UNESCO practices under the SDG4 and COVID-19 response framework: Topic modeling from 2003 to 2021

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Abstract

This study focused on the impacts of COVID-19 on SDG4 to resolve inequality through education and explored UNESCO’s educational practices. We used text mining to analyze strategic and crisis-related reports published by UNESCO from 2003 to 2021 and LDA topic modeling analysis was used to determine their latent contexts. Two topics related to education strategies were ‘sustainable development’ and ‘system and organization’. According to the themes, non-formal, formal and informal learning and skills and TVET topics were derived for lifelong learning, school and teacher, emergency and peace, policy and framework in the theme of crisis and conflict. Finally, latent topics during each MDGs, SDGs and COVID-19 period showed insignificant changes. However, compared to before the 2014 MDGs, strategic discourses tended to be discussed in detail. Moreover, we noted the change in global discourse from globalization to digital innovation. After the pandemic, the international community has emphasized the role of teachers and improved internet access for interaction. Such recommendations were intended to bridge the gap between countries including developing countries. As an alternative, UNESCO has suggested various partnership practices but there are nevertheless limitations that cannot be solved through a partnership or educational support. Therefore, reaching SDG4 requires global efforts to change the world by coordinating specific target countries and various social factors surrounding the countries’ interior and exterior.

Keywords: COVID-19, Lifelong learning, SDG4, SDGs, Topic modelling, UNESCO.

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1. Introduction

The 2030 Agenda for sustainable development launched by the United Nations (UN) in 2015 aims to achieve sustainable growth and development, decrease global inequalities and promote universal attainment of quality education through the completion of primary and secondary schooling [1]. The UN holds that obtaining quality is the foundation for
improving people's lives and sustainable development. Among the SDGs of Agenda 2030, regarding education, SDG4 emphasizes "to ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all" with seven targets and three means of implementation [2]. Since 2015, the schooling of children and youth has made obvious progress especially in low-income countries. However, the practice of SDG4 is always encountering various challenges and the progress is uneven. For example, out-of-school children, the weak reading and mathematics abilities of children and adolescents enduring conflicts, natural disasters, forced displacement, etc. also have negative impacts on the effort to achieve the SDGs.

Due to the outbreak and worldwide spreading of COVID-19, the health system, social and economic development all face serious challenges let alone the children's schooling, programs and actions towards Agenda 2030 goals. It is clear that COVID-19 is a massive crisis with catastrophic effects on the human community and the SDGs advancement. The SDGs report [3] found that this pandemic caused the global extreme poverty rate to rise for the first time in 20 years. For SDG4, the data shows 9% of children in grades 1-8 fell below minimum reading proficiency levels in 2020 which means a catastrophic regression in education progress. This global crisis also accelerates the digital transformation and worldwide collaboration in the fields of education, health and people's livelihoods. The UN member states that stakeholders should make use of the crisis to transform our world, deliver on the 2030 Agenda and keep our promise to current and future generations.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has been committed to the human community's sustainable development since the end of the 1990s. As a principal leader in the international education community, UNESCO takes the responsibility to make sustainable, inclusive and development strategies such as the Millennium Development Goals (MDGs), Education for All (EFA) and SDGs etc. Besides, UNESCO's strategy on education for health and well-being contributing to the sustainable development goals is new and responds to recent developments in international education [5]. It shows that UNESCO will keep working on HIV, sexuality education and safe and inclusive learning environments.

UNESCO has recognised TVET (Technical and Vocational Education and Training) as a fundamental human right. TVET refers to workplace and workforce education in UNESCO's terminology in the new era. From the viewpoint of lifelong learning, non-formal and informal learning occurred in the workplace in economic and social life and on other occasions which are recognized and supported by the international organization. From the perspective of sustainable development of education due to globalization and advanced technologies, TVET is helpful to develop a skilled, committed and motivated workforce that could understand and respond to global changes.

