

Strengthening Vocational Skills Teaching for Special Needs Students at SLBN 9 Jakarta

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INFORMASI ARTIKEL	ABSTRAK
Kata Kunci: Keterampilan Vokasional Siswa Berkebutuhan Khusus Kapasitas Guru Khusus	Mitral SLBN 9 Tanjung Priok sedang menghadapi tantangan dalam pengajaran keterampilan vokasional yang belum sepenuhnya menerapkan prinsip pendidikan untuk Pembangunan Berkelanjutan (PJK), terutama dalam hal keseimbangan aspek sosial, ekonomi, dan budaya. Metode pengajaran yang diterapkan oleh pengajar cenderung tidak terpadu, di mana sebagian besar fokus hanya pada satu aspek ekonomi atau sosial tanpa pendekatan berkelanjutan yang menyeluruh yang sesuai dengan karakter siswa berkebutuhan khusus. Inisiatif pengabdian ini bertujuan untuk memperkuat kemampuan guru dalam merancang dan melaksanakan pembelajaran keterampilan vokasional yang berkelanjutan dan ramah lingkungan. Pendekatan yang dikemukakan mencakup pelatihan yang berfokus pada kebutuhan, diskusi terarah, serta lokakarya praktik langsung tentang pengembangan keterampilan vokasional dengan pendekatan daur ulang yang mengaitkan nilai ekonomi, sosial, dan lingkungan. Program ini dijalankan dalam tiga tahap yakni identifikasi kebutuhan guru, pelatihan serta pendampingan, dan kemudian praktik produksi karya vokasional. Para guru diikutsertakan secara aktif dalam merancang metode pembelajaran serta menciptakan produk berbasis lingkungan seperti tas menggunakan bahan daur ulang. Hasil dari evaluasi menunjukkan ada peningkatan pengetahuan guru sebesar 35% dari perbandingan pre-test dan post-test, serta kemajuan dalam keterampilan merancang pembelajaran vokasional yang berkelanjutan. Selain itu, telah dihasilkan modul pembelajaran dan produk konkret berupa tas daur ulang sebagai contoh nyata implementasi. Program ini menunjukkan bahwa metode pelatihan dengan pendekatan praktis sangat efektif dalam meningkatkan kemampuan guru dalam mengembangkan pembelajaran vokasional yang berkelanjutan dan sesuai dengan kebutuhan siswa berkebutuhan khusus.
Keywords: Vocational Skills Students With Special Needs Competency Development In Special School Teachers	ABSTRACT Mitral SLBN 9 Tanjung Priok is facing challenges in teaching vocational skills, which has not fully implemented the principles of Education for Sustainable Development (ESD), particularly regarding the balance between social, economic, and cultural aspects. Teaching methods employed by teachers tend to be disjointed, with most focusing solely on economic or social aspects without a comprehensive, sustainable approach that aligns with the characteristics of students with special needs. This community service initiative aims to strengthen teachers' abilities in designing and implementing sustainable and environmentally friendly vocational skills learning. The proposed approach includes needs-focused training, guided discussions, and hands-on workshops on vocational skills development using a recycling approach that links economic, social, and environmental values. The program is implemented in three stages: identifying teacher needs, training and mentoring, and then practicing vocational product production. Teachers are actively involved in designing learning methods and creating environmentally-based products, such as bags, using recycled materials. Evaluation results show a 35% increase in teachers' knowledge between pre-test and post-test, as well as progress in their skills in designing sustainable vocational learning. Furthermore, learning modules and concrete products such as recycled bags have been produced as concrete examples of implementation. This program demonstrates that a hands-on training approach is highly effective in improving teachers' abilities to develop sustainable vocational learning tailored to the needs of students with special needs.

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I. INTRODUCTION

Education is a very important part of life in all areas. The quality of education directly affects the quality of the workforce, since only high-quality education can produce high-quality workers. The goal of national education is to make the country smarter and help the Indonesian people grow in all areas. One of the most important rules in Indonesia's education system is that everyone should have the same chance to get an education. This means that both children who are typically developing and those with special needs should have the same chance to get an education (Helda, 2022).

Enhancing environmental quality across multiple facets of life has emerged as a strategic priority in national development. Sustainable use of natural resources can have both good and bad effects on the quality of the environment. A damaged environment can make it hard to do business (Cahyani, 2025).

