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Green Life Education Habit (GLÉH) for Sustainability Lifestyles based Locally in Schools

Daska Azis¹, Rusli Yusuf², Ishak Hasan³, Husaini⁴, Niswanto⁵, Suhendro⁶

Abstract

The Merdeka Curriculum represents a transformation that responds to current global challenges. This complexity demands adaptive strategies that are locally relevant yet globally oriented. Green Life Education Habit (GLÉH) is a conceptual model designed to integrate these needs. GLÉH provides a framework for fostering sustainable lifestyle character through P5 (Pancasila Student Profile Strengthening Project) activities in schools. This research specifically aims to position GLÉH as a strategy to reinforce sustainable lifestyles. A mixed-method approach was employed, utilizing data collection techniques such as in-depth interviews, literature review, and document analysis. Influence tests and descriptive analysis were used to interpret the collected data. The findings indicate that GLÉH serves as a strategic innovation for promoting sustainable lifestyles in schools.

Keywords: Merdeka Curriculum, GLÉH, Local Wisdom, Pancasila Student Profile Strengthening Project (P5), Sustainable Lifestyles.

Introduction

Global environmental challenges such as climate change, pollution, and ecosystem degradation require a collective response from all levels of society (Djurayeva et al., 2023; Sumarmi et al., 2024). Young people, especially individuals between 15 and 24 years old, are significantly impacted by the environmental crisis, despite their relatively small contribution to the damage (Lindemann-Matthies et al., 2021). International initiatives like the Fridays for Future campaign highlight youth's proactive efforts in promoting sustainable policies (Piscitelli & D'Uggento, 2022). However, a significant hurdle remains: inspiring these youths to embrace sustainable behaviors in their daily routines consistently (Lindemann-Matthies et al., 2021).

Education for Sustainable Development (ESD) is crucial in fostering environmental awareness and behavior through a systematic approach (Braßler & Sprenger, 2021). Education for Sustainable Development (ESD) extends beyond information delivery, reshapes perspectives, and instills values that align with sustainability (Samudyatha et al., 2024). In Indonesia, the Merdeka Curriculum embodies this vision by embedding Sustainable Development Goals (SDGs) and Pancasila values into the education system to build student competencies in managing environmental concerns (Hogan & O'Flaherty, 2021; Purnomo et al., 2023).



Today, contemporary society faces multiple crises, including ecological, economic, cultural, and health-related, that challenge the structures and social practices once taken for granted (Marouli, 2021). Human activities have significantly contributed to these environmental problems, resulting in significant changes such as climate change (Piao & Managi, 2023). Key environmental risks, climate change, biodiversity loss, and widespread pollution (SDGs 13–15), pose significant threats to the ecological foundations necessary for sustainable development (Zhao et al., 2022). The world now confronts unprecedented ecological emergencies that call for an integrated and cooperative response from both scientific communities and broader society (Antó et al., 2021), addressing critical global issues such as climate change requires urgent, cohesive, and far-reaching interventions (Kulkov et al., 2024). The 2030 Agenda for Sustainable Development stresses the importance of embedding ESD principles at all educational levels (Cebrián et al., 2021).



Figure 1. Pancasila Profile Dimension

Education is fundamental to achieving the Sustainable Development Goals (SDGs) (Yuan et al., 2021) and is essential to shaping a sustainable future. Nonetheless, implementing sustainable habits remains challenging within systems that still overuse natural resources (Jaufar, 2021). Promoting environmentally responsible behavior within academic environments represents a pivotal step toward resolving the global environmental crisis (Altassan, 2023). Schools are not only environments for “spontaneous learning processes” (Fend, 2006), but also essential spaces for cultivating values and behaviors rooted in sustainability. School culture encompasses values,

principles, and criteria that are integral to sustainability education (Yli-Panula et al., 2022). Nevertheless, a critical question remains on how young people can be effectively motivated to embrace more sustainable lifestyles (Lindemann-Matthies et al., 2021). Young people (aged 15 to 24 years) remain the least responsible for climate change yet are the most affected by its impacts (Lindemann-Matthies et al., 2021).

