A Cross-Curricular Approach to Teaching Sustainable Development Goals in Kindergarten: Lessons Learned from Doukas School in Greece - Challenges and Opportunities for dissemination

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Literature Review

This paper explores the effective implementation of a cross-curricular approach by Doukas School in Greece, which integrated SDGs into various subjects and activities in the kindergarten, providing students with a holistic understanding of sustainability. The importance of hands-on experiences, such as gardening and nature walks, which deepen students' connection with the natural environment and promote practical implications of sustainable practices is highlighted. The significance of incorporating both local and global perspectives is emphasized, fostering a sense of responsibility towards the community and the wider world. The paper also identifies challenges in teacher training and curriculum alignment, and opportunities for dissemination through workshops, collaboration, and policy advocacy. Overall, the lessons learned from the Doukas School's experience contribute to the cultivation of a sustainable and globally aware educational environment in early childhood education.

Key words

Early Childhood Education, Sustainability, Kindergarten, Cross-curricular approach

Introduction

Teaching SDGs (Sustainable Development Goals) in kindergarten plays a crucial role in instilling environmental awareness and a sense of global citizenship ¹from an early age²³. Doukas School, a K-12 educational institution in Greece has effectively implemented a cross-curricular approach to integrating SDGs into the kindergarten program, by incorporating them into various subjects and activities, such as language, mathematics, computational thinking, and art. This approach provides a holistic understanding of sustainability and engages young learners, fostering a sense of responsibility towards their surroundings and the broader global community⁴. While the implementation of such a cross-curricular approach to teaching SDGs in kindergarten is highly beneficial, it comes with its share of challenges.

¹ UNESCO. "Global Citizenship Education." Accessed November 23, 2022. https://en.unesco.org/themes/gced.

² Naidoo, V. 2016. "Education and the Sustainable Development Goals: Prioritising access, retention, and learning." *International Review of Education*, 62(4), 489-507.

³ Preskill, Hallie, Natalie Jones, and Alia Tengue. 2013. *Markers That Matter: Success Indicators in Early Learning and Education*. [Boston, MA]: Foundation Strategy Group.

⁴ Lynch, Matthew, "Pros and Cons of Cross-Curricular Teaching", *The Edvocate*, June 20, 2019 <u>Pros and Cons of Cross-Curricular Teaching - The Edvocate (theedadvocate.org)</u>

One significant challenge is to ensure that teachers receive adequate training and professional development. Teachers need to familiarize themselves with the SDGs⁵, understand their interconnections, and adopt suitable pedagogical strategies⁶⁷. Additionally, aligning the SDGs with the existing curriculum and educational standards can be complex, requiring careful planning and adjustments, ongoing support, and resources to empower teachers and facilitate curriculum adaptation.

Despite the encountered challenges, numerous opportunities present themselves in the dissemination of the story of Doukas School's cross-curricular SDG (Sustainable Development Goals) approach. By adeptly sharing experiences and narratives of educators, alongside fostering collaborations with esteemed educational organizations and government bodies, we can significantly contribute to the broader adoption and integration of this progressive approach. Establishing networks with other kindergarten teachers, locally and internationally, allows for the exchange of ideas and resources, fostering a community of practice. Furthermore, the school can advocate for policies that support the integration of SDGs into early childhood education, engaging with policymakers and educational authorities. Involving parents and the community through workshops, events, and awareness campaigns that amplify the impact of sustainable practices beyond the school's boundaries. These dissemination efforts can inspire and encourage other institutions to embrace a cross-curricular approach to teaching SDGs, leading to a more sustainable future for all.

Integration of SDGs, Experiential Experience and Lessons Learned

Doukas School Kindergarten successfully integrated the sustainable development goals (SDGs) into a wide range of subjects and activities, including language arts, mathematics, science, and art. This deliberate cross-curricular approach enabled students to develop a comprehensive understanding of sustainability. By incorporating the SDGs into multiple disciplines, the school created a cohesive and interconnected educational experience for young learners.

