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Application Of Simple Work Standards to Improve Skills and Independence of Students with Mild Intellectual Disabilities

Yelli Fitri[1, a)], Rini Adriani Auliana[1], Lianda Dewi Sartika[1], Sri Wahyuni[2], Nisya Puspita Safitri[3]

[1]Universitas Mataram, Mataram, Indonesia.
[2]Universitas Cordova, Sumbawa Barat, Indonesia
[3]Universitas Islam Mamba'ul Ulum Jambi, Indonesia

[a)]Corresponding author: yellifitri@staff.unram.ac.id

ABSTRACT

This community service program addresses the lack of structured learning approaches in skill-based activities for students with mild intellectual disabilities. The novelty of this program lies in integrating simple work standards derived from Industrial Engineering into special education practices. The program aims to improve students' functional skills and independence through the application of simple Standard Operating Procedures (SOPs) in fruit skewer making. The activity was conducted at a Special School (SLB) involving 15 students using a participatory approach through learning by doing. The program consisted of three stages: planning, implementation, and evaluation. Data were collected using observation checklists and documentation, focusing on students' ability to follow procedures, neatness, and independence. The results showed a substantial improvement in all indicators, particularly in the ability to follow work steps, which increased from 33% to 83%. Students also demonstrated better neatness and higher independence in completing tasks. These findings indicate that simple and visual SOPs effectively create structured learning processes that enhance students' understanding and independence. Therefore, integrating simple work standards into special education can serve as an innovative and practical approach to improving functional skills and independence.

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INTRODUCTION

Children with special needs are individuals who have distinct characteristics and therefore require educational services tailored to their needs and abilities. Education in Special Schools (SLB) plays an important role in developing functional abilities, life skills, independence, and social adaptability so that students can participate effectively in daily life. In this context, independence becomes a key outcome of the educational process, as children with special needs often experience limitations in performing daily activities. Therefore, learning that emphasizes the development of independence from an early age is essential. Consistent independence-oriented education has been proven to improve self-care abilities and daily living skills in children with special needs (Fadlillah et al., 2025)

One of the fundamental aspects in developing independence is motor ability, particularly fine motor skills. These skills serve as the foundation for performing various functional activities such as holding objects, arranging materials, and using simple tools. Research indicates that structured activity-based interventions can significantly improve fine motor skills and functional abilities in children with special needs (Case-Smith et al., 2015; Jariono et al., 2023). Furthermore, motor-based interventions also contribute to broader developmental domains, including cognitive, language, and adaptive skills. In addition, learning conducted in a gradual and repetitive manner has been proven effective in enhancing children's independence (Hume et al., 2021).

An effective approach to support this development is learning by doing, which emphasizes direct student involvement through real and meaningful activities. This approach allows children to gain hands-on experience, making it easier for them to understand instructions and follow sequences of tasks. Studies have shown that practice-based and structured learning can enhance engagement, comprehension, and functional skills in children with special needs (Eguia et al., 2025; Knight et al., 2013). Moreover, repetitive and structured activities are particularly beneficial in improving attention, concentration, and the ability to follow instructions.

One practical and relevant activity that can be implemented is fruit skewer making. This activity involves simple yet meaningful steps such as washing, cutting, and assembling fruits, which can effectively train hand-eye coordination, concentration, and sequencing abilities. In addition, it supports the development of independence as it represents basic daily living skills (Said et al., 2025; Yanti et al., 2023). Activity-based learning that reflects real-life situations has also been proven to enhance functional and adaptive skills in children with special needs.

However, in practice, skill-based learning activities in special schools are often not supported by clear and systematic work standards. Learning processes tend to be unstructured, causing students to have difficulty understanding and consistently following task sequences. This issue has also been identified in various community service activities, which indicate that the absence of structured guidelines can reduce the effectiveness of skill-based learning for children with special needs (Situmorang et al., 2025). In fact, structured approaches are crucial, as these children require clear instructions, repetition, and consistent stages in the learning process.

From an Industrial Engineering perspective, the application of work standards, commonly known as Standard Operating Procedures (SOPs), offers a relevant solution to this problem. SOPs are systematic guidelines that ensure tasks are performed consistently, efficiently, and with minimal errors. Previous studies and community service activities have shown that simple and visually designed SOPs can significantly improve task understanding and independence among individuals with special needs

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(Masithah et al., 2023). Therefore, the implementation of simple, visual, and adaptive SOPs is highly appropriate in special education settings.

Despite the growing use of activity-based learning in special education, there is still a lack of structured and standardized approaches that guide students step-by-step in performing functional tasks. Most existing practices rely on unstructured instruction, which limits students' ability to consistently perform activities independently.

Therefore, this community service aims to implement simple and visual work standards in the form of Standard Operating Procedures (SOP) to improve the functional skills and independence of students with mild intellectual disabilities through fruit satay-making activities.

METHOD

This community service activity was carried out using a participatory approach by actively involving students in the learning process. The activity was conducted through three main stages: planning, implementation, and evaluation, which are commonly used stages in community service programs to ensure systematic execution and achievement of objectives (Djonnaidi et al., 2023).