Education for Sustainable Development (ESD) aims for students to gain knowledge about environmental, social, and economic issues and to change their attitudes and behavior (Braßler & Sprenger, 2021). One effective approach is through behavior change programs that involve students, teachers, and staff in creating a sustainable school culture (Pietrapertosa et al., 2021). In Indonesia, education reform through the Merdeka Curriculum integrates the SDGs into learning, thereby strengthening students' environmental awareness (Purnomo et al., 2023). This curriculum introduces learning projects based on sustainability issues, local wisdom, and technological innovation (Tjajja, 2022). The Pancasila Profile dimension in the Merdeka Curriculum also encourages character formation aligned with sustainable development (Hogan & O'Flaherty, 2021).

An environmentally conscious lifestyle includes simple actions such as saving energy, recycling, and using environmentally friendly transportation (Maranzano et al., 2021). Youth engagement is critical to achieving locally and globally sustainable outcomes (Jaufar, 2021). In fact, innovation in implementing P5 in the Merdeka Curriculum, which integrates sustainable lifestyles based on local wisdom, remains very minimal. Each of these elements is implemented separately. Several previous studies have discussed P5 with the theme of sustainable lifestyle, such as Engaging School Children in Sustainable Lifestyle: Opportunities and Challenges (Samudyatha et al. 2024), Local Wisdom of Miang Lifestyle and Community for Sustainable Development in Northern Thailand (Chinwong, et al. 2021), which aimed at investigating Miang consumption behavior, lifestyle, and wisdom in the Mae Kampong community that supports sustainable development, and Project for Strengthening the Profile of Pancasila Students in Schools in Realizing Sustainable Development Goals, which explores the implementation of PSP in schools and identifies challenges in achieving the SDGs (Jumini et al. 2025), The implementation of the Pancasila student profile strengthening project on the theme of sustainable lifestyle aims to analyze the implementation of the Pancasila student profile strengthening project with the theme of sustainable lifestyle in the independent curriculum (Tiyani & Ramadan, 2024) and describe the implementation of the Pancasila Student Profile Strengthening Project (Ariyanti et al. 2025).

Furthermore, the implementation of P5 with the theme of local wisdom has also been explored, such as Growing Local Wisdom through the Pancasila Student Profile Program in the Independent Learning Curriculum (Hasugian et al. 2024), The Urgency of Integrating Local Wisdom and Disaster Resilient Character in the Independent Curriculum through the Disaster Safe Education Unit (Susilawati et al. 2024), Implementing Digital Teaching Materials Containing Local Wisdom Values to Strengthen the Profile of Pancasila Students (P5) in the Independent Curriculum for Social Studies Learning (Holihah et al. 2024), Implementation of an Independent Curriculum in Indonesian Language Learning Based on Local Wisdom through the P5 Project (Umayah, 2024) and Development of the P5 Digital Module Platform: The Potential of Cirebon Local Wisdom in the Independent Curriculum (Jayadi et al. 2024). From this review, we attempt to innovate and integrate these two themes into a single unit, packaged under the term GLÉH.

GLÉH, which in the local Acehnese language means “clean,” represents the integration of a sustainable lifestyle with local wisdom, an element that is deeply embedded in Acehnese culture. This integration is the core innovation and novelty of this research. The principle of Think Globally, Act Locally forms the foundation of this study. Specifically, the research objective is to analyze GLÉH as a strategy to strengthen sustainable lifestyles in schools.

Research Methods

This research employed a quantitative design using a survey method. From the perspective of the discipline of geography, the study adopted an environmental approach aimed at strengthening the Pancasila student profile to achieve a sustainable lifestyle. The research procedure consisted of several stages: (1) pre-research; (2) development of research instruments; (3) data collection; (4) data analysis; (5) validation of findings; and (6) dissemination of results. This research was conducted in high schools across Aceh Province, specifically “*Sekolah Penggerak*”. A total of 19 schools in Aceh Province, Indonesia, participated in the study.

Participants in this research included students, educators, P5 project coordinators, school principals, supervisors, education authorities, and active partners involved in implementing the Independent Curriculum’s P5 learning in Aceh Province, Indonesia. The techniques used for data collection included in-depth interviews, which were conducted to analyze the need for structural modules in schools. Literature studies were carried out to reconstruct the stages of activities in the GLÉH module, while documentation studies were used to gather evidence of environmental practice campaigns with a sustainable lifestyle theme conducted in schools. The qualitative descriptive analysis with non-parametric methods was used to analyze the empirical results. This analysis identified the need for structured modules to implement P5 activities with a sustainable lifestyle theme based on local Acehnese cultural wisdom.