Thus, this study is significant to understand UNESCO's diverse educational strategies and practices and the response to the COVID-19 pandemic through the analysis of the published materials by UNESCO. Further, this study empirically explored the related topics existing in the texts.

2. Literature Review
2.1. UNESCO and SDG4

This section tries to review UNESCO's strategies and actions for promoting sustainable development especially under the SDG4 framework covering the following aspects: UNESCO's sustainable development goals in education, specific themes such as lifelong learning (children, the young and adults), crisis and conflict (refugee education and education in emergencies). Besides, UNESCO's response to the short and long-term effects of COVID-19 is also revisited along with related goals such as health and international partnerships.

As a prominent member of the UN, UNESCO is a specialized agency for providing global and regional leadership in the field of education, ensuring national educational systems and responding to contemporary global challenges such as conflict, crisis and disaster. UNESCO holds that education is a human right and a force for sustainable development and peace. For example, education could promote positively the progress of health, employment, the economy and environmental protection in a global context.

According to the UN, sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" [6]. It is humanity's pursuit of a better life with a sustainable approach. Elliott [7] referred to the fact that the consensus on sustainability in the international community focused on integrating development strategies, environmental policies and global partnerships to meet the interdependent environmental concerns and development opportunities for the future generation worldwide. The Millennium Development Goals (MDGs) were formulated by the UN in 2000 and sought to eradicate poverty and hunger, achieve universal primary education, promote gender equality, reduce child mortality, improve maternal health, combat common diseases, ensure environmental sustainability and develop a global partnership for development under the framework of sustainable development [1, 4, 8]. According to the final MDGs report [9], from 2000 to 2015, the ambitious goals achieved many successes worldwide through member states' efforts. In the field of education, primary education (such as the net enrollment rate, the number of out-of-school children) and the literacy of the youth (aged 15 to 24) made tremendous progress compared with the 1990s level. Building on MDGs, SDGs were launched in 2015 as part of the post-2015 strategies also committed to the sustainable development of humans and the planet. Education still represents an essential strategy in the pursuit of the SDGs [3, 10]. SDG4 is not only an integral goal of the SDGs but also a means for achieving other SDGs. SDG4 also focuses on the cultivation of sustainability competencies and specific cognitive, socio-emotional, and behavioral learning outcomes. We can believe that the global community could make significant progress under the guidance of SDG4 on other goals and move forward to a more sustainable society.
SDG4 also “promotes lifelong learning opportunities for all.” As a multi-dimensional concept, lifelong learning encompasses education “from cradle to grave” including informal and non-formal education for adults. UNESCO clarifies that lifelong learning is an integral part of Agenda 2030 and plays a critical role in the success of other SDGs. Besides, the UNESCO institute for lifelong learning reported that the SDGs placed a stronger focus on adult learning and education than the MDGs UNESCO [11]; Benavot [12] and Benavot [13] stated clearly that the new goals called for its member states to rethink the aims, structures and contents of education and training systems from the perspective of lifelong learning. Elfert [14] examined the role of a human rights-based approach to adult learning and education (ALE) in the context of SDG4.

With the progress of society, globalization and updated technology, teacher education must meet these challenges with effective support. Teachers should be well-prepared to facilitate the SDG4 development of sustainable competencies such as knowledge, skills, attitudes, values, motivation, commitment and innovation depending on the support from schools, locals, nations and the global community. SDG4 also proposes that “by 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries especially the least developed countries and small island developing states UNESCO [15]. Al Amin and Greenwood [16] examined the selection, recruitment, training and professional development of secondary English teachers in Bangladesh and suggested that a quality system was urgently needed covering teachers’ pre-service and in-service training and continuing professional development.