This community service program used a participatory approach involving students actively through learning by doing. The program was structured into three main stages: planning, implementation, and evaluation.

Program Design

- Participatory approach
- Learning method: learning by doing
- Application of simple visual SOPs

Data Collection

Data were collected using an observation checklist assessing:

- ability to follow procedures
- neatness of results
- level of independence

To ensure data validity, observations were conducted repeatedly during the activity and supported by documentation and teacher feedback.

RESULTS AND DISCUSSION

The activity was conducted by applying simple SOPs in fruit skewer making. The program involved 15 students with assistance from teachers and the community service team. Initial observations showed that most students were unable to follow work sequences systematically, tended to work randomly, required intensive assistance, and had difficulty using tools properly. These findings indicate that students lacked structured guidance in performing step-by-step activities. However, after this community service activity, students began to be able to follow the SOP.

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The findings are consistent with previous studies that highlight the effectiveness of structured and visual learning approaches in improving functional skills among students with special needs (Lukins et al., 2023)

Figure 1 shows the results of this service. This strengthens the argument that structured SOP-based learning not only improves task performance but also enhances cognitive understanding and independence.

FIGURE 1. Direct Practice by Students

After implementing visual SOPs, students showed noticeable improvement in following structured steps, including washing hands, preparing materials, cutting fruits, and assembling skewers. The use of visual instructions and repeated practice helped students better understand the sequence of tasks and reduced their dependence on teacher assistance.

Table 1 presents the comparison of students' performance before and after the implementation of SOP-based learning. The table clearly shows that all observed indicators experienced substantial improvement.

TABLE 1. Improvement of Students' Skills and Independence

Indicator	Before (%)	After (%)
Following work steps	33%	83%
Neatness	25%	75%
Independence	17%	67%

The ability to follow work steps increased significantly from 33% to 83%, indicating that students were able to understand and execute structured procedures more effectively. Neatness improved from 25% to 75%, reflecting better motor control and attention to detail during task execution. Meanwhile, independence increased from 17% to 67%, demonstrating that students became more confident and capable of completing tasks with reduced assistance.

These results suggest that the application of simple and visual SOPs not only improves technical skills but also supports the development of autonomy in students with special needs. The structured nature of SOPs provides clear guidance, reduces ambiguity, and facilitates step-by-step learning, which is essential for this group of learners.

This finding is consistent with previous studies emphasizing the importance of structured and visual learning approaches in special education. For example, research on visual schedules shows that

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structured guidance can improve students' ability to perform daily living activities independently and follow task sequences more effectively. In addition, structured teaching interventions have been proven to be more effective than unstructured approaches in improving basic skills and learning outcomes among students with special needs.

To further illustrate the outcomes of the activity, Figure 2 presents examples of students' work results after the implementation of SOP-based learning. The figure shows that students were able to complete the fruit skewer arrangement properly by following the structured steps provided.

FIGURE 2. Student Work Results

As shown in Figure 2, the products created by students appear more organized and consistent, indicating improvements in both procedural understanding and fine motor skills. The visual evidence supports the quantitative findings, demonstrating that students not only followed instructions but were also able to produce tangible outputs with better quality and independence. In addition to quantitative improvements, qualitative observations revealed that students demonstrated higher levels of enthusiasm, participation, and confidence during the activity. Students were more willing to engage, ask questions, and attempt tasks independently. The learning environment also became more interactive and enjoyable, which further supported students' engagement.

The effectiveness of visual SOPs can be attributed to their ability to present information in a clear and accessible format. Children with special needs tend to respond better to visual cues and step-by-step guidance, which helps them understand tasks more easily and reduces cognitive overload. The repetition of structured activities also reinforces learning and improves task retention.

Furthermore, improvements in fine motor skills were evident in students' ability to cut fruits safely and assemble skewers more neatly. This supports the idea that activity-based learning involving hands-on practice can enhance motor coordination and functional abilities. The gradual reduction in teacher assistance also indicates that students developed greater independence and self-confidence. From an Industrial Engineering perspective, the implementation of SOPs also contributed to improved process efficiency. The use of standardized procedures minimized errors, reduced task completion time, and ensured that activities were carried out in a consistent manner. This demonstrates that the application of simple engineering principles can be effectively adapted to educational settings, particularly in special education.

Overall, the integration of structured SOPs with activity-based learning creates a learning environment that is not only effective in improving skills but also supportive of students' independence and engagement. Therefore, this approach can be considered a practical and innovative strategy for enhancing functional learning outcomes in special schools.

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CONCLUSION

The implementation of simple work standards (SOPs) in fruit skewer making has proven effective in improving students' functional skills and independence. The structured and visual nature of SOPs enables students to better understand task sequences and perform activities more independently.

From a practical perspective, this approach can be adopted by teachers in special education settings as an innovative method to enhance life skills learning. However, this implementation is limited by the small number of participants and the short duration of implementation. Future programs are recommended to involve larger samples and apply SOP-based learning in various types of activities to further validate its effectiveness.

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