sustainable future;
- Further research, exchange and learning of within and between teacher education institutions in international networks to help to prepare future generations for an unknown tomorrow.

Part IV About the research institutions, schools, and communities

Criteria for #IndigenousESD partnership

The criteria for research institutions to partner were as follows:

- Commitment of the research institution to the project, e.g. by signing a Memorandum of Cooperation;
- (Accredited) teacher education institution or institution of higher education collecting the data, oversees the actual research and its reporting;
- Other institutions should work in close collaboration with such an institution, e.g. by signing and Memorandum of Understanding;
- The research was expected to be done in cooperation with an Indigenous community;
- Principal Researchers held a minimum of a bachelor’s degree, had a basic knowledge and understanding of the *SDGs* and *ESD*; at least one core researcher was able to communicate in English; and
- Necessary resources to carry out the research were available.

The criteria for eligibility of a partner site included:

- The school had the support of the school leaders and staff;
- The school had the permission and ability to modify the curriculum;
- Where possible, the school had the approval of the local tribal council or overall education authority and worked in close collaboration with those authorities; and
- Necessary resources to carry out the research.

Schools and their local communities that had already taken a reform and had existing expertise were especially encouraged to join to support a learning circle approach. Sharing existing experience and insight, has been extremely valuable and welcomed.

Status reports and/or research results from the following research institutions (*RI – research initiative):

	Region	Country	Institution	Status	RI* 1	RI* 2
1	Asia-Pacific	Australia	University of Queensland	X		
2	Asia-Pacific	Australia	University of Technology Sydney	X		
3	Asia-Pacific	Maldives (with Australia)	University of Melbourne	(X)	X	X

4	Asia-Pacific	China	Shangri-la Institute for Sustainable Communities	X		
5	Asia-Pacific	Malaysia	LeapEd Services	(x)	X	
6	Asia-Pacific	Malaysia	RCE Penang hosted by Universiti Sains Malaysia	X		
7	Asia-Pacific	Malaysia	Universiti Malaysia Sarawak	X		
8	Asia-Pacific	Malaysia	Universiti Pendidikan Sultan Idris	X	X	
9	Asia-Pacific	Malaysia	Universiti Sains Islam Malaysia	X	X	X
10	Asia-Pacific	Malaysia	Universiti Teknologi PETRONAS	X	X	
11	Asia-Pacific	Malaysia	Universiti Malaysia Kelantan	(X)	X	
12	Asia-Pacific	Malaysia	International Islamic University Malaysia	(X)	X	X
13	Asia-Pacific	New Zealand	Victoria University of Wellington	X	X	X
14	Asia-Pacific	New Zealand	University of Waikato	X	X	X
15	Asia-Pacific	Philippines	Leyte Normal University	X	X	X
16	Asia-Pacific	Philippines	Kalinga State University	X	X	
17	Asia-Pacific	Philippines	Mindanao State University	X	X	
18	Asia-Pacific	Philippines	Philippine Normal University, Campus North Luzon	X	X	
19	Asia-Pacific	Philippines	Southern Leyte	X	X	
20	Asia-Pacific	Taiwan	National Sun Yat-sen University	X	X	X
21	Asia-Pacific	Taiwan	National Tsing Hua University	X		
22	Asia-Pacific	Taiwan	National Taiwan Normal University	X		
23	Asia-Pacific	Taiwan	National Taitung University	X		
24	Asia-Pacific	Taiwan	Providence University	X		
25	Central America	Nicaragua	University of the Autonomous Regions of the Nicaraguan Caribbean Coast	X	X	X
26	Central Asia	Kazakhstan	International University of Information Technologies	X	X	
27	Central Asia	Russia	Buryat State University	X	X	
28	Central Asia	Tajikistan	Tajik State Pedagogical University	X		

