Education for Sustainable Development from Kindergarten to University

An SDG Toolkit for Educators

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1. Executive Summary

The climate crisis, widening socioeconomic inequality, and gaps in protections for human rights present a multifaceted challenge for global citizens. To solve these wicked problems, the future generations and youths need to be equipped with appropriate tools for understanding and engaging with these complex issues. Education for sustainable development (ESD) plays a critical role in building these knowledge and skill competencies necessary for advancing the United Nations 2030 Agenda for Sustainable Development.

1.1. How to Use this Toolkit

This toolkit is a collection of resources for kindergarten to post-secondary educators and organizational partners interested in developing and incorporating content on the 17 Sustainable Development Goals (SDGs) in their educational curriculum. It is meant to be a living document that will be regularly updated in the coming years to reflect the emergent nature of SDG resources.

To ensure that the SDG resources are useful to educators across varying levels of pedagogy, the toolkit is organized into four sections:
1. **General**: Content is suitable for students at all grade levels;
2. **Elementary and Middle School**: Content is suitable for students in grades 1 to 8;
3. **High School**: Content is suitable for students in grades 9 to 12; and
4. **Post-Secondary Institutions**: Content is suitable for students in college and university.

Each of these sections cover three themes:
1. **Application**: Reviews related behavioural and emotional learning objectives in conjunction with a list of suggested activities, projects, and lesson plans.
2. **Spotlight on Canada**: Reviews relevant geographical contexts with emphasis on the relationship between local and global impacts.
3. **Additional Resources**: Lists further resources for education on sustainable development.

Each theme offers a list of resources which are prefixed with one of the following tags to distinguish its form and inform its use by educators:

⚠️ *Action*: Resource is action-oriented.

🖼️ *Article*: Resource is in the format of an article.

📘 *Book*: Resource is in the format of a book.

🔍 *Interactive*: Resource is interactive.

📕 *Opportunity*: Resource is an opportunity to participate in sustainability work.

📄 *Report*: Resource is structured as a report.

🛠️ *Tool*: Resource is a teaching tool (e.g. lesson plan, activities, etc.)

⏯️ *Video*: Resource is a video medium.

💻 *Website*: Resource is curated across web pages.

2. General

This section contains SDG-related teaching resources suitable for students at all grade levels.

2.1. Application

⚒ **Lesson Plans and Resources**

Lesson Plans and BC-based resources on SDGs

Be the Change Earth Alliance. (n. d.). https://www.bethechangeearthalliance.org/

⚒ **Lesson Plans**

Lesson plans related to the SDGs separated by grade level.

Global Schools Program. (n.d.). https://www.globalschoolsprogram.org/lesson-plans

⚒ **Lesson Plans and Resources**

Contains information for teaching the SDGs, including remote teaching options.

Manitoba Council for International Cooperation. (n.d.). https://www.mcic.ca/educators-and-youth/lesson-plans-and-resources

🔍 **Measuring Progress Towards the Sustainable Development Goals**

Website with trackers for each SDG to show progress.

SDG Tracker. (2018). https://sdg-tracker.org/

⚒ **Oxfam's Education Resources**

Lesson plans and activities for all age groups and a range of topics.

Oxfam. (2017). https://oxfamilibrary.openrepository.com/handle/10546/620557

⚒ **Teach**

Climate change specific activities that can be filtered by grade level.

NASA Jet Propulsion Laboratory. (n.d.). https://www.jpl.nasa.gov/edu/teach/tag/search/Climate+Change

⚒ **Teaching the Goals for the First Time**

A comprehensive set of resources that can be filtered by age group, SDG, theme, and

resource type.

World's Largest Lesson. (n.d.). https://worldslargestlesson.globalgoals.org/campaign/getting-started/

🛠 Topic Guides

Extensive resources and lesson guides related to a range of topics about climate, environment, and sustainability.

Educators 4 Social Change. (n.d.). https://educators4sc.org/topic-guides/

🛠 UN Sustainable Development Goals

A compilation of educational resources that can be filtered by province, grade level, theme, and SDGs.

Learning for a Sustainable Future. (2022). https://www.resources4rethinking.ca/en/un-sdgs

2.2. Spotlight on Canada

💻 Green Vancouver: Taking Bold Climate Action

Vancouver-specific strategies, programs, plans, and goals for a more sustainable city.

