



Green Accounting as a Learning Tool: Strengthening Environmental Literacy in Senior High School Economics Education

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ABSTRACT

This research tries to explore how Green Accounting can be used as a learning tool to strengthen environmental literacy in high school Economics lessons. This research uses a qualitative approach with a case study design. The research was conducted in a senior high school (SMA Negeri 2 Tanggul, Jember Regency) that has started to integrate environmental issues into the teaching-learning process. Data were collected through interviews with teachers, direct observation in the classroom, and analysis of learning documents such as lesson plans and student assignments. The results showed that when students learn accounting not only from the financial side, but also consider the social and environmental impacts of economic activities, they become more concerned and critical of sustainability issues. Teachers utilize project-based and contextual learning approaches so that students can relate theory to real problems around them, such as environmental pollution or waste management. This process helps students see that accounting is not just about numbers, but can also be a way to take care of the earth. This finding shows that economic education that promotes sustainability is not only possible in schools, but also very important to form a young generation that cares and is responsible for the future of their environment.

ABSTRAK

Penelitian ini mencoba memahami bagaimana *Green Accounting* dapat digunakan sebagai alat pembelajaran untuk memperkuat literasi lingkungan di pelajaran Ekonomi tingkat SMA. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus. Lokasi penelitian ini dilakukan di sebuah SMA Negeri 2 Tanggul, Kabupaten Jember yang mulai mengintegrasikan isu lingkungan ke dalam proses belajar-mengajar. Data dikumpulkan melalui wawancara dengan guru, pengamatan langsung di kelas, dan analisis dokumen pembelajaran seperti RPP dan tugas siswa. Hasil penelitian menunjukkan bahwa ketika siswa belajar akuntansi tidak hanya dari sisi keuangan, tetapi juga mempertimbangkan dampak sosial dan lingkungan dari aktivitas ekonomi, mereka menjadi lebih peduli dan kritis terhadap isu keberlanjutan. Guru memanfaatkan pendekatan pembelajaran berbasis proyek dan kontekstual agar siswa bisa mengaitkan teori dengan masalah nyata di sekitarnya, seperti pencemaran lingkungan atau pengelolaan sampah. Proses ini membantu siswa melihat bahwa akuntansi tidak hanya soal angka, tetapi juga bisa menjadi cara untuk menjaga bumi. Temuan ini menunjukkan bahwa pendidikan ekonomi yang mengusung nilai keberlanjutan bukan hanya mungkin dilakukan di sekolah, tetapi juga sangat penting untuk membentuk generasi muda yang peduli dan bertanggung jawab terhadap masa depan lingkungan mereka.

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INTRODUCTION

Modern education faces great challenges in addressing the increasingly complex global environmental crisis. Issues such as climate change, environmental degradation and exploitation of natural resources require the education system to be more responsive to sustainability values. In the midst of this challenge, economic education has a strategic role in shaping students' ecological awareness. One relevant innovative approach is the integration of green accounting in Economics learning in secondary schools. Green accounting, or environmental accounting, is an accounting method that takes into account the environmental costs and impacts of an entity's economic activities (United Nations, 2021). This concept has evolved as an important part of the sustainable development paradigm. In the context of education, the introduction of green accounting can be a bridge to build students' critical understanding of the relationship between economics and ecology. This is in line with the view that economic education is not only about efficiency and profit, but also sustainability and social responsibility (Hermawan & Sari, 2018).

In Indonesia, the integration of environmental education in the curriculum has not been fully optimized, especially in Economics subjects. The Merdeka Curriculum provides space for the development of contextual and project-based learning, but its implementation still faces pedagogical obstacles and limited teacher resources (Kemendikbudristek, 2022). Therefore, strengthening environmental literacy through a green accounting approach is important to be studied in depth. Moreover, in secondary school, students are at a stage of cognitive development that allows understanding of complex economic-environmental issues (Santrock, 2017). The use of green accounting in learning Economics not only enriches teaching materials, but also fosters students' environmental literacy. Environmental literacy refers to an individual's ability to understand environmental systems, think critically about ecological issues, and make environmentally responsible decisions (Roth et al., 2016). Research shows that an interdisciplinary approach to teaching can increase students' environmental awareness and action (Wals & Corcoran, 2017). Thus, the incorporation of accounting and environmental aspects has the potential to produce a more comprehensive understanding for students.