2.2. Global Crises Before and Beyond COVID-19

The international community moves steadily towards a better world guided by the SDGs while the way is uneven with conflict or crisis. For dealing with the impacts of conflict or crisis on education, SDG4 highlights the importance of supporting an education system that is “inclusive, responsive and resilient”. Education for refugees is not a luxury but a lifeline that promises them safety and hope. Education enables refugees and displaced people to gain the knowledge or skills they need to rebuild their lives and futures. UNHCR [17] elaborated that communities risk a whole generation remaining uneducated. Albakri and Shibli [18] argued that education is critical to the sustainability of refugee communities by sharing the case of refugee education in Lebanon (Ghata). Besides, the international community should take responsibility for protecting the right education and learning facilities for refugees and those forcibly displaced in conflict zones.

Shohel [19] referred to education as being provided in conflict-affected and vulnerable situations where humanitarian intervention is inevitable "education in emergencies" by discussing the challenges of providing education for the Rohingyas, one of the most persecuted minority communities in Bangladesh. Other studies showed that education in emergencies may provide social, emotional, cognitive and physical protection as well as life-saving knowledge and skills for people suffering conflicts or disasters [20, 21]. For children and youth, education in emergencies could strengthen their resilience and self-protection abilities. Within SDG4, education in emergencies supports and incorporates the wider goals of the inclusion of refugees, internally displaced persons (IDPs) and stateless persons in regular development planning [22].

COVID-19 is a typical representation of a global crisis which is a hindrance to most development plans, programs and activities. The SDGs progress towards Agenda 2030 has been slowed down and suffers serious challenges brought on by the pandemic. In the vision of SDG4, children's health and education are worthy of being revisited together which also aligns with the “people” theme of the SDGs. COVID-19 has affected every aspect of human community development. Besides, the Human Development Index (HDI) [23] was estimated to suffer a "steep and unprecedented decline" in 2020 for the first time in the 30 years since the measure has been computed from the 3 dimensions of HDI including health, education and living standard. Actually, in the education area, the crisis significantly affects the education sector across all regions. The closing of schools interrupts the functioning of the education system, reducing student learning and restricting the activities of education authorities, parents and decision-makers. Subsequently, as a response to the emergent situation, online teaching and learning were adopted worldwide to maintain children's schooling depending on information and communications technologies (ICTs).

The international community acknowledges that today's challenges and crises cannot be handled alone by any organization. The UN General Assembly [24] defines "partnerships as voluntary and collaborative relationships between various parties, both public and non-public in which all participants agree to work together to achieve a common purpose or undertake a specific task and as mutually agreed to share risks and responsibilities, resources and benefits". As the SDG Fund [25] suggested, “leaving no one behind” should start by ensuring that everyone has the opportunity to receive quality education through global partnerships.

As we live in a changing world, we should try to explore and understand deeply UNESCO’s strategies for development and changes in order to clarify the current SDG4 situation and future tendency towards Agenda 2030.

3. Methodology

3.1. Data Collection

The study analyzed strategic and crisis-related reports published by UNESCO from 2003 to 2021. These reports were published to establish mid to long-term education strategies to address issues that require a policy perspective. In particular, the educational strategy report is essential for understanding UNESCO’s practice because it proposes a strategic vision and a framework through the process of agreement and adoption by member states.

The authors reviewed the reports directly through the UNESCO website and collected reports published since 2003 to compare them based on global issues such as agenda changes from MDGs to SDGs and the response to COVID-19.
The following data were extracted in accordance with the research purpose: Except for data that may provide repetitive information or background knowledge, text sessions that directly specify education strategies were mainly obtained and “lifelong learning” was also used as a search term and parts that mentioned similar concepts were additionally identified. The collected PDF data were converted into text (txt) files after optical character reader (OCR) processing for text mining. A total of 126 analysis units were selected as the final analysis data (93 related to education strategies, 34 related to conflict and 21 related to COVID-19) and a total of 101,978 words after preprocessing were included.