City of Vancouver. (n.d.). https://vancouver.ca/green-vancouver.aspx

🛠 Teachers' Toolkit: UNESCO Schools Network in Canada

A practical toolkit to support intercultural learning, global citizenship education, sustainable development education, and reconciliation with Indigenous peoples.

Canadian Commission for UNESCO. (2013). https://publications.gc.ca/site/eng/9.881927/publication.html

🔍 Our Canada Project

Website with data from different projects related to the SDGs being done in schools throughout the country.

Learning for a Sustainable Future. (2022). https://ourcanadaproject.ca/

2.3. Additional Resources

🖼 Climate Change Education: How to Address Eco-Anxiety with Students?

Understanding and addressing eco-anxiety.

Tricoire, M. (2022). https://www.oce.global/en/news/climate-change-education-how-address-eco-anxiety-students

📓 **Global Goals**

Background on the SDGs and downloadable assets for creating your own resource.

Global Goals. (2018). https://www.globalgoals.org/

📄 **Sustainable Foundations: A Guide for Teaching the Sustainable Development Goals**

A guide for educators interested in teaching young people about the SDGs with information on targets, learning objectives, impacts, action items, and case studies for each SDG.

Manitoba Council for International Cooperation. (2018). https://www.mcic.ca/uploads/public/files/SF-Full-FINAL-WEB-ISBN-2019.pdf
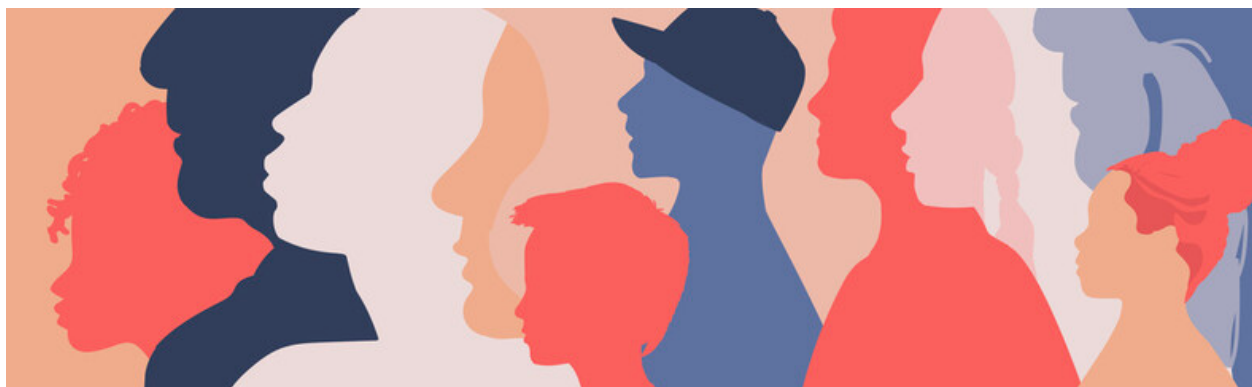
3. Elementary and Middle School

This section contains SDG-related teaching resources that are suitable for students in grades 1 to 8.

3.1. Application

⚒ **Climate Kids**

Age appropriate information on climate change, natural resources, and biodiversity for younger students.

NASA Jet Propulsion Laboratory. (n.d.). https://climatekids.nasa.gov/

⚒ **Getting Started with the SDGs**

A simple and accessible introduction to the SDGs and ties to other environmental topics.

Transform Our World. (2022). https://www.transform-our-world.org/top-resources/getting-started-with-the-sdgs

⚒ **Global Issues in the Classroom**

A collection of books and resources that inform children about global issues and inspire them to be better citizens.

CitizenKid: http://www.citizenkidcentral.com/index.html

⚠ **Lazy Person's Guide to Saving the World**

A simple outline of individual actions related to the SDGs.

United Nations. (2018). https://www.un.org/sustainabledevelopment/takeaction/

⚒ **Learn and Teach: SDGs**

Interactive activities and lesson plans for teaching the SDGs.

Change for Children Association. (2022). https://changeforchildren.org/learn-teach/learn-and-teach-sdgs/

⚒ **Connecting and Learning with Nature**

Collection of resources, links and materials.

HCTFEducation: https://www.hctfeducation.ca

⚒ **SDG: Student Resources**

Learning resources for students.