The Indonesian government guarantees the survival of every citizen, including persons with disabilities, as per Law Number 8 of the Republic of Indonesia, 2016, concerning Persons with Disabilities. This law recognizes their legal status and human rights as equal to those of other citizens. Students with special needs (kids who are very different from their peers in terms of their physical, mental, social, or emotional health) need special education to help them grow and learn.

Learning vocational skills that are good for the environment can help students with special needs grow by giving them the specific skills they need to make a living in a way that is good for the environment. Teachers' ability to choose the right vocational skills is very important for improving the quality of life for students with special needs when it comes to managing personal development learning. Vocational skills education seeks to equip students with essential competencies for life and employment (Kurniati et al., 2023).

The constraints on the autonomy of students with special needs require the acquisition of specialized skills to facilitate their future life and development. It is hard to learn these skills, and you need to do it in a structured and systematic way. So, professional teachers, especially those who have been trained in Special Education (SLB teachers), are very important (Amelia & Azizah, 2023). SLB teachers are very important for helping students with special needs reach their full potential, based on each student's needs and situation. To help students grow as people and reach certain goals, like learning vocational skills, SLB teachers need to be given more power. Learning for personal growth can help students with special needs improve their skills and get ready for long-term jobs (Setiawan et al., n.d.).

Education must empower students with special needs by improving their quality of life in order to create sustainable individuals. Vocational skills programs, like making mats from fabric scraps or bags from plastic waste, are meant to teach high school students skills they can use to live on their own. For upper-secondary students with special needs, personal development learning focuses on practical life skills or vocational skills that will help them in their future jobs (Ardiani & Yoenanto, 2023).

The choice of sustainable vocational skills ought to correspond with occupational domains. Some of the vocational skills taught at SLB are sewing, cooking, culinary arts, fashion, beauty, and automotive skills. Programs that help students become more independent should teach them skills that will be useful in real life, so that when they graduate, they are ready to live on their own. Learning vocational skills should follow the ideas of Education for Sustainable Development (ESD), which includes economic, social, and environmental values. Making mats out of fabric scraps, brooms out of palm fibers, sandals, batik, screen printing, and beauty services are all examples of vocational skills that are good for the environment (Sani & Herlina, 2018; Nurfathonah, 2022).

This vocational skills training program focuses on making bags out of plastic waste. These bags are in high demand, cheap, and artistic, and they can help students with mild motor disabilities, hearing impairments, or intellectual disabilities reach their full motor potential. Some SLBs, on the other hand, have not yet put in place personal development learning that fully incorporates ESD values, which include economic, social, and cultural values. For instance, skills like making mats or sandals include these values, but skills like baking or sewing may only cover social and economic values (Hendratno et al., 2022). This analysis indicates the necessity of formulating an empowerment program for SLB teachers to improve the quality of vocational skills education, particularly in creating products like bags from recycled materials, for students with special needs (Ardiani & Yoenanto, 2023; Cahyani, 2025).

This community service program's goal is to improve teachers' abilities to plan and carry out vocational education that incorporates sustainability principles for students with special needs at SLBN 9 Jakarta. The program's specific objectives are to improve instructors' capacity to create eco-friendly instructional materials,

use inclusive and contextual teaching methods, and relate vocational skills training to actual environmental problems. It is anticipated that with this program, educators would be able to develop students' life skills while encouraging social responsibility, ecological awareness, and economic relevance in vocational education.

II. PROBLEM

Vocational skills education is a program aimed at providing students with the skills or abilities they need to survive when entering the workforce or society. Observations indicate that one factor contributing to the underdevelopment of the quality of life of students with special needs, particularly in terms of resources or survival skills, is the limited availability of resources and the inadequacy of educational services. These include suboptimal needs and underutilization of usable materials/equipment. Self-development learning activities often fail to fully utilize the management of usable and usable waste materials. This indicates a lack of application of environmental management principles, namely, reduce, reuse, recycle, and recovery, in utilizing valuable remaining resources.

The limitation on independence for students with special needs lies in mastering specific skills that foster self-development for their future lives, namely valuable vocational skills that can improve their quality of life. These skills are very difficult for students with special needs to master and therefore require specialized and systematic learning. Therefore, professional teaching resources are needed, namely teachers who master the science of Special Education, or Special Education teachers, or in the terminology used, SLB teachers.