Findings

Education reform through the Merdeka Curriculum is designed to improve the quality of education and align it with global standards (Malbas et al., 2023). In this context, the GLÉH (Green Life Education Habit) strategy, derived from the Acehnese word *gleh*, meaning “clean” (point 10), can be integrated to cultivate sustainable lifestyles in schools. This approach aligns with global efforts to promote sustainability and address environmental challenges (United Nations, 2019). Each region in Indonesia possesses unique local wisdom (Ramli et al., 2022) which encompasses not only ethical values but also sustainable norms, actions, and behaviors (Sedyawati, 2010; Tohri et al., 2022). GLÉH can draw upon this local wisdom, passed down through generations and rooted in lived experience (Susanto et al., 2022). Through learning projects, students are empowered to develop 21st-century skills aligned with national identity and values (Purnomo et al., 2023).

Systematically arranged learning modules (Pitorini et al., 2024) serve as effective instruments for implementing the GLÉH strategy. GLÉH is designed to instill sustainable living habits through a structured educational model that merges local cultural values with modern educational practices. In Aceh, where *gleh* signifies “clean,” this approach integrates cultural heritage with environmental awareness (Ramli et al., 2022). Local wisdom not only encompasses traditional knowledge but also includes sustainable norms and practices (Zainal et al., 2024). Its integration into education helps to preserve cultural identity while fostering environmentally responsible behavior (Sakti et al., 2024).

To assess the needs of teachers in implementing the P5 theme of sustainable lifestyles in Aceh,

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we conducted a series of interviews. The findings are summarized below:

Respondent A:

“... The results of previous interviews related to the implementation of P5 in Aceh Province schools showed that the theme of sustainable lifestyle was chosen by all schools in the province....”

Respondent B:

“... Interview results generally indicate that schools use modules sourced from the internet, while only a few schools design their own modules with assistance from P5 coordinators. Teachers do not yet have access to a validated P5 teaching module on the theme of sustainable lifestyle....”

Respondent C:

“... Teacher interviews revealed that a teaching module should include components such as learning objectives, student achievement targets, project implementation flow, and project assessment. However, existing modules lack comprehensive assessment tools, making it difficult for teachers to measure project outcomes....”

Respondent D:

“... Interview results showed that field practice is the primary method currently used. Teachers face challenges related to limited theoretical resources and technological integration. They expect modules that combine technology with both theoretical and practical aspects of the P5 project....”

As a solution, the GLÉH strategy includes structured module development. In this research, we designed and tested a module to promote sustainable lifestyles through P5 activities in schools. The resulting environmental practice campaign is illustrated in Figure 2.



Figure 2. Results of Environmental Practice Campaign Design

The designed campaign, which has been granted intellectual property rights number 000884433, comprises several structured stages and has been reviewed by educational and language experts. Specifically, the project includes 20 stages within the syntax of project activities aimed at strengthening the Pancasila Student Profile (P5) through GLÉH under the sustainable lifestyle theme (Table 1 and Figure 3).