United Nations: https://www.un.org/sustainabledevelopment/student-resources/

⚠ **Outdoor Learning & Upcoming Webinars**

Learning plans and webinars specific to an outdoors learning environment.

Learning for a Sustainable Future. (2022). https://resources4rethinking.ca/en/outdoor-learning

⚒ **Resources**

Set of lesson plans, guides, and resources to use in the classroom.

Learning for a Sustainable Future. (n.d.). https://lsf-lst.ca/resources/

⚒ **Teaching Resources**

Resources for incorporating more SDG-related topics into other areas of study.

Practical Action. (n.d.). https://practicalaction.org/schools/

3.2. Additional Resources

▶❚ **Animated Videos for Young Learners on the Sustainable Development Goals**

A playlist of animated videos created by the United Nations to explain each of the SDGs.

UN Vienna. (2019). https://www.youtube.com/playlist?list=PLVQoanjT4dycgR6eJ4ZA0dt-7dOO4Wq2R

▶❚ **Sustainable Development Goals: Improve Life All Around The Globe**

A fun video by the United Nations introducing the SDGs.

United Nations. (2017). https://www.youtube.com/watch?v=kGcrYkHwE80

4. High School

This section contains SDG-related teaching resources suitable for students in grades 9 to 12.

4.1. Application

🛠 **Lesson Plan: Teaching about the UN Sustainable Development Goals**

An SDG lesson plan for high schools.

Joshi, A. (2022). https://tropicsu.org/lesson-plan-teaching-about-the-un-sustainable-development-goals/

4.2. Spotlight on Canada

📄 **Where Canada Stands: A Sustainable Development Goals Progress Report**

A report written by the British Columbia Council for International Cooperation (BCCIC) on Canada's position and progress on the SDGs.

British Columbia Council for International Cooperation. (2019). https://www.bccic.ca/wp-content/uploads/2019/06/bccic-2019-WhereCanadaStands-updated.pdf

4.3. Additional Resources

🖼 **Five Reasons to Think Twice About the UN's Sustainable Development Goals**

A short article outlining five reasons for students to think critically about the SDGs.

London School of Economics. (2015). https://blogs.lse.ac.uk/africaatlse/2015/09/23/five-reasons-to-think-twice-about-the-uns-sustainable-development-goals/

💻 **Knowledge Hub**

Contains articles and information about various topics related to the SDGs, such as buildings, energy, infrastructure, and more.

Arcadis. (2021). https://www.arcadis.com/en/knowledge-hub

📄 **Sustainable Development Report 2022**

An in-depth report about progress on the SDGs by specific goals and countries.

Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022). https://s3.amazonaws.com/sustainabledevelopment.report/2022/2022-sustainable-development-report.pdf

📰 **Towards Second-Generation Voluntary National Reviews**

A source providing information on Voluntary National Reviews.

Surasky, J. (2019). http://sdg.iisd.org/commentary/guest-articles/towards-second-generation-voluntary-national-reports/

5. Post-Secondary Institutions

This section contains SDG-related teaching resources for college and university students.

5.1. Application

📘 **10: A Guide for Advancing the SDGs in your Community**

Contains information around civil society and local government leadership, opportunities for collaboration with the national government, and an array of resources such as an assessment tool, case studies, and roadmaps.

Schnurr, L. (2021). https://bit.ly/3uhEsDQ

🛠 **Curricular Initiatives for University Students**

Learning and teaching activities integrated into undergraduate, graduate, or research degree programs, such as lecture material, assignments, class activities, projects, study trips, etc.

Sustainable Development Solutions Network. (n.d.). https://blogs.upm.es/education4sdg/prueba-elementor/curricular-lt-actions/

🛠 **Discover Resources**

Contains teaching resources that can be filtered by theme, SDG, resource type, age group, duration, language, etc.

World's Largest Lesson. (n.d.). https://worldslargestlesson.globalgoals.org/resources/?_sft_age_group=16&_sft_language=english

🛠 **Education for Sustainable Development for 2030 Toolbox**

A complement to UNESCO's "Education for Sustainable Development: A Roadmap", this resource offers tools and information to develop activities on the five priority action areas for education for sustainable development and six key areas of implementation.