3.2. Procedure

The topic modeling for the study is a kind of cluster analysis, a method of finding a hidden variable called topic and classifying documents through it. The utility of topic modeling comes from the property that the hidden inferential structure is similar to the collected thematic structure. This interpretable latent structure annotates each collected document and these annotations can be used in information retrieval, classification and corpus research [26]. Words in several documents are changed to tokens through preprocessing and hidden topics are found based on co-occurrence probabilities in a corpus of tokens. These statistical techniques are used to reduce theoretical bias. It was processed preferentially as a standard procedure by extracting the lemmatization and removing stop-words or unreadable words. For reference, the extracted data were preprocessed as follows: words such as plurals were generalized (countries-country, efforts-effort, etc.), similar proper nouns were unified (lifelong education-lifelong learning, etc.) and meaningful verbs and adjectives were modified into original words (provided-provide, promoting-promote, etc.). This study applied Latent Dirichlet Allocation (LDA) which infers potential stochastic units that generate topics and calculates the probability of word appearance using the Dirichlet parameter [27]. Topic models such as LDA do not take the words and documents order into account. We classified documents by period instead. Next, the number of appropriate topics was confirmed through the repetition process among the remaining tokens after the preprocessing. Finally, labeling the extracted topics is the key process of the analysis but the limitations of the subjective labeling analysis must be supplemented. This study attempted labeling by avoiding arbitrary interpretation of the analysis results or reconfirming documents with high influence and repetitive confirmation and modification approaches which proceeded until meaningful topics were created.

4. Results

The first result showed an LDA analysis of units related to education strategies. The number of topics was set from 2 to 15 and it was determined that the duplication level between topics was the lowest. For example in Figure 1, 2 and 3 or more topics had many intersecting sections, so the independence of topics was low. Therefore, the number of topics was finally determined to be 2 and the keywords in each topic appeared as shown in Table 1.

The topic labeling focused on UNESCO’s primary strategies and the sub-goals of the SDG4 were referenced. Therefore, the 2 topics consisted of “sustainable development” and “system and organization”.

The topic with the highest rank was “sustainable development” which was slightly higher at 53.8%. In the detailed analysis units, keywords such as ‘sustainable development’ or ‘sustainability’ continuously appeared. According to the overall findings, sustainability has a high proportion in the 21st century. In addition, keywords related to ‘health’ and well-being were included. The next topic was ‘system and organization’. In the detailed analysis units, keywords such as ‘organization’, ‘area’ and ‘particular’ were included. This could be understood as a discourse on the role and management of UNESCO member states.

![Figure 1](Intertopic distance map by multidimensional scaling.)

<table>
<thead>
<tr>
<th>Rank (Score, %)</th>
<th>Topic label</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (53.8)</td>
<td>Sustainable development</td>
<td>Support, policy, global, promote, action, include, international, work, need, people, national, system, sustainable, knowledge, quality, health, country, skill and strength.</td>
</tr>
<tr>
<td>2 (46.2)</td>
<td>System and organization</td>
<td>Global, support, level, promote, country, include, quality, policy, action, cultural, international, system, national, approach, organization, need, area, access, particular, right and ensure.</td>
</tr>
</tbody>
</table>

Note: Main keywords such as ‘UNESCO’, ‘develop’, and ‘learn’ were not listed.
Next, according to the context of SDG4 which aims for an inclusive perspective, the contents of the ‘lifelong learning’ and ‘crisis and conflict’ themes were separately analyzed as shown in Figure 2 and Table 2. ‘Life learning’ analyzed only units extracted based on similar words (lifelong learning, lifelong education, non-formal education) among all reports and we decided that the 3 topics were optimized. Furthermore, the analysis unit ‘crisis and conflict’ was limited to special reports on refugees’ educational rights and finally 3 topics were selected.