Through language arts, students explored literature and storytelling that focused on environmental conservation, and responsible consumption. They engaged in discussions on these themes, fostering empathy towards global challenges. In mathematics, students applied their problem-solving abilities to real-world scenarios related to the SDGs. They compared quantities counted and sorted recyclable materials, counted the number of solar panels on a toy house and developed numerical literacy in sustainable development.

In science, students conducted experiments, observations, and investigations to explore ecological systems, climate change, and biodiversity. They learned about the interdependence of ecosystems and human impact on the environment, encouraging a sense of environmental stewardship. Additionally, art provided a

⁵ United Nations. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. Resolution adopted by the General Assembly on 25 September 2015. Retrieved from: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

⁶ Aikens, Nikki, Anne K. Klein, Linda Tarullo, and Janice West. 2013. *Getting Ready for Kindergarten: Children's Progress During Head Start – FACES 2009 Report*. Princeton, NJ: Mathematica; Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. OPRE Report 2013-21a.

⁷Alliance for Early Success. 2018. *Birth Through Eight State Policy Framework*. Revised. [Leawood, KS]: Alliance for Early Success.

⁷ Alliance for Early Success and Child Trends. 2015. *Research at a Glance: The Research Base for a Birth Through Eight State Policy Framework.* Revised. [Leawood, KS]: Alliance for Early Success.

creative outlet for students to express their understanding of sustainability and the SDGs. They used various mediums to create artwork that conveyed messages of environmental conservation, social equity, and cultural diversity.

By integrating the SDGs across different subjects, Doukas School ensured that sustainability became a central theme throughout the curriculum. This approach not only made sustainability more accessible and engaging for young learners but also fostered their ability to connect knowledge and skills from various disciplines, promoting a holistic understanding of sustainable development.

The school emphasized experiential learning by providing hands-on experiences related to sustainability. For example, students participated in gardening, composting, recycling projects, and nature walks. These activities helped them develop a deeper connection with the natural environment and understand the practical implications of sustainable practices. There was a strong emphasis on experiential learning to complement the theoretical knowledge of sustainability⁸. Students actively engaged in hands-on experiences that were related to sustainable practices. For instance, they had the opportunity to participate in gardening activities, cultivating their own plants, and understanding the importance of sustainable agriculture. Through the process, students learned about concepts like soil health, water conservation, and the role of biodiversity in maintaining ecological balance.

Composting and recycling projects were also integrated into the curriculum, allowing students to witness firsthand the transformation of organic waste into nutrient-rich soil and the benefits of waste reduction. Kindergarten learners actively participated in sorting recyclable materials and learned about the importance of reducing, reusing, and recycling to minimize environmental impact. These practical experiences helped them develop a sense of responsibility towards waste management and instilled lifelong habits of sustainable consumption and resource conservation.

Nature walks and outdoor exploration played a significant role in deepening students' connection with the natural environment⁹. By observing and interacting with local ecosystems, they gained an appreciation for the beauty and fragility of nature. Students learned about the interconnections within ecosystems, the impact of human activities on the environment, and the importance of preserving biodiversity. These hands-on experiences not only fostered a love for nature but also instilled a sense of environmental stewardship and the understanding that individual actions can contribute to the overall well-being of the planet.

Through these hands-on experiences, early years¹⁰ students were provided with tangible and practical opportunities¹¹ to understand the real-life¹² implications of sustainable practices¹³. By engaging actively in

⁸ Britannica. "Sustainable Agriculture | Definition, Practices, Methods, Examples, & Facts." Accessed May 31, 2023. https://www.britannica.com/technology/sustainable-agriculture.

⁹ National Scientific Council on the Developing Child. 2012. *The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain.* Cambridge, MA: National Scientific Council on the Developing Child. Working Paper No. 12.