The role of SLB teachers is crucial in achieving the goal of developing the potential of students with special needs according to the conditions and referral needs of students with special needs. Therefore, SLB teachers are required to ensure that educational services achieve the goal of independence for students with special needs. Therefore, it is necessary to empower SLB teachers to optimize the self-development capabilities of students with special needs to achieve specific goals, one of which is through skills learning. Implementing Self-Development Learning can be one solution to help students with special needs develop through the specific skills they have mastered, enabling them to sustain life through sustainable skills.

To shape students with special needs into sustainable individuals, education that empowers them by improving their quality of life is necessary. Vocational skills programs, such as doormats made from scraps of fabric and bags made from plastic waste, and so on, at the secondary school level are designed to prepare students with special needs to develop life skills necessary for independent living in the community. Self-development programs for students with special needs at the senior secondary level focus on life skills or valuable vocational skills. The selection of sustainable vocational skills for students with special needs is expected to be tailored to their field of work. The scope of vocational skills in special needs schools includes sewing, cooking, culinary arts, fashion design, beauty, and automotive skills.

Based on observations and discussions, the partner's problem is that the selection of vocational skills implemented in schools does not fully adhere to the principles of sustainable learning or the principles of ESD, namely economic, social, and cultural values. The implementation of vocational skills learning within self-development learning only selects skills that embody specific values. Some skills implement only economic or social values, or both, such as culinary arts or sewing. Teachers need guidance in implementing sustainable, environmentally friendly vocational skills learning, especially in selecting vocational skills that embody economic, social, and cultural values.

Therefore, the research questions for this community service are: a) To what extent do practical skills (such as doormats made from used fabric and bags made from recycled plastic) contribute to the development of students' life skills?; b) What is the role of practical skills in strengthening independence and improving the quality of life for students with special needs?

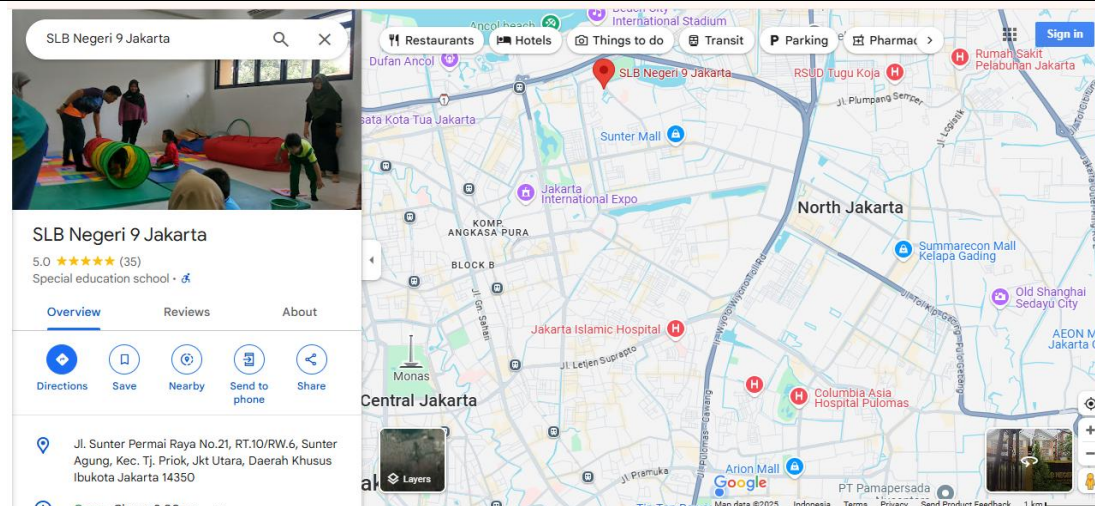


Figure 1. Map of the partner's location

III. METHOD

The methods used in this activity were carried out as follows:

First, a workshop was held, led by a knowledgeable person, a lecturer from the Special Education Study Program (PKh) at the Faculty of Education at UNJ. During the workshop, participants learned about and were given ideas for teaching materials that could be used to make bags from recycled trash and decorative bottles for students with hearing impairments, intellectual disabilities, and mild physical-motor disabilities. The workshop used lectures, brainstorming, and questions and answers. These activities and methods were meant to help the participants learn more and understand better. Second, the resource person and supervising lecturers (PKh lecturers) led hands-on training activities where students made bags out of recycled materials. Third, mentoring activities that used discussion, brainstorming, and direct practice methods helped students with special needs learn vocational skills in a way that was good for the environment. The goal of these activities is for teachers to be able to use what they learned in the training to help students with special needs learn.