Activity	GLEH	Activity Description	Reference
Introduction Stage			
1	<i>Peusampoe Sikula Meulanjot (Lestari)</i>	Peusampoe means "inviting" or "socializing," while Sikula Lestari refers to a sustainable, environmentally friendly school. This project outreach introduces the GLÉH-P5 program to students, teachers, and parents, emphasizing environmental awareness rooted in Acehese local wisdom.	Lestari & Suyanto (2024); Sumarmi et al (2024)
2	<i>Tugah Diagnostik</i>	An initial assessment (bak jih meulaja) is conducted to evaluate students' prior understanding of environmental issues and their existing hygiene habits.	Suhendar et al. (2024); Guevara-Herrero et al. (2024)
3	<i>Peugot Alam Peugot Sikula 1</i>	Peugot means "to preserve," Alam refers to nature, and Sikula connects the school to environmental education. Students explore their school and home environments and consider the impact of natural conditions on daily life.	Ng, et al (2023); Stoler et al. (2021); Walshe (2017)
4	<i>Meuphom Bahaya Broeh Plastik</i>	Meuphom means "deep understanding," while Plastik Broeh highlights plastic waste issues. Students study the nature of plastic, its environmental impact, and habitual human behaviors that contribute to pollution.	Goldschagg et al (2025); van Heyde & Butcher (2024); Nguyen et al. (2024)
5	<i>Peumulia alam dan lingkungan</i>	Peumulia means "to cherish," referring to the wise reuse of resources. Students are introduced to the 4R strategy, Reduce, Reuse, Recycle, Replace, to minimize plastic waste.	Pourebrahimi et al (2023); Lee & Manfredi (2021)
6	<i>Peugot Alam Peugot Sikula 2</i>	Peugot means preserving and using wisely, Alam and Sikula refer to the natural environment and schools as places for implementing the 4R concept. Students are invited to recognize real examples of the application of 4R in the surrounding	Ugulu (2015); Supakata (2016); Banchonhattakit et al (2021)

Activity	GLEH	Activity Description	Reference
		environment and carry out simple practices as the first step in changing habits.	
7	<i>Jaga Sikula Lestari</i>	Jaga means “to act,” while Sikula Lestari underscores sustainable practice at school. Students implement the 4R principles through small-scale projects.	Rudiyanto et al (2021); Mohammed et al (2021); Islam et al (2021)
8	<i>Meusyuhu Sikula Lestari</i>	Meusyuhu means evaluation or reflection, Sikula Lestari emphasizes evaluating school sustainability in environmental practices. Evaluate students’ understanding of the 4R concept and the extent to which they apply the practices they have learned.	Pandiyarajan et al (2021); Mahayuddin et al (2024); Dahlawi et al (2021)
Contextual Stage			
9	Meusyuhu Sikula Lestari	Students prepare to observe plastic waste management at school, learning what aspects to examine during their field studies.	Anokye et al (2024); Salazar et al (2022); Yusuf & Fajri (2022)
10	Peurati Sampah Plastik Bak Sikula	Students conduct direct observations to assess plastic waste conditions and management patterns within the school.	Catarino et al (2023)
11	Muesibak Data	Muesibak means “to analyze.” Students interpret observational data to understand plastic waste trends in their schools.	Boca & Saraçlı (2023); Dowarah et al. (2022)
12	Keulola Broeh	Keulola means “to care for,” and Peugleh (cleaning) emphasizes environmental responsibility. Students evaluate their findings and assess the implications.	Dowarah et al. (2022)
Action Stage			
13	Jaga Sikula Meulanjot	Jaga implies taking action, while Sikula Meulanjot refers to sustainable schools. Students identify actionable solutions to environmental problems beyond plastic waste.	Oturai et al (2022); Njau et al (2024)
14	Puga Alam	Puga means making something, Alam refers to the natural environment around which something is made. Students determine the product or solution that will be created to address the environmental problem they have	Del Vecchio et al (2021); Rohm et al. (2021)

Activity	GLEH	Activity Description	Reference
		chosen	
15	Haba Peuneugah	Haba means “message,” and Peuneugah refers to informative content. Students design posters or media to communicate their chosen environmental actions.	Yildirim Tasti & Akar (2021); Salazar et al (2022)
16	Hase Peneugot	Hase means “assessment,” and Peneugot means “creation.” Students are evaluated on their understanding and execution of creative environmental solutions.	Thor & Karlsudd (2020); Ardoin et al (2020)
17	Sikula Lestari	Sikula Lestari symbolizes a school that champions sustainability. Students prepare exhibitions to share their projects and promote eco-conscious values.	Bradecki et al (2024); Debrah et al (2021)
18	Geurakan Sikula Lestari	Geurakan means “to mobilize,” emphasizing collective awareness. Students publicly present their projects, launching a broader sustainability campaign in school.	Dekoninck & Schmuck (2022); Zeng et al (2023)
19	Meureukôn Sikula Lestari	This reflective stage allows students to revisit their project experiences, challenges, and the values learned in living sustainably.	Ayers et al (2020); Zidny et al (2020)
20	Meuseuraya Sikula Lestari	Meuseuraya Sikula Lestari describes the spirit of building mutual concern in preserving the school environment in a sustainable manner. This final stage emphasizes collaborative, long-term action planning. Students and teachers work together to sustain eco-friendly habits beyond the project.	Casmana et al (2023); Oe et al (2022)