The following are the LDA results for ‘life learning’: Among the 3 topics, the one with the largest proportion was 45.2%, labeled ‘non-formal learning’. It emphasized the role of non-formal learning in the education field where sufficient support is difficult to find. Non-formal learning is considered the only opportunity for people whose literacy is still not guaranteed. It was mentioned that non-formal learning is an essential type of education for future prosperity.

The second proportion of topics was ‘formal, non-formal and informal learning’ and consisted of 30%. The harmonious composition between various types of education such as formal, non-formal and informal learning was proposed as a policy plan. In addition, it emphasized the improvement of educational quality through the non-formal education system for teacher training.

The third topic was ‘skills and TVET’ and consisted of 24.8%. Among the analyses of units related to this topic, it was not clear whether a consistent tendency emerged. However, units linked to keywords such as outcome and skill were consistent and the need for ‘TVET’ was dealt with. These features can be interpreted as strategically lacking although TVET is frequently mentioned in UNESCO reports.

The analysis results of the reports on ‘crisis and conflict’ showed that the 3 topics were the most optimized and the difference in proportion between topics was larger than the difference between the topics and the theme of lifelong learning.

The topic with the highest proportion was labeled ‘school and teacher’ and consisted of 72.1%. The next topic was ‘emergency and peace’ consisting of 26.3%. The smallest proportion of the topic was 1.6% labeled ‘policy and framework’.

It was clear from the results of the two major topics that the practice of schooling and the purpose of refugee education were primarily discussed. Teacher competency was emphasized in situations where it was difficult to maintain the function of the school and the need for facilities for teacher training was mentioned.

![Figure 2](image.png)

**Figure 2.** Multidimensional scaling to create Interopic distance map (themes).

<table>
<thead>
<tr>
<th>Themes</th>
<th>Rank (Score,%)</th>
<th>Topic label</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifelong Learning</td>
<td>1 (45.2)</td>
<td>Non-formal learning</td>
<td>Develop, quality, skill, literacy, non-formal, knowledge, level, formal, people, need, train, ensure, institute, improve, opportunity and support.</td>
</tr>
<tr>
<td></td>
<td>2 (30.0)</td>
<td>Formal, non-formal and informal</td>
<td>System, formal, quality, support, non-formal, teacher, policy, need, planning, goal, priority, level, global, strategy and informal.</td>
</tr>
<tr>
<td></td>
<td>3 (24.8)</td>
<td>Skill and TVET</td>
<td>Develop, policy, support, system, need, TVET, state, non-formal, member, formal, outcome, opportunity, quality, skill, facilitate and cognition.</td>
</tr>
<tr>
<td>Crisis and conflict</td>
<td>1 (72.1)</td>
<td>School and teacher</td>
<td>Refugee, school, national, children, right, support, provide, include, develop, teacher, train, system, country, learn, access and state.</td>
</tr>
<tr>
<td></td>
<td>2 (26.3)</td>
<td>Emergency and peace</td>
<td>Emergency, refugee, school, situate, train, develop, construction, need, support, right, provide, peace, children, learn and field.</td>
</tr>
<tr>
<td></td>
<td>3 (1.6)</td>
<td>Policy and framework</td>
<td>Refugee, right, school, policy, national and framework.</td>
</tr>
</tbody>
</table>

**Table 2.** Labeling and salient keywords of topic modeling (Themes).

*Notes:* Within the theme of ‘Lifelong education’, main keywords such as ‘UNESCO’, ‘learn’ and ‘lifelong learning’ were not listed. Main keywords such as ‘educate’ was not included in the ‘crisis and conflict’ themes.
Finally, the topic modeling attempted to compare the differences in topics by classifying reports into periods. These attempts can confirm the tendencies and changes in UNESCO’s educational strategy and also explore the impact of the SDG agenda.

We assumed a significant change over time due to the emergence of the SDGs and the COVID-19 crisis. Table 3 shows that the overall change was insignificant. In comparison to before the 2014 MDGs, however, strategic discourses were discussed in detail. The change in global discourse from globalization to digital innovation was also confirmed.