Previous studies have emphasized the importance of sustainability-based approaches in economic education. For example, research by Susilo et al. (2020) found that students who were taught sustainability concepts in economics lessons showed increased awareness of environmentally friendly consumption practices. However, not many studies have specifically examined the use of green accounting as a pedagogical tool at the secondary school level. This is an important gap in the literature that needs to be bridged through local context-based research. SMAN 2 Tanggul, located in Jember Regency, is one of the schools that has the potential to become a pioneer in the integration of economics-based environmental education. Its location close to the agricultural area and the school community's concern for the environment is a strong initial capital. Based on initial observations, Economics teachers at this school have begun to experiment with green economy materials in their lessons. However, there is no systematic approach to integrate green accounting in a structured manner in the curriculum.

This research uses a case study approach to explore how green accounting can be implemented as a learning tool at SMAN 2 Tanggul. Case studies allow researchers to understand the real dynamics, practices and challenges in the field in depth (Yin, 2018). In addition, this approach is also suitable to explore teachers' and students' perceptions regarding the effectiveness of green accounting-based learning. The results of this study are expected to contribute to the development of a contextualized and sustainable economic learning model. In conventional Economics learning, students are often trapped



in a narrow understanding of economic growth that is only measured through quantitative indicators such as GDP or business profits. Green accounting challenges this paradigm by introducing environmental variables into economic calculations. Students are encouraged to consider external costs, such as pollution or ecosystem damage, in their economic analysis. Thus, this approach broadens the horizon of students' economic thinking in a more holistic direction (Hopwood et al., 2019).

The integration of green accounting is also in line with the project-based learning approach that characterizes the Merdeka Curriculum. Through simple projects, such as creating environmental accounting reports from school or household economic activities, students can learn directly from their environment. This project not only improves cognitive understanding, but also trains students' analytical and collaborative skills. Research by Fitriyani et al. (2021) shows that the project-based learning model is able to increase students' learning motivation and social sensitivity. In addition, green accounting provides space for strengthening moral values and environmental ethics in learning. Students are invited to think not only about personal or corporate profits, but also the impact on society and nature. Values such as responsibility, ecological justice and sustainability become part of meaningful economic learning. Education that instills these values has been shown to be more effective in shaping long-term pro-environmental behavior (Ardoin et al., 2020).

The challenges faced in implementing green accounting in secondary schools are certainly not small. Teachers need to have a strong conceptual understanding and creativity in developing teaching tools that are appropriate to the level of student development. On the other hand, the availability of supporting teaching materials and learning resources is still very limited. Therefore, support from various parties, including local governments and academics, is needed to develop applicable and contextualized learning modules. The local context of Jember Regency, which is rich in potential natural resources such as agriculture, plantations, and forestry, is a real laboratory for the implementation of green accounting. Students can study the economic and environmental impacts of tobacco farming, coffee, and the nature tourism sector in their area. This approach strengthens the link between the theories learned in class and the social-ecological reality around them. This is important for building ecological awareness based on local identity and experience. By introducing green accounting, students become not only passive consumers of economic information, but also critical actors capable of analyzing and evaluating economic policies that impact the environment. This is a transformative form of education that not only transfers knowledge, but also shapes the character and competence of ecological citizenship (Sterling, 2016). In the long run, this kind of education can produce a generation capable of making wise and sustainable economic decisions.