29	Central Asia	Tajikistan	Technological University of Tajikistan	X		
30	Europe	Finland	University of Lapland	(X)	X	
31	North America	Canada	Cape Breton University	X		
32	North America	Canada	Laurentian University	X		
33	North America	Canada	Queens University	X	X	
34	North America	Canada	University of Manitoba	(X)	X	
35	North America	Canada	University of Regina	X		
36	North America	Canada	Vancouver Island University	X		
37	North America	Canada	RCE Peterborough Kawartha Hali burton with Trent University and Fleming College	(X)	X	X
38	North America	USA	Salish Kootenai College	X		
39	South America	Bolivia	Universidad Mayor de San Andres	X	X	X
42	South America	Brazil	Universidad Federal de Tocantins	X		
40	South America	Chile	Wekimün Community with York University	(X)	X	X
41	South America	Peru	Universidad Ricardo Palma, Instituto Peruano del Pensamiento Complejo Edgar Morin	X	X	
43	South America	Venezuela	Gran Fraternidad Universal	X	X	X
44	Southern Africa	Botswana	University of Botswana	X	X	
45	Southern Africa	Lesotho	University of Lesotho	X		
46	Southern Africa	South Africa	Rhodes University	(X)	X	
47	Sub-Saharan Africa	Ethiopia	Hawassa College	X	X	X
48	Sub-Saharan Africa	Nigeria	Abia State University	X		
49	Sub-Saharan Africa	Nigeria	Anpez Foundation	X	X	X
50	Sub-Saharan Africa	Nigeria	Ibrahim Badamasi Babangida University	X	X	

51	Sub-Saharan Africa	Nigeria	RCE on ESD Lagos	X		
52	Sub-Saharan Africa	Nigeria	RCE on ESD Minna with Federal University of Technology Minna	(X)	X	X
53	Sub-Saharan Africa	Nigeria	River State University	X		
54	Sub-Saharan Africa	Nigeria	University of Nigeria, Nsukka	X		

The formalized *#IndigenousESD research network* also includes the following partners:

	Region	Country	Institution
1	Asia-Pacific	India	Centre for Environmental Education India
2	South America	Argentina	RCE on ESD Cuenca de Plata with the Ivy Maraey Foundation
3	South America	Chile	Catholic University of Chile, Centro de Estudios Interculturales e Indígenas
4	South America	Colombia	Universidad Pontificia Bolivariana
6	Southern Africa	Namibia	Namibia University of Science and Technology
7	Southern Africa	South Africa	University of South Africa
8	Sub-Saharan Africa	Ethiopia	Ethiopian Graduate School of Theology
8	Sub-Saharan Africa	Kenya	Kenyatta University
9	Sub-Saharan Africa	Kenya	Green Africa Global Foundation
10	Sub-Saharan Africa	Kenya	Technical University of Kenya, Faculty of Engineering Sciences and Technology

Background information on the research institutions

64 research institutions are actively involved with the research network. To date, status reports and research reports were received from 54 institutions. This research covers:

- **Asia-Pacific region:** 24 institutions from 9 countries/territories (Australia, China, India, Malaysia, Maldives, New Zealand, Philippines, Austronesian Taiwanese)
- **Central Asian region:** 4 institutions from 3 countries (Kazakhstan, Russia, Tajikistan)
- **Central/North American region:** 9 institutions from 3 countries (Canada, Nicaragua, USA)
- **Europe:** 1 institution (Finland)
- **South American region:** 5 institutions from 5 countries (Bolivia, Brazil, Chile, Peru, Venezuela)
- **Southern African region:** 3 institutions from 3 countries (Botswana, Lesotho, South Africa)
- **Sub-Saharan Africa:** 8 institutions from 2 countries (Ethiopia, Nigeria)