¹⁰ Hagan, Joseph F., Judith S. Shaw, and Paula M. Duncan, eds. 2017. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents – Pocket Guide*. 4th ed. Elk Grove Village, IL: American Academy of Pediatrics.

¹¹ Hossain, M. A., & Toma, N. H. 2019. "Quality Primary Education for Sustainable Development: A Comparative Study between Bangladesh and Malaysia." *Journal of Education and Learning*, 8(3), 181-192.

¹² Center on the Developing Child at Harvard University and University of Southern California, School of Cinematic Arts, Interactive Media Division. 2011. *Brain Hero*. [Cambridge, MA]: Center on the Developing Child at Harvard University. 1 video (3 min.).

¹³ Essa, Eva L. 2014. *Introduction to Early Childhood Education: Annotated Instructor's Edition.* 7th ed. Albany, NY: Delmar Learning.

activities such as gardening, composting, recycling, and nature walks, students developed a deeper connection with the natural world¹⁴ and a heightened awareness of their role in creating a sustainable future.

Local and Global Perspectives

The school highlighted the importance of both local and global perspectives on sustainability. Students were encouraged to explore environmental issues in their immediate surroundings, such as water conservation or waste reduction, while also learning about global challenges like climate change and poverty. This approach fostered a sense of responsibility towards both their community and the wider world.

Also, the school emphasized global challenges such as climate change, poverty, and inequality. Students were exposed to the broader context of sustainability and were encouraged to discuss the implications of these challenges on a global scale. They learned about the interconnectedness of issues across different regions and how actions taken locally can have far-reaching consequences.

By incorporating both local and global perspectives, Doukas School aimed to instill in students a sense of responsibility towards their community and the wider world. Students were empowered to identify environmental issues in their immediate surroundings and take action to address them, thereby making a positive impact at a local level. Simultaneously, they developed a sense of global citizenship by understanding the larger challenges faced by humanity and recognizing their role in contributing to sustainable development and taking on roles as responsible "earth guardians" who make sustainable choices.

Challenges

Implementing a cross-curricular approach to teaching SDGs effectively necessitated comprehensive teacher training and ongoing professional development. Teachers needed to be equipped with the necessary knowledge and understanding of the SDGs¹⁵, including their interconnections and relevance across different subject areas. It was crucial for Doukas School Kindergarten teachers to be familiar with the goals, targets, and indicators of the SDGs, and the underlying concepts of sustainability.

Providing adequate training for teachers was challenging due to the commitment of time and resources required. Dedicated time was allocated for teachers to engage in training programs and workshops that focused on SDGs and cross-curricular teaching approaches. This training provided teachers with a deep understanding of the SDGs, strategies for integrating them into various subjects, and pedagogical methods that promote active and experiential learning.

Furthermore, ongoing support and professional development opportunities were essential to ensure that teachers stayed up to date with emerging best practices and educational resources related to teaching SDGs. Collaborative platforms, webinars, and conferences facilitated continuous learning and provided a space for teachers to share experiences and resources. Establishing partnerships with educational organizations,

¹⁴ National Scientific Council on the Developing Child. 2012. *Establishing a Level Foundation for Life: Mental Health Begins in Early Childhood.* Revised ed. Cambridge, MA: National Scientific Council on the Developing Child. Working Paper No. 6.

¹⁵ United Nations. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. Resolution adopted by the General Assembly on 25 September 2015. Retrieved from: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

NGOs, or government agencies also offered additional support and access to relevant training programs for teachers.

By investing in a similar comprehensive teacher training and professional development, schools can empower teachers to effectively implement a cross-curricular approach to teaching SDGs. It enables them to develop the necessary skills, knowledge, and pedagogical strategies to engage students in meaningful learning experiences related to sustainability. Despite the challenges of time and resources, prioritizing teacher training in this area is crucial for the successful integration of SDGs into the curriculum and the holistic education of young learners.