Implementation of Activities

Preparation Phase of Community Service

The preparation phase is a critical component of community service activities, as it determines the direction, needs, and strategies to ensure that activities are effectively targeted. In the community service program focused on empowering teachers to improve the quality of environmentally friendly vocational education at SLBN 9 Jakarta, the preparation phase was carried out in a planned and participatory manner, involving the school and target teachers from the outset. In general, the preparation phase comprised five main activities:

1. Needs Identification and Situation Analysis

The activity began with an initial situational study to understand the current conditions of vocational education at SLBN 9 Jakarta. The implementation team conducted observations and interviews with the principal and several vocational teachers to map: a) teachers' competencies in integrating environmental values into learning; b) the availability of environmentally friendly teaching materials and facilities; c) challenges in fostering students' creativity within the context of sustainability. The results indicated that although teachers were highly motivated, most lacked conceptual understanding and practical skills in designing environmentally based vocational learning. These findings became the basis for determining the focus of training and mentoring activities.

2. Coordination and Consultation with the School

The next step involved formal coordination with the principal and teacher representatives to agree on the form and mechanisms of activity implementation. During the coordination meeting, agreements were made regarding: a) the schedule and venue of technical guidance activities; b) the number of participants (target teachers); c) core materials relevant to the school's needs; and d) the form of facility support provided by the school. This coordination also served to build a shared commitment between the community service team and the school for program sustainability.

3. Designing the Activities and Training Materials

Based on the needs analysis, the community service team developed an activity design using a capacity-building approach emphasizing participatory and contextual principles. Training materials included: a) basic concepts of environmentally friendly vocational education; b) strategies for active and inclusive learning for students with special needs; c) practical creation of teaching media from recycled materials; and d) integration of sustainability values into school vocational projects. The activity design also included the division of roles for resource persons, schedule preparation, and provision of instruments for evaluating processes and outcomes.

4. Logistical and Administrative Preparation

This phase involved preparing implementation permits, arranging venues and equipment, providing stationery, training media, and materials for practical sessions. Additionally, the team prepared evaluation forms, attendance lists, and documentation for grant reporting purposes.

5. Trial and Finalization of Implementation Plan

Before the main activities were conducted, the community service team conducted a limited trial of the training materials to ensure their suitability for the SLB students' context. This trial aimed to: a) adjust the difficulty level of materials to teachers' needs; b) ensure practical activities could be conducted with available school facilities; and c) refine training modules to be more applicable. After this stage, the entire activity plan was finalized and approved by the implementation team in collaboration with the school.

The preparation phase produced several key outcomes: a) clear mapping of the capacity-building needs of teachers in environmentally friendly vocational education; b) a participatory design for training and mentoring activities; c) a collaborative commitment between the community service team, the school, and target teachers; and d) availability of activity materials (modules, evaluation instruments, practice media, and administrative support). Consequently, this preparation phase provided a strong foundation for effective, targeted, and impactful implementation of the community service program, enhancing the professional capacity of teachers at SLBN 9 Jakarta.

Activity Implementation Phase

The methods used in this activity. First, a workshop led by a competent person, a lecturer from the community service program at the faculty of education at UNJ, provided participants with knowledge and understanding of learning tools for making bags from recycled bottle decorations for students with hearing impairments, intellectual disabilities, and mild motoric disabilities. The activity was conducted through lectures, brainstorming sessions, and a question-and-answer session. The activities and methods used are expected to provide insight and enhance participants' knowledge. Second, a training session led by a resource person and a lecturer involved practical methods for making bags from recycled materials. Third, guidance was provided in developing environmentally friendly vocational skills learning programs for students with special needs through mentoring activities using discussion, brainstorming, and hands-on practice. This activity is expected to enable teachers to apply the training findings in educational services for students with special needs.