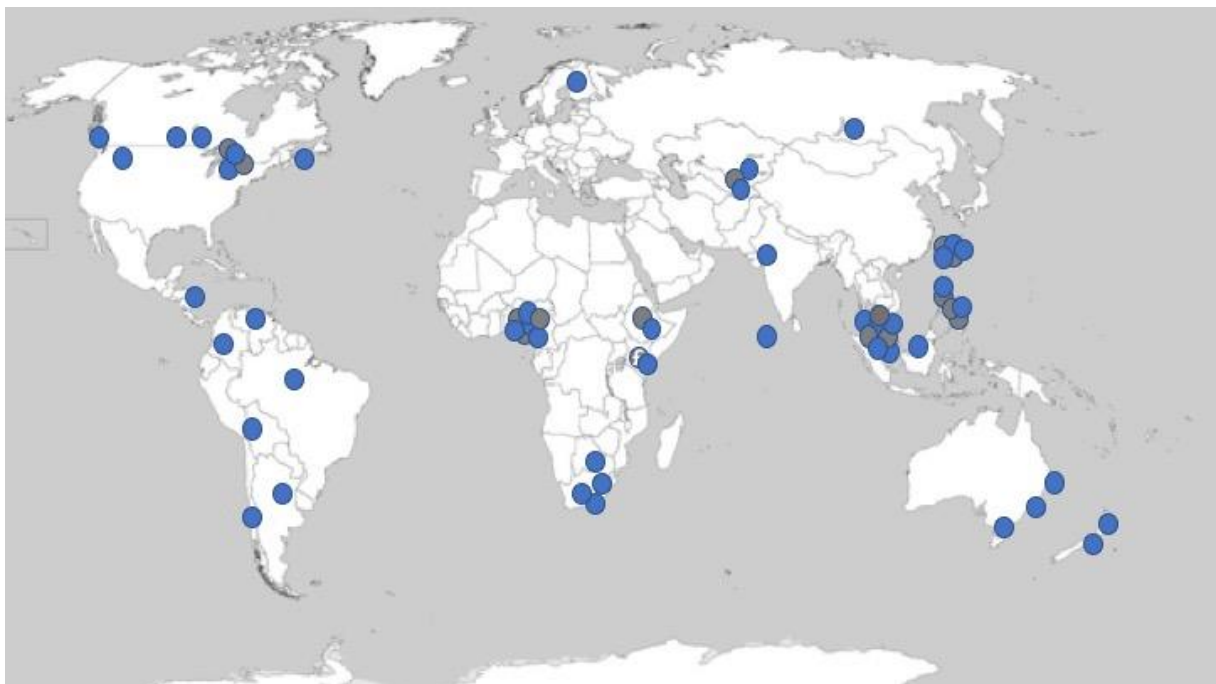


Figure 18: Courtesy Wikimedia Commons World Map (#IndigenousESD partners added), This file is licensed under the [Creative Commons Attribution-Share Alike 3.0 Unported](https://creativecommons.org/licenses/by-sa/3.0/) license.

Out of 54 research partners reporting:

- 45 are public and 9 are private institutions,
- 44 are universities and 2 are colleges,
- 4 are NGOs, and
- 4 are Regional Centres of Expertise on Education for Sustainable Development (RCE) supported by colleges/universities in carrying out the research.

Principal Researchers most likely hold a doctoral degree (47) in education or related academic fields, others are qualified on masters' level.

With most research institutions, English was the predominant language. In South America, translation to Spanish and in Central Asia translation to Russian were provided by Regional Coordinators to communicate with researchers.



Background information on the research settings in this report

Research settings were individually chosen by the partner institutions. Many of the research institutions worked with more than one school. Of 74 research settings:

- 4 focus on the kindergarten level,
- 22 on primary level,
- 40 on secondary level,
- 4 on tertiary level,
- 4 are community-wide, and
- 9 research settings were not further defined.





Two Nigerian research teams put a focus on three schools providing technical and vocational education and training (TVET). The focus was on both retention in school and training programs as well as adapting curriculum and pedagogy.

Regarding school sizes in general, data provided in the status reports varies greatly. Some researchers work with an entire school system of over 35,000 students such as suggested in Canada or, reporting on community sizes of up 18,000 inhabitants as suggested in Australia. Others collaborate with single schools ranging from populations of 1000-2500 pupils with some Indigenous interspersed to other settings that are quite small numbering fewer than 50 students.

Data on students and community members, Indigenous students, and gender ratio within the research settings

The ages of students and community members varied from community-wide programs which reported ages ranging from 0-99 years of age to narrow age ranges of 4-6 years. The average age group to be engage is between 8 to 20 years. The actual percentage of Indigenous students and community members reported varied between small schools comprised entirely of Indigenous youth to large schools/school systems with only small percentages of Indigenous youth. More specifically, out of 43 settings reporting, 36 sites worked with schools where over 70% of the students are Indigenous. The smallest percentage of Indigenous youth reported is 3% in a school of approximately 300 students. The majority at the secondary and tertiary level schools is of mixed Indigenous and non-Indigenous youth in attendance. Most settings have a balanced gender ratio ranging between 50/50 and 60/40.