This research is important to provide an empirical basis on how green accounting can be effectively taught in secondary schools, particularly in the Indonesian context. The results can inform curriculum development, teacher training, and more pro-environmental education policies. Furthermore, this research is also expected to broaden the discussion on the role of social studies education, particularly Economics, in addressing global challenges such as climate crisis and development inequality. Thus, this study not only offers theoretical contributions in the development of economic learning models, but also practical contributions in building environmental awareness among students. Through the green accounting approach, learning economics can be a vehicle to produce a generation that is not only intellectually smart, but also ecologically wise. Hopefully, this small effort from the classroom can have a big impact on the future of a more sustainable earth.



LITERATURE REVIEW

Green Accounting Issues

Green accounting is an accounting approach that focuses on integrating environmental factors in the process of recording, reporting, and making economic decisions. In a global context that increasingly demands environmental accountability, Green Accounting emerges as a solution to the limitations of conventional accounting in capturing the ecological impact of economic activity (Guenther & Kaulich, 2020). This approach not only identifies financial costs and benefits, but also assesses the effects of negative externalities on the environment such as pollution, resource exploitation, and ecosystem degradation. In the realm of education, the introduction of Green Accounting concepts is highly relevant to shape a generation that understands the relationship between economic activities and environmental sustainability.

One important dimension of Green Accounting is Environmental Financial Accounting (EFA), which emphasizes recording environmental costs in an organization's financial statements. EFA includes waste management costs, pollution control costs, and expenditures for environmental restoration (Jamil et al., 2021). Through EFA, companies can calculate the environmental impact of their production processes and record them systematically. In education, students can be trained to analyze financial statements that include environmental aspects as part of sustainable economic skills. Another dimension is Environmental Management Accounting (EMA), which is a managerial accounting system that provides quantitative and qualitative information on environmental costs and benefits for internal decision makers. EMA is used to evaluate the efficient use of energy, water, raw materials, and emissions in the production process (Kurniawan et al., 2022). EMA also helps companies identify opportunities for cost efficiency while improving environmental performance. In schools, students can use the EMA approach to evaluate simple environmental practices, such as waste reduction or energy savings in daily activities.

The next dimension is Environmental Cost Accounting (ECA), which serves to identify, classify, and allocate specific environmental costs. ECA distinguishes between direct (such as waste processing) and indirect (such as reputational damage from pollution) environmental costs (Ahmed & El-Masry, 2019). This approach increases transparency and accountability in cost reporting and assists organizations in developing environmental risk-based strategies. In learning economics, students can be invited to evaluate the environmental costs of a business activity in the local community as a data-driven decision-making exercise.

Sustainability Reporting, as an important dimension of Green Accounting, integrates environmental, social, and governance (ESG) information in sustainability reports. This report becomes an organizational communication tool to the public regarding their commitment and practices on sustainability issues (GRI, 2020). With the development of global reporting standards such as the Global Reporting Initiative (GRI) and the Integrated Reporting Framework, companies are required to balance financial performance with ecological impacts. In secondary education, students can be encouraged to assess and compare companies' sustainability reports as part of project-based learning. Natural Resource Accounting (NRA) is a dimension related to the economic valuation of natural resources used in the production process or other economic activities. NRA aims to reflect the value of forests, water, soil and minerals as finite and easily degradable national assets (Zhou et al., 2019). It helps in measuring economic losses due to overexploitation and in designing policies for sustainable resource management. In the context of learning economics, students can calculate the value of local resources such as clean water or agricultural produce as part of understanding ecological value in economics.