UNESCO. (2021). https://en.unesco.org/themes/education-sustainable-development/toolbox#:~:text=The%20ESD%20for%202030%20roadmap,more%20just%20and%20sustainable%20world

🛠 Embedding the SDGs in Curricula: Blog Series

This series of blog posts focuses on how educators can embed at least one of the 17 SDGs or 169 sub-targets in their courses or class to elicit ideas around faculty-driven integration of the SDGs into higher education teaching.

The Gwenna Moss Centre for Teaching & Learning. (n.d.). https://words.usask.ca/gmcte/category/sustainability/

🔍 Impact Rankings 2020

Rankings for universities according to their performance in research, outreach, and stewardship for the SDGs.

Times Higher Education. (n.d.). https://www.timeshighereducation.com/rankings/impact/2020/overall

🎴 Inspiring Higher Education to Lead the Sustainability Transformation

Association for the Advancement of Sustainability in Higher Education, or AASHE, has a valuable mentorship program to build networks in the field of higher education sustainability.

Association for the Advancement of Sustainability in Higher Education. (2022). https://www.aashe.org/

💻 Massive Open Online Courses

Massive Open Online Courses, or MOOC, offers free university-level distance learning courses with a certificate of achievement available upon completion.

Université Laval. (n.d.). https://www.ulaval.ca/en/academics/mooc-massive-open-online-courses

📄 Mobilizing Youth for the SDGs: Tools for Creating A Sustainable Development Goals Alliance on Your Campus

Offers information for creating and running an SDG alliance on campus with attention paid to tips for success, potential challenges, case studies, and reflection questions.

Adel, A., Mishra, A., Lin, J., Theriault, K., Liu, K., Descôteaux, P.-A., Warnock, T., Bilton, T., Ersoy, U., & Kim, V. (2021). https://3d8e09a7-beb2-4887-8afd-45010b5a8498.filesusr.com/ugd/6c98c1_d95ebdefc9cc46c98782f4edc15b99dd.pdf

🔍 Project Commons

A collection of student projects on each of the 17 SDGs.

York Capstone Network. (n.d.). https://www.yorku.ca/capstone/project-commons/

⚡ ReMobilizing Youth Program

A summer program focused on creating tangible change in local communities.

ReImagine17. (2022). https://www.reimagine17.com/re17-remobilizing-youth-program

🔧 SDG Academy

The SDG Academy creates and curates graduate-level courses on sustainable development for learners around the world.

edX. (2022). https://www.edx.org/school/sdgacademyx

🔍 SDG Impact Assessment Tool

A free, online learning tool for self-assessing the impact of an activity, organization, or innovation on the SDGs.

SDSN Northern Europe. (n.d.). https://sdgimpactassessmenttool.org/en-gb

🔧 The SDGs-in-the-Classroom Toolkit

This toolkit takes an interdisciplinary approach toward infusing the SDGs into classrooms to reinforce commitments to create positive change for students, campuses, and local and global communities.

Bhoola, T., & Bhatia, N. (n.d.). https://www.yorku.ca/unsdgs/toolkit/

5.2. Spotlight on Canada

📄 Canadian Universities Advancing the Sustainable Development Goals

A short report documenting diverse activities and institutional commitments undertaken by Canadian universities to advance the SDGs.

Universities Canada. (2021). https://www.univcan.ca/wp-content/uploads/2021/04/Report_SDG_EN-Final-.pdf

📄 Localizing the 2030 Agenda in British Columbia

Details British Columbia's response as a province to the Canadian government's current interim national SDG strategy.

Kropiwnicki-Gruber, Z. D. S., & Harris, D. (2020). https://www.bccic.ca/wp-content/uploads/2020/10/Localizing-the-2030-Agenda-in-British-Columbia_2020.pdf

📘 **SDG Toolkit for Canadian Colleges and Institutes: A Practical Guide to the United Nations Sustainable Development Goals for Post-Secondary Institutions**

The Introduction and chapter two (Academic) illustrates how to embed the SDGs in learning, teaching, faculty and curriculum development, co-curricular student experiences, and place-based experiential learning.

CICan. (2022). https://sdgcicanguide.pressbooks.com/

🔍 **Sustainable Development Goals Data Hub**

The Canadian government's online platform for reporting and visualizing Canada's SDG data.