Teacher qualifications in the research settings

As reported, most school systems require a bachelor's degree. Teacher certification at the primary school level for Indigenous youth was seldom specified in the status reports. National statistics regarding education systems in general are often difficult to ascertain. From 53 settings reporting, a student-teacher ratio of 8:1 is averaged.

Further knowledge about school and community settings: Internet and IT

The majority of 66 reporting sites have access to internet. However, the Sub-Saharan African region and South American region more likely report no access. Central/North America and Asia-Pacific institutions all report their research sites have access to the internet. Yet, the actual use of the internet by students varies with only 40 % of institutions making considerable use of the internet.

Further knowledge about school and community settings: Community members as education resources

The involvement of Elders or community leaders is more common in some cultures more than others, perhaps due to availability, language issues or cultural expectations. In Malaysia, New Zealand and Taiwan, working members of the local community, especially Indigenous members, as guest instructors is either often or frequently. Nigeria largely states inclusion of guest lecturers as seldom. 19 of 44 reporting sites either frequently or often include members of their local community while 18 involve guests only seldom and 5 report never. There is no data available on how the local community is included.

Further knowledge about school and community settings: Use of the environment in teaching

31 research sites include their environment in teachings either frequently or often, while 11 sites



stated usage as only seldom or never. Usage also varied by school level. Only 1 primary school in the Philippines reported the use as seldom, while the other responses of (seldom/never) were from secondary or tertiary institutions. However, 16 secondary schools stated a frequent/often usage of the environment.

Part V Distributing the results, potential areas of further research and outlook on the next research report

Next steps, areas for further research

This global report on research initiative 1 will be submitted to UNESCO and UNESCO National Commissions of participating countries as well as UNFCCC. It will also be widely shared with the *#IndigenousESD research network*, interested Indigenous Communities and other research institutions.

In a next phase until mid-2020, the examples of good/best practice (research initiative 2) will be analyzed for a second global research report. Also, the research sites to carry out action research (research initiative 3) will be identified and supported in defining their individual approaches.

Recognizing the limitations of this initial research and acknowledging the compelling need for further research to better understand education related needs to develop systems of quality education for Indigenous youth, the following areas for exploration are suggested to the *#IndigenousESD research network*:

- Regarding the three dimensions of sustainable development: This research did not establish links between particular stakeholder groups and differences in relevance of each dimension. Do stakeholder groups vary in their perspectives regarding economic, social and environmental dimensions?
- This research collected a considerable amount of data on the Asia-Pacific region and leaves room for further findings: Do specific outcomes in the Asia-Pacific region vary according to country, the ten UNDRIP-based categories and/or stakeholder group?
- The research leaves room for further exploration in the overlap of authorities/ministries with their perceptions of education quality and their alignment with the SDGs. Do they purposefully align? Are ministry strategies in place or being developed to contribute to the SDGs, in particular SDG 4?
- Do reward and marking systems have an influence on the differences in testing and graduation success for Indigenous youth?
- What are concrete steps to modify existing education programmes to successfully include and retain Indigenous students?
- Gender has not proven to be a relevant factor in perceptions of a quality education in this research. Yet, it is often stated as such and a priority in SDGs. What is the relevance of gender equality for a quality education within Indigenous Youth?

- Language has not proven to be of utmost importance in this research. Yet, Indigenous languages and the language of instruction in school systems are of known relevance in the general education discussion. This might be an area of concern that has not been examined sufficiently in the first and partially second phase of this project. What is the relevance of Indigenous languages in the classroom and language (of instruction) for a quality education?
- Health and leadership have also received some attention but were not fully explored in this research. What is the relevance of these two factors for a quality education?