Green Accounting Model

In recent years, Green Accounting has increasingly developed with a digital and technology-based approach. The use of big data and artificial intelligence in measuring and monitoring environmental indicators is a new dimension that strengthens accountability (Cheng et al., 2023). Technology enables the collection of real-time data on carbon emissions, energy footprint, and pollution that can be directly integrated into the accounting system. High school students can be introduced to this technology through simple applications or utilization of digital devices for environmental monitoring at school as part of the digital literacy of the green economy. Overall, Green Accounting offers an important framework to address the 21st century challenges of environmental degradation and climate crisis. Its dimensions such as EFA, EMA, ECA, sustainability reporting, and NRA provide a new way of looking at economic processes more thoroughly and ethically (Alshuwaikhat et al., 2020). In the context of economic education in high school, integrating Green Accounting means instilling ecological awareness and environmental literacy skills in students as early as possible. This is in line with the Merdeka curriculum, which emphasizes the importance of sustainability, the Pancasila learner profile, and the strengthening of environmentally sound economic values.

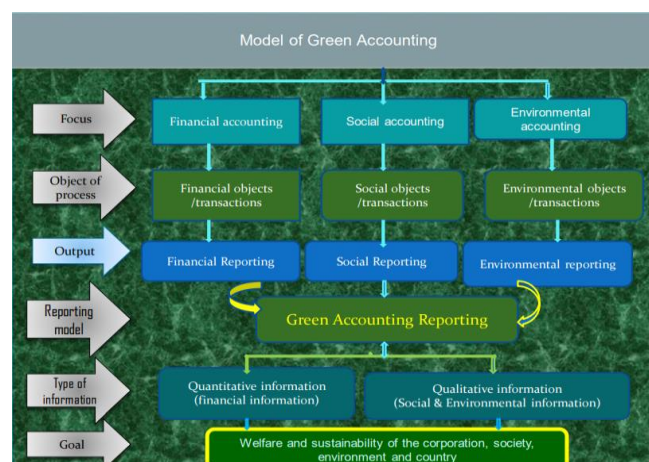


Figure 1: Construction of a Green Accounting Model

Source: Lako (2019)

The Green Accounting model is an integrative approach to organizational reporting systems that combines three main forms of accounting: financial accounting, social accounting, and environmental accounting. These three forms each focus on different objects, namely financial, social, and environmental transactions, which are then synthesized into one integrated reporting system: Green Accounting Reporting. In this context, green accounting not only expands the scope of traditional accounting, but also becomes an important instrument in sustainability-oriented strategic decision-making. This is important because modern companies are no longer only judged by their financial returns, but also by their social and environmental impacts (Herbohn & Clarkson, 2019).

The combination of these three reporting systems creates both quantitative and qualitative types of information. Quantitative information is usually conventional financial data such as revenues, costs and asset values, while qualitative information includes social and environmental responsibility reports that are not easily calculated with numbers, such as narratives of Corporate Social Responsibility (CSR) activities and carbon footprint reduction policies. This model is in line with international trends in



sustainability reporting such as the standards of the Global Reporting Initiative (GRI), which emphasize the need for comprehensive and comparable reporting to address stakeholder transparency demands (GRI, 2021). Thus, green accounting acts as a bridge that connects an organization's economic, social, and environmental responsibilities in a proportional manner.

The implementation of this model has major implications for corporate governance as it encourages more responsible and ethical business practices. In many countries, the implementation of green accounting has been shown to increase organizational awareness of environmental and social risks, while strengthening the company's reputation in the eyes of investors and consumers (Kaur & Lodhia, 2020). Not only that, the integration of social and environmental dimensions into the accounting system also strengthens the company's long-term sustainability. This is important in the context of the era of disruption and climate crisis, where accountability for natural and social resources is the main key in maintaining the competitiveness of companies globally (Sari & Yuliansyah, 2022).

The ultimate goal of the green accounting model as shown in the figure is to realize the "welfare and sustainability of the company, society, environment, and country". This approach places the company as part of an intertwined social and ecological ecosystem. Thus, the success of the company is not simply measured by profit, but also by its contribution to maintaining environmental balance and social justice. This model is also in line with the Triple Bottom Line (People, Planet, Profit) framework that has become the main paradigm in sustainability studies over the past decade (Elkington, 2018). Therefore, green accounting is an evolutionary form of accounting that is adaptive to global challenges, as well as a future strategy in building a more equitable and sustainable business civilization.