Statistics Canada. (2021). https://www144.statcan.gc.ca/sdg-odd/index-eng.htm

5.3. Additional Resources

📄 **2020 Voluntary University Review of the Sustainable Development Goals**

A case study of voluntary university review of the SDGs at Carnegie Mellon University with information on findings around its SDG progress and opportunities for continued action.

CMU Sustainability Initiative. (2020). https://www.cmu.edu/leadership/the-provost/provost-priorities/sustainability-initiative/cmu-vur-2020.pdf

📄 **Accelerating Education for the SDGs in Universities: A Guide for Universities, Colleges, and Tertiary and Higher Education Institutions**

Contains information to help higher education institutions implement and mainstream education for the SDGs within their institutions.

Sustainable Development Solutions Network. (2020). https://resources.unsdsn.org/accelerating-education-for-the-sdgs-in-universities-a-guide-for-universities-colleges-and-tertiary-and-higher-education-institutions

📄 **Blueprint for SDG Integration into Curriculum, Research and Partnerships**

A practical, hands-on guide to support business schools' efforts to align academic activities with the SDG agenda while maintaining institutional relevance.

Principles for Responsible Management Education. (2020). https://d30mzt1bxg5llt.cloudfront.net/public/uploads/PDFs/BlueprintForSDGIntegration.pdf

Chapter 1: Getting to Know the Sustainable Development Goals

Offers an introduction to the SDGs, including a brief history and the path moving forward.

Sustainable Development Solutions Network. (2015). https://sdg.guide/chapter-1-getting-to-knowthe-sustainable-development-goals-e05b9d17801

Creating a Voluntary University Review

A short article with a video accompaniment outlining the goals of and steps for creating a voluntary university review.

SDSN Canada. (2020). https://uwaterloo.ca/sustainable-development-solutions-network-canada/news/creating-voluntary-university-review

Decade of Action

A call to action for accelerating progress on the SDGs between 2020 and 2030.

United Nations. (n.d.). https://www.un.org/sustainabledevelopment/decade-of-action/

Education for Sustainable Development

A bank of publications related to education for sustainable development since 2010.

Global RCE Network. (n.d.). https://www.rcenetwork.org/portal/resources-publications-and-others

Education for Sustainable Development: A Roadmap

Outlines action items for achieving the SDGs by incorporating education for sustainable development in five priority areas: policy, learning environments, educator capacity-building, youth empowerment, and localization.

UNESCO. (2020). https://unesdoc.unesco.org/ark:/48223/pf0000374802.locale=en

Educational Content Up Close: Examining the Learning Dimensions of Education for Sustainable Development and Global Citizenship Education

Explores how the cognitive, social and emotional, and behavioral dimensions of learning impact commitments to education for sustainable development and global citizenship education across four educational levels in 10 countries.

UNESCO. (2019). https://unesdoc.unesco.org/ark:/48223/pf0000372327?posInSet=1&queryId=c22af3a8-df4c-4253-a0d0-ca1a8fe2fdc7

📘 **Environmental Education in Action: Learning from Case Studies Around the World**

An ebook exploring case studies in environmental education and the SDGs.

Global Environmental Education Partnership. (n.d.). https://thegeep.org/learn/case-studies/ebook

📄 **Final List of Proposed Sustainable Development Goal indicators**

A list of all the SDG targets and indicators.

Inter-Agency and Expert Group on Sustainable Development Goal Indicators. (2016). https://sustainabledevelopment.un.org/content/documents/11803Official-List-of-Proposed-SDG-Indicators.pdf

📄 **Getting Started with the SDGs in Universities: A Guide for Universities, Higher Education Institutions, and the Academic Sector**

A university-level guide to the SDGs and their importance in higher education.

SDSN Australia/Pacific. (2017). https://ap-unsdsn.org/regional-initiatives/universities-sdgs/university-sdg-guide/

📘 **Handbook of Theory and Practice of Sustainable Development in Higher Education**

Contains information for universities interested in promoting sustainability efforts on campus through research, curriculum innovation, and campus greening avenues.

Filho, W. L., Azeiteiro, U. M., Alves, F., & Molthan-Hill, P. (Eds.). (2017). https://link.springer.com/book/10.1007/978-3-319-47877-7?noAccess=true

📘 **Higher Education and Sustainability Opportunities and Challenges for Achieving Sustainable Development Goals**

Describes sustainability in higher education institutions and the role of SDGs and universities in advancing sustainable development.