Integrating SDGs across different subjects in the curriculum required careful consideration and alignment with existing learning objectives and assessments. Teachers needed to ensure that the SDGs are seamlessly woven into the curriculum without overwhelming or overshadowing other important content. This process involved identifying the intersections between the SDGs and the learning outcomes of each subject, allowing for a coherent and integrated approach to education.

Aligning the SDGs with national or local educational standards can be a complex process due to the need to balance the specific requirements of the existing curriculum with the broader goals of sustainability. It requires careful analysis and mapping of the SDGs to the relevant content areas, skills, and competencies outlined in the educational standards. This alignment process should take into account the age appropriateness of the SDGs for kindergarten students, ensuring that the concepts and topics are accessible and engaging.

Teachers may need to make adjustments to their instructional materials, teaching strategies, and assessment methods to effectively integrate the SDGs. This could involve incorporating new resources, modifying lesson plans, and designing assessment tasks that reflect the principles of sustainability. The integration of SDGs should not be seen as an additional burden but rather as an opportunity to enhance and enrich the curriculum by addressing real-world issues and fostering critical thinking and problem-solving skills.

Collaboration among teachers, curriculum coordinators, and educational authorities is crucial to ensure a smooth and successful integration of the SDGs. This collaboration facilitates discussions, resource sharing, and the development of guidelines or frameworks that support teachers in aligning the SDGs with the existing curriculum. By engaging in a collaborative process, educators can collectively address challenges, share best practices, and create a curriculum that effectively integrates the SDGs while maintaining the integrity of the overall educational framework.

Though aligning the SDGs with the existing curriculum can be complex, it presents an opportunity to foster a holistic and multidisciplinary approach to education. By effectively integrating the SDGs into different

subjects, teachers¹⁶¹⁷ can provide students with a comprehensive understanding of sustainability¹⁸, encouraging them to become active agents of positive change in their local and global communities¹⁹.

Opportunities for Dissemination

Doukas School can serve as a model for other schools interested in adopting a cross-curricular approach to teaching SDGs in kindergarten. They can share their experiences, curriculum materials, and success stories through workshops, conferences, or online platforms. Collaboration with educational organizations or government bodies can help disseminate these best practices more widely.

The school can also leverage online platforms to reach a broader audience and provide resources that support the implementation of a cross-curricular approach to teaching SDGs. Sharing curriculum materials, lesson plans, and assessment tools through digital platforms can facilitate access and promote the replication of successful practices. Online forums and communities dedicated to sustainable education can serve as spaces for teachers to engage in discussions, ask questions, and exchange ideas with the Doukas School educators.

Collaborating with educational organizations and government bodies is another avenue for disseminating the Doukas School's best practices. By partnering with these entities, the school can contribute to the development of training programs or educational initiatives focused on integrating SDGs into the curriculum. They can also participate in collaborative research projects to further investigate the effectiveness of cross-curricular approaches in promoting sustainable development in kindergarten education.

Doukas School's commitment to sharing their expertise can inspire and encourage other institutions to adopt similar approaches. By actively disseminating their best practices, the school can contribute to the broader adoption of cross-curricular approaches to teaching SDGs in kindergartens, ultimately fostering a culture of sustainability and global citizenship in early childhood education.

The school can establish networks with other kindergarten teachers, both locally and internationally, to exchange ideas, resources, and experiences. Collaborative platforms, social media groups, or professional organizations can facilitate such networking opportunities.

Collaborative platforms and social media groups dedicated to sustainable education can serve as virtual spaces where teachers can connect and engage in discussions. These platforms provide opportunities to share lesson plans, resources, and success stories, as well as seek advice and support from peers. Participating in online forums and groups can create a sense of community among kindergarten teachers who are passionate about integrating SDGs into their curriculum.

¹⁶ The World Bank. 2018. *World Development Report 2018: Learning to Realize Education's Promise*. Washington, DC: World Bank.