The Green Accounting model can be contextually integrated in learning Economic Accounting at the high school level as part of efforts to strengthen financial literacy and environmental awareness in students. In the Merdeka Curriculum, this integration is very relevant to the Pancasila Student Profile which emphasizes the dimensions of critical reasoning, mutual cooperation, and environmental care. Teachers can introduce the concept of Green Accounting through project-based learning, for example by encouraging students to conduct a simple audit of the economic activities of the school or surrounding community to identify the social and environmental impacts of these activities, then compile a report that contains financial, social, and environmental aspects. With this approach, students not only understand financial recording and reporting, but also learn to assess the social and environmental value of economic activities, as well as the importance of transparency and accountability in building a sustainable economy. This approach also encourages students to develop 21st century skills such as collaboration, communication, and systemic thinking. In addition, the integration of green accounting supports local and global context-based character education that strengthens ethical sensitivity in the management of economic resources (Rosnawintang et al., 2021; Setyowati & Zulaikha, 2020; Mutmainah, 2019; Surahman et al., 2022). Thus, the application of this model in learning not only improves academic competence, but also shapes students' concern for future sustainability.

RESEARCH METHODOLOGY

This research uses a qualitative approach with a case study design that focuses on the implementation of green accounting as a learning tool in improving students' environmental literacy in Economics at SMAN 2 Tanggul, Jember Regency. The qualitative approach was chosen to deeply understand the dynamics and meanings contained in the environment-based learning process, as well as how teachers and students internalize the concept of green accounting in the local context. The



research subjects included Economics teachers, students of XI social studies class, and the principal who were purposively selected due to their direct involvement in the learning process and school policy making. Data collection techniques were conducted through in-depth interviews, participatory observation during the learning process, and documentation of teaching tools and student work. The main instrument in this research is the researcher himself who is equipped with interview guidelines, observation sheets, and documentation formats compiled based on environmental literacy indicators and integration of green accounting values in learning. The data obtained were analyzed using the Miles and Huberman model through the stages of data reduction, data presentation, and conclusion drawing and verification. Data validity was maintained through triangulation of sources, techniques, and time, as well as confirmation of results through member checks with informants to ensure the correctness of interpretations. Peer debriefing was also conducted with colleagues to provide input on the analysis and research findings.

RESULT AND DISCUSSION

Green Accounting as a Learning Tools Experience

The results of interviews with Economics teachers show that the integration of green accounting in learning is a creative initiative that arises from the need for a contextual learning approach. The teacher revealed that so far environmental literacy is still seen as the domain of geography or biology subjects, whereas accounting concepts can also reach the ecological dimension. The concept of green accounting is then introduced in economics learning through the material of calculating the cost of environmental externalities and analyzing the sustainability of the company. Teachers feel that this approach is able to change students' perspective on the relationship between economic activity and its impact on nature. The observation of the learning process shows that the teacher uses a project-based learning model to link green accounting theory with the real conditions around students. Students are invited to conduct a mini-research on local economic activities, such as household industries or agricultural activities that have an impact on the environment. They are asked to identify environmental costs that are not recorded in formal bookkeeping and calculate the estimated impact on ecosystem balance. This strengthens students' ability to think critically and increases their awareness of the important role of the economy in sustainable environmental management.

Documentation of students' work shows that they are able to compile simple reports on local economic practices by adding elements of environmental costs as a form of ecological accountability. Some students even displayed visual data in the form of a comparison chart between business profits and the cost of environmental damage, and made recommendations for improvement. The report shows the students' ability to integrate the concepts of economics, accounting, and the environment into a complete analytical framework. This document is a concrete evidence that green accounting learning contributes to the improvement of students' environmental literacy and numeracy. From the interviews with students, it was found that they felt that learning became more meaningful as it was directly related to their socio-economic and environmental conditions. Students mentioned that they became more concerned about household waste and pollution from small businesses in their neighborhood. They also began to question economic policies that ignore environmental aspects, such as the construction of factories without environmental impact analysis. This realization came after they understood that not all environmental costs are visible in traditional financial statements.