Overview on incoming samples of good practice and ideas for action research

Some Principal Researchers already reported on good/best practice ideas within the first research initiative as it emerged in the dialogue with stakeholders. Others have already formally reported on the second research initiative or shared ideas for action research. The second global report is underway. Reported good/best practice and ideas for action research are briefly outlined below:

Bolivia	Universidad Mayor de San Andres	Mapping <i>ESD</i> projects/activities to create a mutual understanding an <i>ESD umbrella</i> how individual action from faculty can contribute to a whole-institution approach and can include Indigenous languages, culture and traditions.
Canada	RCE Peterborough Kawartha Haliburton with Trent University, Fleming College	A successful mentorship programme for Fleming College students is the <i>Bishkaa</i> (Rise Up) program, originally started in partnership with Trent University, achieves a 100% retention rate and contributes to graduation success. The programme involves cultural orientation with traditional activities and Elders.
Chile	Wekimün Community with York University	<i>Wekimün Curriculum Redesign</i> including two interdisciplinary areas of study (1) Intercultural Education and Sustainable Development and (2) Intercultural Health and Sustainable Development addresses the sustainability issues of the community. It was intended to revitalize the community's culture, knowledge and traditions to provide students with transferrable skills. The approach has proven highly successful for this community.

Ethiopia	Hawassa College of Teacher Education	Pastoralists of Ethiopia share the same situation and lifestyles as Pastoralists around the world. Mobility is a vital means of lifestyle and survival in search of water and pastures. Serving Pastoralists in their communities with an appropriate school system has not been achieved yet. The idea of a season-based learning schedule for the Pastoralist community was introduced to the discussion. The idea of learning camps during the wet season where children would benefit from intensive interaction with teachers at a time when families were gathered close together could be a solution for further exploration.
Malaysia	Universiti Sains Islam Malaysia	Researchers describe the concerted efforts in Malaysia of ministries of education and ministries of rural development, academic institutions and NGOS to collaborate in creating permeable and accessible school systems and relevant curriculum. Also, cooperating with museums to value Indigenous history and culture has proven successful.
Malaysia	International Islamic University Malaysia	Jungle School as Living Heritage: Outlined under 'Jungle School Gombak', the whole-school approach aims at making the Indigenous youth appreciate their own culture such as puzzle play of Kerchang, blow piping, basic survival skills in the jungle, making their traditional huts, and weaving. Apart from that, basic reading and writing skill, as well as communication skills are incorporated into their activities as to improve their skill as illiteracy is a main concern. Taking together all the skills involved, Jungle School aim to empower the Indigenous youth to sustain their economy through their own heritage.
Maldives	University of Melbourne	The Principal Researcher created a contextually relevant model investigating enabling conditions for pedagogical reform and providing an active learning intervention to honour the priorities articulated by the school community.
New Zealand	Waikato University and	Tai Wānanga (school) has created a holistic model which provides for an inclusive, interactive and nurturing learning

	<p>Victoria University of Wellington</p>	<p>experience to ensure health in body, mind and spirit. The School ethos is embraced through the statement of <i>giving life to learning and purpose to life</i>. They believe learning comes alive when it is purposeful, feeds passions, and validates culture and identity. Teachers create Individual teaching plans for each student that compile of measures for individual and group learning outcomes with a strong focus on including technology tools. Teachers act as learning facilitators that are not limited in their contribution to a particular discipline but to apply themselves in the teaching process beyond that if available (e.g. traditional language learning and rituals). Relevant case studies are also available.</p> <p>Jointly developing a school vision was another example: In consultation with parents, students and staff, the school generated a vision statement entitled Growing Adventurous Learners with elements, such as striving to be the best we can be, learning in a safe and stimulating environment, participating in challenging learning opportunities, making community connections, being innovative, creative and curious about the world.</p>
<p>Nicaragua</p>	<p>University of the Autonomous Regions of the Nicaraguan Caribbean Coast</p>	<p>Education in the native language of students (Miskito): The students receive their classes in their Indigenous language.</p> <p>Ongoing preparation of teachers: Teachers have been prepared to have strong knowledge and thus offer better quality.</p> <p>Formation on values: The entire community is involved in the education of students.</p> <p>(We all teach) scholar reinforcement: The differences in the pace of learning, implies giving more individual attention through school reinforcement.</p> <p>Domiciliary visit to parents: The constant visit to parents helps school retention and academic performance.</p>