¹⁷ United Nations Development Programme (UNDP). 2020. *Sustainable Development Goals: Goal 4 - Quality Education*. Retrieved from: https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-4-quality-education.html

¹⁸ United Nations. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development.* Resolution adopted by the General Assembly on 25 September 2015. Retrieved from:

https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

¹⁹ United Nations Children's Fund (UNICEF). 2021. *Goal: Quality Education*. Retrieved from: https://www.unicef.org/education

Professional organizations and educational associations focused on sustainability and early childhood education can also facilitate networking opportunities for the Doukas School and other kindergarten teachers. Membership in these organizations can provide access to conferences, workshops, and seminars where educators can meet and exchange ideas face-to-face. These events often feature guest speakers, presentations, and interactive sessions that promote knowledge sharing and collaboration.

Through these teacher networks, the Doukas School can establish a community of practice, where educators can learn from one another, share innovative teaching methods, and collectively address challenges in integrating SDGs into the curriculum. The networks can also serve as a platform for joint projects, collaborative research, or the development of educational resources that benefit all participants.

By actively participating in teacher networks, the Doukas School can contribute to the wider dissemination of their cross-curricular approach to teaching SDGs. The sharing of ideas, resources, and experiences among kindergarten teachers not only enhances professional growth but also inspires and empowers educators worldwide to incorporate sustainability into their teaching practices.

Doukas School, along with other like-minded institutions, can advocate for policies that support the integration of SDGs into early childhood education. They can engage with policymakers, educational authorities, and relevant stakeholders to highlight the benefits of a cross-curricular approach and promote its inclusion in educational frameworks.

Advocacy efforts²⁰ can involve showcasing the positive outcomes and impact of the Doukas School's approach through evidence-based research and case studies. The school can collaborate with educational researchers to gather data on the academic, social, and environmental benefits of integrating SDGs into early childhood education. By presenting compelling evidence, the school can effectively communicate the importance of policy support for cross-curricular approaches.

Engaging with policymakers and educational authorities can be done through meetings, presentations, or participation in education conferences and forums. These opportunities allow the Doukas School to share their experiences and success stories, emphasizing the value of cross-curricular teaching of SDGs. By highlighting the alignment of their approach with national or international educational goals, the school can demonstrate how it contributes to broader educational objectives.

In addition, the school can collaborate with other like-minded institutions and form alliances to amplify their advocacy efforts. By joining forces, these institutions can collectively advocate for policies that prioritize sustainability education in early childhood settings. Working together, they can share resources, coordinate advocacy campaigns, and leverage their collective expertise to influence policy discussions.

By engaging in policy advocacy, the Doukas School and similar institutions can have a lasting impact on early childhood education. By advocating for the integration of SDGs into educational frameworks, they contribute to the development of policies that prioritize sustainability and foster global citizenship from a young age. This advocacy work not only benefits the Doukas School and its students but also creates a positive ripple effect, influencing educational systems and institutions beyond their own.

²⁰ United Nations. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. Resolution adopted by the General Assembly on 25 September 2015. Retrieved from: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

The involvement of parents and the wider community is essential for the successful dissemination of sustainable practices taught at the Doukas School. The school can organize various initiatives and activities to actively engage families and the community in promoting sustainability.

One effective approach is to organize parent workshops or informational sessions that focus on sustainable practices and the importance of SDGs. These workshops can provide parents with an understanding of the concepts and goals behind sustainability and equip them with practical strategies to incorporate sustainable behaviors into their daily lives and parenting practices. By empowering parents with knowledge and skills, the school encourages them to become partners in promoting sustainability and reinforces the values and lessons taught in the classroom.

Community events and activities can also serve as platforms for promoting sustainable development. The Doukas School can organize events such as eco-fairs, community clean-up drives, or sustainability-themed exhibitions. These events not only raise awareness about environmental issues but also showcase the efforts and achievements of students in implementing sustainable practices. By inviting the wider community to participate, the school fosters a sense of collective responsibility and encourages community members to adopt sustainable behaviors in their own lives.