Interesting findings also emerged from the observation of students' involvement during the learning process, where most students seemed to be actively discussing, making field observations, and



processing data independently. The teacher gave students the freedom to choose the object of study, such as coffee shops, farms, or grocery stores, which shows the flexibility of environment-based learning. This observation shows a significant increase in learning interest, especially when students feel part of a real problem-solving process. This activity creates a participatory and social transformation-oriented learning atmosphere. Analysis of teacher teaching tools documents, such as lesson plans and LKPDs, shows that green accounting learning has been systematically designed by paying attention to the learning outcomes of the Merdeka Curriculum. There is an integration of elements of the Pancasila learner profile, especially the dimensions of "global diversity" and "independence", as well as strengthening numeracy literacy and environmental literacy. Teachers also include success indicators such as students' ability to analyze economic impacts on the environment and create alternative solutions. This shows that the approach used is not only deep in content, but also has a clear direction towards 21st century competencies.

From the interview with the school principal, it was found that the school strongly supports environment-based learning innovation because it is in line with the vision of an adiwiyata school. The principal stated that this kind of learning makes a real contribution in shaping the character of environmental care among students. The school also provides support in the form of access to computer laboratories, libraries, as well as the ease of making field observations around the school. This support shows that learning innovation is not only born from teachers, but also supported by institutional commitment. Observations also show that the main challenge in implementing green accounting is students' limited initial understanding of technical and abstract accounting concepts. Teachers need to simplify terms and provide concrete examples so that students can understand the meaning behind the terms externality cost, environmental valuation, and sustainability report. A local case study-based approach helps students to understand these concepts contextually and not in a dreamy way. This challenge triggers teachers to develop more adaptive learning media and strategies.

Document analysis of the assessment results showed that there was an increase in students' average scores in the analysis and synthesis aspects of the final project assessment. Students are not only able to explain the environmental impact of economic activities, but also able to provide realistic recommendations for solutions. Examples are suggestions for managing household waste into compost, or the use of environmentally friendly materials in local food production. This shows that learning green accounting not only improves knowledge, but also shapes higher-order thinking skills and concrete actions. Further interviews showed that some students felt motivated to continue their studies in environmental economics or sustainable accounting after this lesson. They feel that this field will be important in the future as more companies and countries pay attention to the ecological footprint of economic activity. Students also see new career opportunities in sustainability reporting and environmental impact assessment. This indicates that green accounting-based learning can shape a career orientation that is progressive and relevant to global issues.

The teacher said that green accounting learning provides space to form values and character in students, especially related to concern for environmental sustainability and socio-economic responsibility. These values are instilled through group reflection and discussion of environmental ethics in economic decision-making. With this approach, economic learning does not only emphasize the rationality aspect of profit and loss, but also the morality and sustainability aspects. This strengthens the role of economic education as value education, not just theory transmission. Another finding shows that the integration of green accounting also strengthens students' collaborative skills because the entire learning process is carried out in groups. In groups, students share tasks for observation, interviewing



local sources, processing data, and preparing the final report. This collaboration not only builds teamwork skills, but also increases empathy and appreciation for the diverse roles in economic life. This shows that this learning also contributes to strengthening the social dimension in the education process.

From the documentation of students' activities on school social media, it can be seen that they share project results and reports in the form of digital infographics. They also organize mini exhibitions to present their studies to teachers and parents. This activity provides a space for appreciation of students' efforts and fosters self-confidence and pride in the work produced. This utilization of technology shows that the environmental literacy developed is not closed, but can be shared with the wider community. The researcher noted that green accounting learning at SMAN 2 Tanggul succeeded in combining cognitive, affective, and psychomotor dimensions in one whole learning unit. Learning does not only focus on knowledge transfer, but also on strengthening attitudes and skills in a real local context. This makes students an active subject in sustainable environmental development since school age. Thus, this approach is relevant to be replicated in other schools with the adaptation of each context.