Keywords of topics with the highest proportion in each period related to the MDGs, SDGs and COVID-19 were found to be similar. For example, ‘sustainable’ one of the symbolic keywords of the SDGs has been revealed to be a salient keyword at any time. Therefore, we regarded the second-rank topics as having the characteristics of each period.

First, keywords such as particular and programme appeared relatively high before 2014 in the MDGs and the predictable literacy keyword was also prominent compared to other periods. Topics related to these keywords were labeled “action and programme” and consisted of 26.9%.

Second, among the topics revealed after 2015 by the SDGs, there was one labeled national and global challenges which accounted for 14.6%. During this period, keywords such as manage, national, policy and country stood out. This tendency is attributed to the special reports on strategies that emphasize management and policy to support the contribution of national education sectors. In addition, during this period, keywords such as ‘HIV’ and ‘sexuality’ tended to appear mainly in content concerning health. These results can be interpreted as specific issues emerging when UNESCO published its strategic reports as a countermeasure against global challenges.

Third, the significance of new keywords was highlighted as an analysis result after 2020 by COVID-19. For example, the terms digital, new, innovate and partnership were all recently discovered. It can be seen that internet access was emphasized to overcome the educational gap caused by COVID-19. Another topic labeled “Planning and Partnership” consisted of 29.4%. UNESCO attempted to strengthen the functions of its affiliated organizations to serve as coordinators among member states. This study confirmed the partnership and educational planning functions of the IIEP (International Institute for Educational Planning). In comparison to the previous period, the partnership’s innovation strategies were significantly emphasized referring not only to the national level but also to regional networks.

![Intertopic distance map by multidimensional scaling (Period)](image)

**Figure 3.**

Intertopic distance map by multidimensional scaling (Period).

**Table 3.**

<table>
<thead>
<tr>
<th>Period</th>
<th>Rank (Score,%)</th>
<th>Topic label</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDGs (Before 2014)</td>
<td>1 (73.1)</td>
<td>Develop and support (From a globalization)</td>
<td>Learn, global, promote, support, policy, international, include, quality, level, sustainable, cultural, state, system, country and knowledge.</td>
</tr>
<tr>
<td></td>
<td>2 (26.9)</td>
<td>Action and programme</td>
<td>Learn, policy, support, quality, system, global, country, promote, action, level, international, particular, literacy, member and programme.</td>
</tr>
<tr>
<td>SDGs (After 2015)</td>
<td>1 (85.4)</td>
<td>Develop and support (For young people)</td>
<td>Support, people, young, action, learn, global, need, national, school, include, ensure, health, HIV, work, policy, sexuality, strength, manage and knowledge.</td>
</tr>
<tr>
<td></td>
<td>2 (14.6)</td>
<td>National and global challenges</td>
<td>Global, support, learn, institute, IIEP, manage, health, include, national, policy, ensure, challenge and country.</td>
</tr>
<tr>
<td>COVID-19 (After 2020)</td>
<td>1 (70.6)</td>
<td>Develop and support (For digital innovation)</td>
<td>Global, action, learn, support, sustainable, digital, social, new, cultural, equality, manage, need, ensure, innovate and promote.</td>
</tr>
<tr>
<td></td>
<td>2 (29.4)</td>
<td>Planning and partnership</td>
<td>IIEP, institute, support, manage, global, capacity, planning, level, new, challenge, source, partnership, system and regional.</td>
</tr>
</tbody>
</table>

**Note:** Main keywords such as ‘educate’, ‘UNESCO’ and ‘develop’ were not included.
5. Discussion

This study focused on the impacts of COVID-19 on SDG4 to resolve inequality through education and explored UNESCO’s educational activities. We need a better understanding of how SDG4’s progress might be hindered by the pandemic and how it will be accelerated thereafter.