Awareness campaigns can further extend the reach of the school's sustainability efforts. By leveraging various communication channels, such as newsletters, social media, and local media outlets, the school can disseminate information about sustainable practices, share success stories, and provide tips for adopting sustainable behaviors. These campaigns can inspire and motivate individuals within the community to make environmentally conscious choices and take action towards sustainable development.

By actively involving parents and the wider community, the Doukas School creates a multiplier effect, expanding the impact of its sustainability initiatives beyond the school premises. Through workshops, community events, and awareness campaigns, the school encourages families and community members to embrace sustainable practices and contribute to a more environmentally conscious society. This collaborative approach strengthens the partnership between the school and its stakeholders, fostering a sense of shared responsibility and a collective commitment to sustainable development.

Conclusion

The implementation of a cross-curricular approach to teaching Sustainable Development Goals (SDGs) in kindergarten, as exemplified by the Doukas School in Greece, offers valuable insights into the challenges and opportunities for disseminating sustainable practices in early childhood education. By integrating the SDGs across various subjects, providing hands-on experiences, highlighting local and global perspectives, and prioritizing teacher training and curriculum alignment, the Doukas School has successfully fostered a sense of environmental responsibility and global citizenship in its students.

However, disseminating these best practices requires concerted efforts from various stakeholders. The Doukas School can serve as a model by actively sharing their experiences, curriculum materials, and success stories through workshops, conferences, online platforms, and collaboration with educational organizations. Furthermore, establishing networks with other kindergarten teachers, both locally and internationally, facilitates the exchange of ideas, resources, and experiences. Additionally, advocating for policies that support the integration of SDGs in early childhood education and involving parents and the wider community through workshops, events, and awareness campaigns contribute to the dissemination of sustainable practices on a larger scale.

By combining these strategies, educational institutions can promote a culture of sustainability and global citizenship among young learners. The successful dissemination of sustainable practices requires collaboration, continuous professional development, and the active engagement of teachers, parents, communities, and policymakers. Through these collective efforts, we can empower the next generation to become agents of positive change, equipped with the knowledge, skills, and values necessary for building a sustainable future. The experiences and lessons learned from the Doukas School provide valuable insights and inspiration for other schools embarking on a similar journey.

Indicators

Number of Subjects: Doukas School integrates the SDGs into multiple subjects, such as language arts, mathematics, science, and art, creating a holistic learning experience for kindergarten students.

Students Engaged: Approximately 120 kindergarten students actively participate in cross-curricular activities related to the SDGs, broadening their understanding of sustainability concepts across different disciplines.

Increased Understanding: Pre- and post results show that after the implementation of the cross-curricular approach, students' understanding of sustainability and SDGs improved by an average of 30%.

Gardening Activities: The school maintains a dedicated garden area where students engage in gardening activities. Over the course of a year, students grow and harvest various fruits and vegetables,

Composting: Through composting projects, students divert around 50 kg of organic waste from landfills annually, promoting responsible waste management practices.

Nature Walks: Kindergarten students participate in monthly nature walks, totaling 10 walks per academic year, leading to a deeper connection with the environment and fostering environmental appreciation.

Local and Global Perspectives

Community Involvement: The school organizes community events and clean-up drives, involving approximately 300 parents and community members in sustainable practices and awareness campaigns.

Global Awareness: As part of global awareness initiatives, students participate in 5 virtual interactions with kindergarten students from partner schools in other countries, fostering cross-cultural exchange and understanding.

Teacher Training

Professional Development Hours: Teachers receive an average of 50 hours of professional development annually, focusing on SDGs, cross-curricular teaching strategies, and sustainability concepts.

Teacher Satisfaction: In a survey, 95% of teachers reported feeling more confident and equipped to teach SDGs and sustainability concepts after participating in professional development programs.

Curriculum Alignment

Curriculum Adjustments: The school successfully aligns SDGs with the existing kindergarten curriculum, making appropriate adjustments to learning objectives and assessments in all subjects.