Overall, the findings of this study indicate that green accounting can be used as an effective pedagogical tool in improving the environmental literacy of high school students through contextual, reflective, and transformative economic learning. This learning answers the challenges of the Merdeka Curriculum which emphasizes strengthening 21st century competencies and the Pancasila learner profile. The success of this program is greatly influenced by teacher creativity, school support, and active student involvement in the learning process. Therefore, the integration of green accounting in economic education is not only relevant, but also urgent in an effort to build an environmentally conscious and socio-economically responsible generation. Green accounting is an accounting approach that integrates environmental aspects in financial reporting, aiming to measure and reveal the impact of economic activity on the environment. In the context of economic education at the senior high school (SMA) level, the application of green accounting as a learning tool can strengthen students' environmental literacy. Khairin et al. (2019) argued that pro-environmental accounting education through the pentaple bottom line concept can shape the behavior of students who care about environmental sustainability. Thus, the integration of green accounting in the high school economics curriculum is a strategic step to form an environmentally conscious generation.

The application of green accounting in learning economics in high school can increase students' awareness of environmental issues through a contextual and applicable learning approach. Rahmayani et al. (2023) found that students' participation in the Green Accounting Society program had a significant effect on increasing their environmental awareness. Through active involvement in activities that link accounting with the environment, students can understand the importance of environmental conservation in an economic context. This suggests that learning that involves hands-on experience can strengthen students' understanding and concern for environmental issues. However, a study by Sari (2021) revealed that students' literacy of green accounting concepts is still low, especially in understanding the basic principles and components of green accounting reports. This is due to the lack of integration of green accounting materials in the curriculum and the lack of training for teachers. To overcome this, it is necessary to develop a curriculum that includes green accounting as an integral part of economic education. Thus, students can gain a deeper understanding of the relationship between the economy and the environment.

The integration of green accounting in economic education can also be done through a project-based learning approach, where students are invited to analyze the environmental impact of local



economic activities. Puspitasari & Sari (2022) showed that green accounting knowledge and environmental awareness have a positive effect on students' pro-environmental behavior. By involving students in real projects, they can see firsthand how economic decisions affect the environment. This can increase students' engagement and motivation in learning sustainable economics. In addition, the use of technology and digital tools in learning green accounting can improve students' understanding. Paganelli et al. (2019) showed that the use of gamification and IoT-based educational tools in secondary schools can increase students' awareness of energy efficiency and energy-saving behavior. By utilizing technology, students can monitor energy consumption and the environmental impact of their activities, thus increasing environmental awareness and responsibility. The integration of technology in green accounting learning can make the material more interesting and relevant to students.

Challenges in Implementing Green Accounting as a Learning Tool in Senior High Schools

However, challenges in implementing green accounting in high school economics education include lack of resources, teacher training, and policy support. According to Khairin et al. (2019), the pentaple bottom line approach that includes people, planet, profit, phenotechnology, and prophet aspects can be a framework for developing pro-environmental accounting education. By adopting this approach, economic education can create students who are not only technically competent but also have strong ethical and environmental awareness. This requires commitment from various stakeholders to reform the curriculum and provide adequate training for teachers. The study by Agshari et al. (2024) shows that the application of green accounting concepts through accounting education has a significant influence in supporting the green economy. By understanding the principles of green accounting, students can develop attitudes and behaviors that support sustainable economic practices. This is important to prepare the younger generation to face environmental and economic challenges in the future. Economic education that integrates green accounting can be a strategic tool in shaping a more environmentally conscious society.