Table 1. Syntax of Project Activities for Strengthening the Pancasila Student Profile through GLÉH Sustainable Lifestyle Theme

The implementation of the Project for Strengthening the Pancasila Student Profile (P5) under the theme “Sustainable Lifestyle” aims to raise students’ awareness of plastic waste management and promote the adoption of Green Life Education Habit (GLÉH), a set of environmentally friendly behaviors integrated into the educational process. Through this project, students are expected to understand the harmful impacts of plastic waste, apply the principles of Reduce, Reuse, Recycle, and Replace (4R), and engage in concrete environmental actions such as establishing waste banks, producing ecobricks, and conducting environmental campaigns.



Figure 3. Syntax of GLEH

The GLÉH concept also supports the development of key characteristics of the Pancasila Student Profile, including mutual cooperation, independence, and a strong commitment to environmental sustainability. These values are instilled consistently through various learning activities. By fostering students' critical and creative thinking skills, the project encourages them to explore

innovative waste management solutions and design recycled products. The ultimate goal is for this initiative to transcend a one-time activity and instead foster a lasting mindset and set of habits that promote sustainable living, with positive impacts both in schools and the broader community.

The implementation of GLÉH in the P5 project, centered on the theme of sustainable lifestyles, represents a tangible environmental practice embedded in school life.

Environmental Practice 1

Students actively participate in plastic waste management by implementing the 4R principles (Reduce, Reuse, Recycle, Replace). Activities include creating ecobricks and managing waste banks, empowering them to adopt sustainable habits in daily life (Maranzano et al., 2021).



Figure 4. 4R (Reduce, Reuse, Recycle, Replace) Practice



Figure 5. Environmental Campaigns through Posters Practice

Environmental Practice 2

Through a Project-Based Learning (PjBL) approach, students integrate theoretical knowledge with practical experiences, such as organizing environmental campaigns and developing recycling innovations. This method is effective in enhancing 21st-century skills such as critical thinking, creativity, and collaboration (Purnomo et al., 2023).



Figure 6. P5 Showcase – School Medicinal Plant Cultivation – Sustainable Lifestyle Theme



Figure 7. P5 Showcase – Consuming Healthy Snacks – Sustainable Lifestyle Theme

(Lindemann-Matthies et al., 2021). As central pillars of education, schools hold a significant role in nurturing environmental awareness and encouraging responsible, sustainable practices (Altassan, 2023).

Environmental Practice 3

Character values such as mutual cooperation, independence, and environmental care, core elements of the Pancasila Student Profile, are reinforced through daily school activities (Geng et al., 2023). These values are enriched with Acehnese local wisdom, which offers ecological insights through traditional poetry (narit maja), reflecting the community's response to environmental threats from upstream to downstream areas.



Figure 7. Traditional Acehnese Dance Reflecting Forest Management Rhymes

Acehnese Traditional Poetry:

Di bineh pasi ta pula aron

(On the beach we planted Aaron trees)

Di dalam neuheun ta pula bangka

(In the pond we plant mangrove trees)

Meunyo ka udep bangka ngon aron

(If there are already living mangroves and aron)

Watee ie paseung han bagah teuka

(At high tide the water doesn't come in quickly)

Seubab ka meutheun deungon kayee nyan (Because it was stuck with that wood)

U dalam gampong ie laot hana (In the village there is no sea water)

Seubab ka meutheun ie laot meulet (Because it is already full of sea water)

U gampong goh trok ji surot teuma (Inside the village it hasn't been receded yet)

Rambot ngon langsung lam lon bineh krueng (Rambutan and langsung in the garden near the river)

Tanoh jih subur saja sabee na (Its land is always fertile)

Watee ie raya di ek dalam lon (When the flood enters the mud)

Watee teuka khueng sue uem pih hana (It's very hot during the dry season)

Sideh dalam blang tapula padee (In the rice fields we plant rice)