Azeiteiro, U. M. de M., & Davim, J. P. (Eds.). (2019). https://www.taylorfrancis.com/books/edit/10.1201/b22452/higher-education-sustainability-ulisses-manuel-de-miranda-azeiteiro-paulo-davim

📰 **How Universities Can Integrate the Sustainable Development Goals**

Discusses the "Blueprint for SDG Integration into Curriculum, Research, and Partnerships" and offers a video accompaniment about its practical applications and strategies for curriculum development and partnership.

Azmat, F., & Suri, H. (2021). https://nbs.net/how-universities-can-integrate-the-sustainable-development-goals/

Knowledge-Driven Actions: Transforming Higher Education for Global Sustainability

Advocates for inter- and transdisciplinary learning, alternative ways of knowing, and community presence and engagement to help higher education institutions achieve the SDGs.

UNESCO. (2022). https://unesdoc.unesco.org/ark:/48223/pf0000380519

Leave No One Behind

A short film about progress on the SDGs from the perspective of disadvantaged and marginalized groups.

The Global Goals. (2016). https://www.youtube.com/watch?v=pBqe8JD62QE

Reading Between the Lines: Accelerated Implementation of Agenda 2030

Contains theoretical information and practical recommendations for leveraging interlinkages to accelerate progress toward and implement the SDGs.

British Columbia Council for International Cooperation. (2020). https://www.bccic.ca/wp-content/uploads/2020/06/bccic-SDG-2020-report.pdf

SDG Compass: The Guide for Business Action on the SDGs

A guide for large multinational enterprises interested in aligning their company with the SDGs and measuring their progress.

GRI, UN Global Compact, and World Business Council for Sustainable Development. (2015). https://sdgcompass.org

Sustainability on Campus: Stories and Strategies for Change

Although a bit dated, this book contains practical and inspirational stories about environmental leadership on campus.

Barlett, P. F., & Chase, G. W. (2004). https://mitpress.mit.edu/books/sustainability-campus

Sustainable Development Goals and Institutions of Higher Education

Offers higher education institutions opportunities and innovations to localize the SDGs on their campus. Focus includes interdisciplinary curriculum and learning, research and development, and community engagement.

Nhamo, G., & Mjimba, V. (Eds.). (2020). https://link.springer.com/book/10.1007/978-3-030-26157-3

📘 **Teaching Education for Sustainable Development at University Level**

Describes research to promote education for sustainable development in higher education institutions through descriptions of practical experiences, outline courses, training schemes, and other initiatives.

Filho, W. L., & Pace, P. (Eds.). (2016). https://link.springer.com/book/10.1007/978-3-319-32928-4.

💻 **The 17 Goals**

The United Nations' official website for the SDGs.

Department of Economic and Social Affairs. (n.d.). https://sdgs.un.org/goals

📘 **The Sustainable Development Goals in Higher Education: A Transformative Agenda?**

Explores the role of higher education institutions in the SDGs, with attention to factors such as modernity and colonialism.

Steele, W., & Rickards, L. (2021). https://link.springer.com/book/10.1007/978-3-030-73575-3

📄 **Transforming Our World: The 2030 Agenda for Sustainable Development**

The United Nations' formal resolution on the SDGs.

United Nations General Assembly. (2015). https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

📘 **Universities and the Sustainable Development Future: Evaluating Higher-Education Contributions to the 2030 Agenda**

Guides higher education institutions toward promoting the SDGs and evaluating sustainable development outcomes.

Koehn, P. H., & Uitto, J. I. (2017). https://www.routledge.com/Universities-and-the-Sustainable-Development-Future-Evaluating-Higher-Education/Koehn-Uitto/p/book/9781138212534

🖼️ **WHEC2022 Roundtable: "Reimagining the Futures of Higher Education Together"**

Insights from a scenario development process for the role of higher education institutions in advancing sustainability beyond the 2030 Agenda timeline, to 2050.

UNESCO. (2022). https://en.unesco.org/futuresofeducation/news/whec2022-roundtable-futures-higher-education-together

🖥 Why the SDGs Matter

Data-rich information and infographics on each of the 17 SDGs explaining their importance.

United Nations. (n.d.). https://www.un.org/sustainabledevelopment/why-the-sdgs-matter/