This community service activity provides learning tools for vocational skills, including making bags from waste. Two teaching materials are available: Teaching Material 1, which covers "Waste Management and How to Manage Waste"; 3R. Teaching Material 2, which covers "How to Make Bags from Gallon Lids."

Teaching Material 1

Definition of Waste

Waste is a discarded substance produced by human activities, for example, from households or factories. Waste is also often called garbage. Waste can pollute the environment and pose a hazard if not managed properly. Therefore, waste needs to be reduced, reused, or recycled.

Types of Waste

1. Liquid Waste

Liquid waste is waste in liquid form, such as dirty water or used washing water.

Examples: used laundry water; kitchen wastewater; factory wastewater

2. Solid Waste: Solid waste is waste that is solid or hard. Examples: plastic, cardboard, food scraps, bottles, paper, cans

3. Gaseous Waste: Gaseous waste is waste that is in the form of smoke and can pollute the air. Examples: vehicle exhaust, factory smoke, organic waste.

4. Organic waste is waste that comes from living things and can easily decompose. Examples: fruit peels, dry leaves, food scraps
Inorganic Waste: Inorganic waste is waste that does not easily decompose, but can be recycled. Examples: plastic bottles, glass, cans
5. Hazardous and Toxic Waste (B3)
B3 waste is waste that can be harmful to humans and the environment. Examples: used batteries, detergent, expired medications

Waste Management: The 3Rs: to maintain a clean and healthy environment, waste can be managed using the 3Rs, namely:

1. Reduce
Reduce waste by bringing your own shopping bags to avoid using plastic continuously.
2. Reuse
Reuse used items that are still usable. For example:
Used bottles can be used as pencil cases or flower pots.
3. Recycle
Waste can be processed or transformed into new, useful items.

In addition, program evaluation was conducted using qualitative descriptive methods supported by structured instruments, including observation sheets, teacher reflective journals, and self-assessment checklists. These instruments were developed based on three evaluation indicators: (1) teachers' understanding of sustainability in vocational education, (2) ability to design environmentally oriented learning tools, and (3) application of sustainability concepts in classroom vocational activities. Each indicator was assessed using a categorical scale (developing–adequate–advanced) based on observable teaching behaviors. Data were analyzed using thematic analysis to identify patterns of change in teacher competencies after the intervention, focusing on improvements in knowledge, skills, and classroom implementation.

IV. RESULT AND DISCUSSION

The community service activities took place at SLBN 9 Jakarta and were mainly about helping teachers create vocational education that is good for the environment. The activities were carried out using a capacity-building approach that focused on active participation, critical reflection, and practice in context that fit the needs of the school (Hamidaturrohman et al., 2023; Mahmuda et al., 2023).

The implementation of activities was divided into the following stages:

1. Preparation Stage
At this point, the implementation team worked with the school to find out what teachers needed in terms of vocational education and environmental issues that were important for students with special needs. The needs assessment showed that some teachers had trouble with a) incorporating eco-friendly values into vocational learning, b) using teaching materials made from recycled materials, and c) creating work-practice models that focused on sustainability (Haris Zainuddin & Makassar, 2025; Purnomo et al., n.d.).
2. Technical Guidance Stage
The core activity consisted of technical guidance and participatory workshops conducted over two days. The materials covered included: a) basic concepts of environmentally friendly vocational education; b) principles of sustainable education in the SLB environment; c) strategies for active and contextual learning for students with special needs; d) practical creation of teaching media using recycled materials; and e) integration of environmental values into vocational projects (e.g., culinary skills, crafts, and small-scale agriculture).

The implementation used participatory and reflective methods, including group discussions, teaching simulations, and hands-on practice. Teachers were guided in designing Lesson Plans (RPPs) that integrate environmentally friendly aspects in accordance with their respective vocational fields.



Figure 1. Opening Session

3. Mentoring and Reflection Stage

Following the training, online and in-person mentoring sessions were conducted over a two-week period to monitor classroom implementation. Teachers were given the opportunity to present the outcomes of their practical learning activities, share experiences, and reflect on the challenges encountered.