Teacher Feedback: In feedback sessions, 85% of teachers expressed satisfaction with the curriculum alignment process, acknowledging the coherence and relevance of the integrated SDGs.

Bibliography

- Aikens, Nikki, Anne K. Klein, Linda Tarullo, and Janice West. 2013. *Getting Ready for Kindergarten: Children's Progress During Head Start FACES 2009 Report*. Princeton, NJ: Mathematica; Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. OPRE Report 2013-21a.
- Alliance for Early Success. 2018. *Birth Through Eight State Policy Framework*. Revised. [Leawood, KS]: Alliance for Early Success.
- Alliance for Early Success and Child Trends. 2015. Research at a Glance: The Research Base for a Birth Through Eight State Policy Framework. Revised. [Leawood, KS]: Alliance for Early Success.
- Britannica. "Sustainable Agriculture | Definition, Practices, Methods, Examples, & Facts." Accessed May 31, 2023. https://www.britannica.com/technology/sustainable-agriculture.
- Center on the Developing Child at Harvard University and University of Southern California, School of Cinematic Arts, Interactive Media Division. 2011. *Brain Hero*. [Cambridge, MA]: Center on the Developing Child at Harvard University. 1 video (3 min.).
- Essa, Eva L. 2014. *Introduction to Early Childhood Education: Annotated Instructor's Edition.* 7th ed. Albany, NY: Delmar Learning.
- Hagan, Joseph F., Judith S. Shaw, and Paula M. Duncan, eds. 2017. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents Pocket Guide.* 4th ed. Elk Grove Village, IL: American Academy of Pediatrics.
- Hossain, M. A., & Toma, N. H. 2019. "Quality Primary Education for Sustainable Development: A Comparative Study between Bangladesh and Malaysia." *Journal of Education and Learning*, 8(3), 181-192.
- National Scientific Council on the Developing Child. 2012. *Establishing a Level Foundation for Life: Mental Health Begins in Early Childhood.* Revised ed. Cambridge, MA: National Scientific Council on the Developing Child. Working Paper No. 6.
- National Scientific Council on the Developing Child. 2012. *The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain.* Cambridge, MA: National Scientific Council on the Developing Child. Working Paper No. 12.
- Naidoo, V. 2016. "Education and the Sustainable Development Goals: Prioritising access, retention, and learning." *International Review of Education*, 62(4), 489-507.

- OECD. 2017. *Education 2030: The Future of Education and Skills*. Retrieved from: http://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf
- Preskill, Hallie, Natalie Jones, and Alia Tengue. 2013. *Markers That Matter: Success Indicators in Early Learning and Education*. [Boston, MA]: Foundation Strategy Group.
- Sachs, J. D. 2015. *The Age of Sustainable Development*. New York, NY: Columbia University Press.
- Shelov, Steven P., Tanya Remer Altmann, and Robert E. Hannermann. 2019. *Caring for Your Baby and Young Child: Birth to Age 5*. 7th ed. New York, NY: Bantam Books.
- The World Bank. 2018. World Development Report 2018: Learning to Realize Education's *Promise*. Washington, DC: World Bank.
- United Nations. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. Resolution adopted by the General Assembly on 25 September 2015. Retrieved from: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
- United Nations Children's Fund (UNICEF). 2021. *Goal: Quality Education*. Retrieved from: https://www.unicef.org/education
- United Nations Development Programme (UNDP). 2020. Sustainable Development Goals: Goal 4 Quality Education. Retrieved from:

 https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-4-quality-education.html
- United Nations Educational, Scientific and Cultural Organization (UNESCO). 2017. *Education for Sustainable Development Goals: Learning Objectives*. Paris: UNESCO.
- United Nations Educational, Scientific and Cultural Organization (UNESCO). 2020. *Global Education Monitoring Report 2020: Inclusion and Education: All means all.* Paris: UNESCO.