The application of green accounting in economic learning is also able to develop students' critical thinking skills through the analysis of environmental data and ecological costs. This is in line with the findings of Khairin et al. (2019) that the green accounting approach requires evaluative abilities towards economic and environmental consequences. Such data-driven learning is helpful in making students aware of the economic impact of environmental decisions. Thus, students not only learn economic theory, but also hone critical thinking skills on actual global issues. The integration of green accounting in the curriculum is also able to encourage the formation of student characters who care about the environment. This character is formed through the value internalization process carried out when students are involved in projects or discussions on environmental issues. Rahmayani et al. (2023) showed that students who participated in green accounting-based programs had higher environmental empathy. These values become part of social and ethical learning that is important in 21st century education.

Green accounting learning also allows for cross-disciplinary collaboration between economics, geography and biology in discussing the impacts of environmental degradation. This holistic approach can enhance students' overall understanding of ecological and economic systems. According to Paganelli et al. (2019), an interdisciplinary approach can strengthen the linkages between natural and social sciences in environmental education. This suggests that green accounting not only strengthens economic literacy but also ecological literacy simultaneously. In its implementation, green accounting as a teaching tool must be supported by learning resources and learning media that are contextual and based on real data. Sari (2021) suggests the importance of using local case studies so that students feel



closer and more relevant to the material being taught. Materials sourced from environmental issues around the school will increase student sensitivity and develop a sense of responsibility for the community. Thus, economic learning is not abstract but contextual and solutive.

Overall, the use of green accounting in learning economics at the high school level is proven to be able to strengthen students' environmental literacy while increasing the relevance of economic education to sustainability issues. This approach supports the vision of Merdeka Curriculum which emphasizes contextual and real-life based learning. Agshari et al. (2024) state that green accounting can be an effective means of instilling environmental awareness early on in the formal education system. Therefore, strengthening teacher capacity and curriculum support are important steps for the sustainability of its implementation.

CONCLUSION

Green Accounting, when utilized as a learning tool in high school economics education, holds significant potential in fostering students' holistic environmental literacy. By integrating financial, social, and environmental dimensions into classroom instruction, students are not only taught the technical skills of recording and reporting economic transactions but are also encouraged to critically evaluate the broader implications of economic activities on ecological and social sustainability. This pedagogical approach aligns closely with the goals of the Merdeka Curriculum, particularly in cultivating the Pancasila Student Profile, which emphasizes critical thinking, independence, and environmental stewardship. Moreover, the incorporation of Green Accounting into the curriculum promotes the development of ethical awareness and social responsibility among students. It enables them to understand that economic decisions should not be isolated from their environmental consequences. Such an approach nurtures a generation of learners who are more reflective, socially conscious, and better equipped to address contemporary global challenges, including climate change, resource scarcity, and environmental degradation.

In addition, Green Accounting supports the formation of sustainable entrepreneurial mindsets by encouraging students to innovate within the framework of environmental ethics. As future business leaders, policymakers, and professionals, students exposed to these concepts early in their education are more likely to advocate for and implement sustainable practices in their careers. This not only benefits the environment but also contributes to the long-term resilience and equity of economic systems. However, this study is not without its limitations. The research was conducted within a limited sample of educational institutions, which may not fully represent the diverse educational contexts across different regions. Moreover, the effectiveness of Green Accounting integration may vary depending on teacher competency, curriculum support, and student readiness. These contextual variables may influence the outcomes and generalizability of the findings. Additionally, the study did not include a long-term assessment of behavioral change among students, which is crucial for evaluating the lasting impact of environmental literacy interventions.

Future research should explore broader and more diverse educational settings to gain a more comprehensive understanding of how Green Accounting can be implemented effectively across different schools and regions. Longitudinal studies are also recommended to assess the sustainability of students' knowledge, attitudes, and behaviors over time. Further, interdisciplinary collaborations between educators, environmental experts, and curriculum developers would enrich the design of instructional materials and teaching strategies. By continuing to investigate and refine the use of Green Accounting in education, researchers and practitioners can strengthen its role in shaping



environmentally conscious citizens and supporting the global movement toward sustainable development.

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