According to the detailed results, UNESCO emphasized the appropriate composition of various types of education for lifelong learning. Discussions about lifelong education have been going on since the 1970s [3, 10, 11]. UNESCO under the integrated vision and mission of global education did not clearly reveal specific strategies in TVET to strengthen the skills and capabilities of modern people whereas the emphasis on non-formal education for those who cannot be guaranteed literacy such as outside-of-school children can definitely be evaluated as UNESCO’s main strategy.

Moreover, COVID-19 and other global crises have brought UNESCO's educational strategies into in-depth detail. Those strategies have been emphasized in a variety of ways from international issues such as gender and health to individual national issues [28, 29]. Recently, the roles of international organizations and countries in digital innovation have been emphasized.

There have been crucial findings in this study about the effects of COVID-19 on SDG4 regarding their educational management roles. ‘SDG4 monitoring’ has not been directly derived as a major strategy topic. UNESCO has consistently emphasized its leadership role in SDG4 monitoring [10, 25] and its view has obtained consent and support from many countries and experts on the necessity of collecting and producing related data [3, 5].

The aforementioned discussions confirmed the educational strategies potentially emphasized by UNESCO. Education diversity has long been emphasized with a focus on non-formal learning and the supportive roles in ensuring access to education for all people have been recognized. These practices can be understood as owing more to inherent overall responsibility and accountability for education than to responding to social change.

6. Conclusion

The global community is facing various challenges before and after the COVID-19 pandemic. In areas such as inequality, health and education, these gaps have widened in many areas that influence the quality of life particularly for those who were usually indifferent to the educational gap but now experience it closely in their daily lives.

One of the immediate negative impacts of COVID-19 on education resulted in diminished quality as the character of teacher-student (and student-student) interaction changed [28]. As a result, the global society recommended emphasizing the role of teachers and improving internet access for interaction [3, 17]. Teachers education has emerged as a crucial element for ensuring quality education and the achievement of SDG4. The shortage of qualified and trained teachers is one of the factors that has jeopardized prospects for quality education for all. Accordingly, such recommendations enable countries including developing countries to bridge the gap. It is necessary to consider the specific feasibility.

In this regard, UNESCO has recently emphasized various practices of partnership as an educational alternative [15, 18, 21]. Despite the challenges caused by the COVID-19 pandemic, the international community has made considerable efforts to mobilize partnerships to strengthen the global response and support communities in coping with the pandemic [29]. UNESCO believes that by mobilizing partners to keep education at the top of the development and political agenda and advocating for a more equitable distribution of national education investment. It can steer global progress towards SDG4 ambitions and targets.

On the other hand, there are external limitations that cannot be solved through a partnership or organizational support. This is because the proportion of households with electricity or students in digital learning conditions vary significantly between countries. The technological capability for digital learning is extremely limited or non-existent especially in low-income developing countries. Learning inequalities were exemplified by the shift to digital learning. The pandemic revealed serious gaps that can be unnoticed when dealing with world problems. Therefore, to reach SDG4, global efforts are demanded to move the world as close as possible by tailoring specific countries and targeting various social factors surrounding the countries’ interior and exterior. We need to acknowledge that all countries cannot head towards sustainable development and penetrate the scope of the future.

Furthermore, it is time for UNESCO to present a strategic mission for sustainable development achievement in the crisis society as it has contributed to the educational policies of many countries by emphasizing TVET as a basic human right. It was valuable to declare an educational vision and mission based on theoretical roots in the 20th century. Now the critical key is to reveal reality and human needs. To this end, the actual status of education should be shared through partnerships between countries and practical challenges should be specifically collected. For example, it is necessary to directly monitor whether initiatives in developing countries can achieve life changing outcomes when they focus only on the expansion of formal education. This is due to the fact that most people’s real lives are informal especially because they learn life skills on a daily basis. Thus, UNESCO's specific practices to implement a wide range of needs in culturally or economically different member countries will be accepted as valuable.

References