Seuneubok di gle tanaman tuha (The cultivated land on the mountain has old plants)

Lheuh ta tot neucah pade ta tajok (After burning, the rice seedlings are planted)

Lheuh nyan di likot tanaman tuha (After that, behind it, old plants are planted)

Uteun teupat binatang (The forest is a place for animals)

Sinan na padang bak meurot pihna (There is a pasture there, a place where animals graze)

Hanjeut ta dageu uteun ngon padang (We must not disturb the forest and the pasture)

Teupat binatang gle ta peulihara (We take care of the mountain animals' habitat)

Rimba hanjeut cah deungon ta teubang (We must not cut down and fell the jungle)

Sinan binatang bermacam rupa (There are all kinds of animals there)

Meunyo roh ta cah deungon ta teubang (If we happen to cut down and fell it)

Ubeena binatang diwo lan kota (All kinds of animals will come down to the city)

Keubit meupalo rimba ta teubang (If the jungle is destroyed when we cut it down)

Lhee tat macam di teuka bala (Many kinds of disasters will come)

Gajah ngon badeuk cagee ngon rimueng (Elephants with rhinos, bears with tigers)

Di tron u gampong ka peungeuh rimba (Will come down to the village because the forest is already clear/gone)

Nyang cukop bahya oh di teuka ujeun (The most dangerous thing is when the rain comes)

Tanoh dum diron so peutheun hana (So much soil is pushed down, no one can hold it back)
Laju dipeuron bubeena bateung (Again, all the tree trunks are pushed down)
Lam gampong keingkeung kayee lam rimba (In the village, logs from the jungle are scattered)

(Poet: *Datuk Ali Latief*)

However, implementing the GLÉH strategy faces challenges, particularly the diminishing role of local wisdom in the current education system (Mukminin et al., 2019). Despite this, Indonesia's cultural diversity, embodied in the national motto *Bhinneka Tunggal Ika* (Unity in Diversity), provides a strong foundation for creating contextualized and practical educational approaches. From the perspective of carbon emission reduction, behavioral changes promoted through sustainable education can significantly contribute to achieving carbon neutrality (Geng et al., 2023). The GLÉH strategy is expected to: 1. Foster clean and sustainable daily habits; 2. Increase environmental awareness among students; 3. Develop practical environmental management skills; 4. Strengthen the values of sustainable local wisdom. GLÉH offers a comprehensive framework that integrates lifelong environmental education with cultural heritage through formal schooling. Its implementation via learning modules and hands-on projects supports both national curriculum goals and global sustainability efforts.

Conclusion

The Green Life Education Habit (GLÉH) has proven to be an effective strategy for promoting sustainable lifestyles through the Pancasila Student Profile Strengthening Project (P5) in schools. Employing a mixed-method approach, combining qualitative interviews, literature review, and documentation analysis, this study reveals that GLÉH successfully integrates both local wisdom and global sustainability values into the Merdeka Curriculum. The findings demonstrate that GLÉH not only holds contextual relevance but also serves as a strategic innovation in shaping students' character and environmental awareness. Consequently, GLÉH can be adopted as a sustainable education framework that is adaptive, culturally grounded, and globally aligned, while also supporting the transformative objectives of the Merdeka Curriculum. The implications of this research suggest that GLÉH should be widely implemented in P5 programs to advance sustainability education. Further development of GLÉH-based modules, along with systematic evaluation and multi-stakeholder collaboration, including schools, government agencies, and communities, is essential to maximize their impact.

Implications

Consequently, GLÉH can be adopted as a sustainable education framework that is adaptive, culturally grounded, and globally aligned, while also supporting the transformative objectives of the Merdeka Curriculum. The implications of this research suggest that GLÉH should be widely implemented in P5 programs to advance sustainability education. Further development of GLÉH-based modules, along with systematic evaluation and multi-stakeholder collaboration, including schools, government agencies, and communities, is essential to maximize their impact.

Future Research

GLEH is one of the strategies to implement local-based sustainable education in schools, the contribution in this study has developed a specific syntax that leads to the elements of sustainability. Our hope is that the research becomes a framework for further research to develop

other GLEH with a regional perspective or uniqueness in each region in Indonesia. This is unique, we can think globally but depart from local distinctiveness.

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