Observations and reflections indicated that teachers demonstrated improvements in: a) their ability to design vocational activities that are relevant and contextual; b) ecological awareness in the use of materials and the learning process; and c) their capacity to collaborate across different teaching fields. This approach proved effective in strengthening teachers' sense of ownership over sustainable learning innovations (Rismawati et al., 2025).



Figure 2. Conceptual Presentation Session



Figure 3. Workshop and Mentoring Session

The activities were conducted in a participatory and reflective manner, with each teacher actively involved in the learning and practical processes. The activities focused on enhancing ecological awareness, pedagogical skills, and teachers' ability to connect vocational learning with real-world environmental issues (Kurniati et al., 2023; Parida et al., 2024). Observations indicated that teachers were able to: a) develop environmentally friendly teaching media using recycled materials; b) design contextual and applicable lesson plans (RPPs); and c) conduct vocational learning practices with a sustainability perspective, tailored to the characteristics of students at SLBN 9 Jakarta (Ardiani & Yoenanto, 2023).

The program was created to help teachers at SLBN 9 Jakarta become more adept at incorporating sustainability ideas into vocational education for students with special needs. Reflective conversations with participants and pre- and post-activity observations were used to assess the program. The results show that teachers' comprehension and application of environmentally oriented vocational learning have significantly improved. Prior to the program, educators tended to concentrate primarily on teaching technical skills without making a clear connection between learning activities and environmental sustainability. Following the intervention, educators started incorporating sustainability principles into their lesson plans and showed increased understanding of environmental issues.

Lesson plans (RPPs) with environmental themes and instructional materials generated from recycled materials were among the more contextual learning resources that educators might create. Additionally, the methods used in vocational education became more in line with environmental issues that are pertinent to students' everyday lives, such as waste management and the production of products based on recycling. This program emphasizes the integration of sustainability-oriented vocational education for special needs students, which is still lacking in prior research, in contrast to similar community involvement activities that prioritize general pedagogical training (Kurniati et al., 2023; Parida et al., 2024). This program's reflective and participatory methodology was successful in promoting teacher engagement and the real-world application of sustainable learning principles.

Overall, the program enhanced teachers' ability to create and carry out inclusive, environmentally conscious vocational education that adheres to sustainable education principles (Ardiani & Yoenanto, 2023).

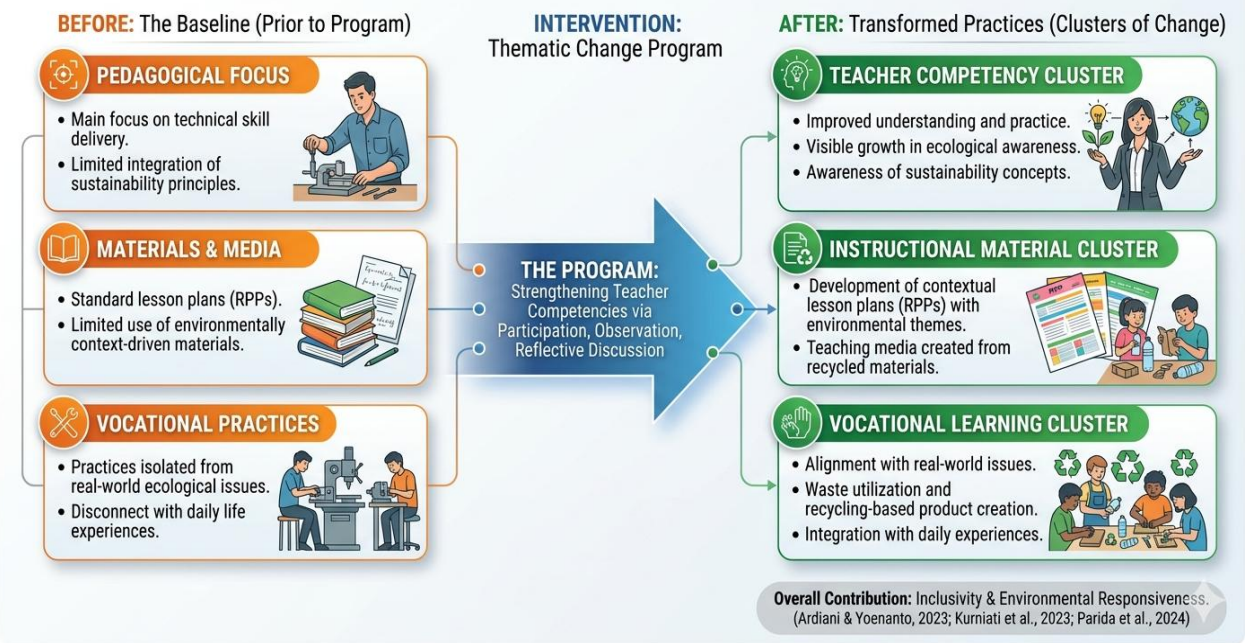


Figure 4. Thematic change diagram

Achieve Results:

Qualitatively, the activities produced changes across three main dimensions:

1. Knowledge and Understanding: Teachers gained an understanding of the importance of integrating environmentally friendly principles into vocational activities and were able to align these with students' needs.
2. Practical Skills: Teachers were able to develop teaching media from recycled materials and design vocational practice activities based on environmental principles (Andini Setiawan et al., n.d.).
3. Professional Attitudes and Awareness: Teachers developed awareness of their role as agents of change, embedding sustainability values in teaching at SLB.

Table 1. Activity results and qualitative impact

Aspect	Description of Results	Qualitative Impact
Knowledge	Teachers understand the principles of environmentally oriented vocational education and are able to relate them to the needs of students with special needs.	There was an improvement in teachers' ecological literacy within the context of inclusive learning.
Skills	Teachers are able to design and implement lesson plans (RPPs) that integrate environmentally friendly aspects and use teaching media made from recycled materials.	Learning activities became more contextual, creative, and efficient.
Attitudes and Awareness	Teachers demonstrated a commitment to being agents of change in the school by cultivating environmentally friendly behaviors.	A school culture more attentive to environmental care and sustainability was established.
Teacher Collaboration	Cross-disciplinary collaboration occurred among vocational teachers, academic teachers, and special education support teachers.	There was an improvement in collaboration in planning and implementing learning activities.

4. Evaluation Stage of Community Service

The evaluation of activities was conducted to assess the effectiveness, benefits, and sustainability of the teacher empowerment program in developing environmentally friendly vocational education. The evaluation was carried out qualitatively and participatively, covering the processes, outcomes, and impacts of the activities.

Follow-Up Program

To ensure the sustainability of the program outcomes, several follow-up plans were developed as follows:

- a. Development of Environmentally Friendly Learning Modules based on the school's local needs, which will serve as internal teaching materials and references for new teachers.
- b. Continued Partnerships with Industry and Business (DUDI) focused on environmentally friendly products, providing a practical implementation of the training outcomes.
- c. School Action Research (PTS) conducted by participating teachers to test the effectiveness of the environmentally oriented vocational learning models developed during the program.
- d. Dissemination of Program Results through internal school seminars and publication of scholarly articles in community service journals.

This activity provided valuable lessons for both the implementation team and teachers, demonstrating that true empowerment is not merely a transfer of knowledge, but a process of cultivating critical awareness and reflective capabilities. Through this program, SLBN 9 Jakarta has begun fostering a culture of vocational learning oriented toward sustainability and environmental awareness, in line with the goals of holistic and humanistic inclusive education.

V. CONCLUSION

Overall, this community service activity produced several key conclusions. The initial issue of SLBN 9 Jakarta's inadequate integration of sustainability principles in vocational learning was effectively resolved by this community service initiative. Teachers' ability to create contextual lesson plans, use recycled teaching materials, and incorporate sustainability concepts into their classroom practices all demonstrated how well the intervention enhanced their ability to organize and carry out ecologically focused vocational education. Teachers started implementing eco-friendly procedures in the classroom, such as basic waste management systems and student-led recycling initiatives, demonstrating the program's wider institutional impact. These modifications show that the intervention helped create a more ecologically conscious school culture in addition to enhancing individual competencies.

Additionally, the development of cooperative networks between the school, the community service team, and nearby eco-friendly small businesses offers a solid basis for maintaining and growing vocational learning practices in the future. It is advised that the school formalize these practices into structured vocational programs that are incorporated into the curriculum in order to ensure sustainability. Additionally, future community service initiatives should concentrate on enhancing teacher mentoring programs and growing industry partnerships in order to support student independence and product commercialization.

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