Nigeria	RCE Minna with Federal University of Technology Minna	<p>Schools involved in the <i>#IndigenousESD research</i> have received special attention within RCE activities. The RCE Minna also organized an ongoing discussion and school gardening as well as tree planting activities in 15 schools on the school environment and student nutrition under the patronage of the Female Association of Appointees and Wives of Niger State Officials (FAWNSO). The project <i>School Empowerment And Nutritional Supplementation Through Agriculture</i> aimed at improving environment and nutrition as means to improve the lives of students received the RCE Award 2018 for Outstanding Flagship in Category SDG 2 End hunger by the RCE Network.</p>
Nigeria	Anpez Foundation	<p>The ANPEZ Foundation facilitates a new sponsoring of five teachers to attend workshops. Topics for discuss at the workshop will include:</p> <ul style="list-style-type: none"> • School improvement: twenty-first century living – preparing our young people for what, why and how? • Whole-school leadership development & accountability • Teacher competency and the challenge of the SDGs • Mastery of the craft of teaching • Effective learning and mental health
Philippines	Leyte Normal University	<p>Whole-community approach: The research team did not only approach the community to participate in the research but saw a need for more collaboration. The Indigenous community had approximately 80 members (Elders, parents, adolescents, children, toddlers and infants). Researchers put together a multidisciplinary team from all faculties, e.g. languages and literature, music, arts, physical education, professional education, social science, communication arts, science, tourism, hotel and restaurant management.</p> <p>They conducted a cultural mapping in order to document their life and culture to document their vanishing language, rituals, beliefs, culinary arts, music, dances, etc. The documents will be returned to the Indigenous community with approaches for</p>

contextualized education to train young people. Students could teach their cultural knowledge and skills elevating their self-esteem and strengthening their identity. The university also planned to provide health care and support in engineering to flooding and to utilize the land for farming. Finally, they intended to support the community's businesses in teaching them how to use their traditional crafts for economic purposes.

Taiwan	National Sun Yat-sen University	<p>This initiative aims to infuse technical and ecological knowledge (TEK) into elementary education for sustainable development through the theoretical framework of place-based education. Collaborations with the indigenous community and indigenous elementary school were formed to co-develop and co-implement the placed-based education. Teachers from different subjects came together to discuss how to integrate TEK into science, art and social studies that together form a placed-based learning. In addition to learning the subject knowledge, students also learned about their local natural environment. The effects of the place-based environmental education were collected through observations, informal interviews, and worksheets. The students' sense of place, environmental ethics, and sustainability concepts were evaluated.</p>
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Venezuela	Gran Fraternidad Universal	<p>The Route of Yoga: Gymnastics contribute to the holistic development of the human being. Being aware of every breath and working emphatically over muscular elasticity, individuals will strengthen themselves and improve both brain's hemispheres in their practice. In might have positive effects for the way they think, talk and act.</p> <p>Ancestral values: Return to traditional sustainable agriculture and understand the lifecycle, promoting vegetarian lifestyles.</p> <p>Priority Nutrition: This good practice is designed to teach mothers different ways to make vegetarian food with their own plantations, utilizing all the elements of every vegetable and fruit, and also the best way to combine and mix them to</p>
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achieve a balanced diet. It is also taught mental and physical hygiene practices, during preparation, while serving, and eating them

The Science of Living: This good practice contributes to increase life's quality through holistic learning of significant knowledge and also from experiences in fields such as biological, psychological, social, and spiritual, based on Principles of Tolerance, Truth and Peace.

Thanks again to all those who have helped to make this research project and have contributed to this report. Thanks for reading this document. We trust you will find it useful. Please feel free to reach out to us at any time with your questions and comments.

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Appendixes

1. Conceptual Framework #IndigenousESD
2. Executive Summary #IndigenousESD
3. Memorandum of Cooperation (sample)
4. Report from the Regional Coordinator Conference 2017
5. Status report (September 2018)
6. Toolbox to carry out Research Initiative 1
7. Report template for Research Initiative 1
8. Delors-based model with items categorized by UNDRIP in UNESCO's mandate