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# Assistance in Using Secondhand Items as Teaching Aids in TK Gang-Gang Laut

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A R T I C L E I N F O

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A B S T R A K

Educational play materials are crucial for supporting early childhood development, particularly in fostering motor, cognitive, and language skills as well as creativity. However, not all early childhood education centers possess the budget to purchase ready-made educational toys; thus, utilizing locally available waste materials offers a viable alternative. This community service initiative aimed to assist teachers at Gang-Gang Laut Kindergarten located in Apal Village, Liang District, Banggai Kepulauan Regency in transforming waste materials into safe, educational, and eco-friendly play materials. The project was conducted in several stages: field observation (July 22–25, 2026), activity coordination (July 27–28, 2026), hands-on assistance (July 29, 2026), and a final evaluation. The methods employed included observation, focus group discussions, and practical training on creating educational toys from waste materials such as plastic bottles and cardboard. The results indicate that the teachers at Gang-Gang Laut Kindergarten became more skilled and creative in repurposing waste materials into learning aids and gained a better understanding of safety principles and educational value in the creation of such materials. The initiative also fostered environmental awareness through simple recycling practices within the school environment. Such assistance programs can serve as an effective, economical, and sustainable model for developing learning materials in early

childhood education centers with limited resources.

## INTRODUCTION

Early childhood education is an important foundation in preparing children for learning before they enter primary school. One element that is inseparable from the early childhood learning process is the availability of media or Educational Play Tools (APE) that can stimulate various aspects of a child's development, ranging from fine and gross motor skills, cognitive, language, to social-emotional abilities. Environment-based educational play tools can even be used as a contextual scientific learning medium for children (Nasirun, M., Suprapti, A., Daryati, M. E., 2021).

In reality, many early childhood education (PAUD) and kindergarten units in the regions, including those in coastal areas, face budget limitations for providing learning tools available in the market. Teachers tend to use the play tools already available at the institution more often without trying to develop new ones, due to a lack of encouragement and training that supports their creativity (Hayati & Amilia, 2020). In fact, PAUD teachers are actually expected to sharpen their creativity in making their own learning tools, one way being by utilizing unused items around them or recycling old items (Soleha, R., Astini, B. N., Astawa, I. M. S., 2022).

Using used goods as the basic material for APE has a number of advantages, both economically and environmentally. Besides lowering the cost of learning media, this practice also aligns with efforts to reduce household waste and instill environmental awareness from an early age (Nurrohmah, 2022). Training teachers to make APE from used materials has also been shown to reduce waste at schools while improving teachers' pedagogical skills in creating diverse learning media (Isnaningsih, A., Nur, I., Hermawan, R., Wahyuning, A., Hambali, H., & Hasanah, 2022).

This challenge is also faced by Apal Village, one of the villages in the Liang District, Banggai Kepulauan Regency, Central Sulawesi Province. As a village located in a coastal island area, the lives of the people in Apal Village are closely tied to marine and fishing activities. This is reflected in the availability of second-hand goods around the village, which are mostly dominated by plastic bottles and leftover materials from fishing activities, unlike urban areas where second-hand goods are more diverse and generally come from market environments. These geographical and socio-economic characteristics make Apal Village both

have potential and face its own challenges in developing various aspects of community life, including in the education sector.

In the early childhood education sector, Apal Village has one educational unit, namely TK Gang-Gang Laut, which serves as a place for the growth and development of young children in the village. Like most early childhood education units in resource-limited areas, TK Gang-Gang Laut faces challenges such as a lack of variation in learning tools and a limited budget to provide ready-to-use learning tools, as mentioned earlier. On the other hand, the coastal characteristics of Apal Village actually present local potential that can be utilized to overcome these limitations, namely the availability of used items like plastic bottles and cardboard boxes in the surrounding environment. This potential serves as an important basis for developing alternative learning tools that are economical, educational, and environmentally friendly, while also offering an opportunity to instill a sense of environmental care in the village community, especially in young children, from an early age.

Therefore, a systematic mentoring program is needed so that teachers have the knowledge and practical skills to create educational toys from recycled materials, like the educational game models made from used cardboard that have been proven to boost children's creativity and learning achievement (Mawarnisa, 2022). Based on this background, this community service activity is designed to provide direct guidance to the teachers at TK Gang-Gang Laut on how to utilize used materials as educational toys.

## IMPLEMENTATION AND METHODS

This community service activity was carried out at Gang-Gang Laut Kindergarten, located in Apal Village, Liang District, Banggai Islands Regency, with activities taking place from July 22 to July 29, 2026. The series of activities included the field observation stage from July 22–25, 2026, the coordination stage on July 27–28, 2026, and the implementation of mentoring on July 29, 2026.

This activity is carried out by referring to an implementation model that includes the planning stage, the implementation stage, as well as the assessment and evaluation stage (Permata, R. A., & Pelawi, 2024), which is operationally explained as follows:

1. Observation Stage, the service team (students doing community service) directly observed the school environment, the availability of existing learning tools (APE), learning needs, and potential used items that could be utilized around TK Gang-Gang Laut.
2. Coordination and Preparation Stage, the service team (students doing community service) coordinated with the principal and teachers of TK Gang-Gang Laut to agree on the schedule, the types of learning tools to be made, division of tasks, and the tools and materials that each party needs to prepare.
3. 3. Implementation/Assistance Stage, the service team (students doing community service) provides a brief socialization about the concept and principles of PPE safety, followed by hands-on assistance in making PPE from recycled materials directly with the teachers, using training and

demonstration methods (Isnaningsih, A., Nur, I., Hermawan, R., Wahyuning, A., Hambali, H., & Hasanah, 2022).

4. Evaluation Stage, the service team (students doing community service) along with the teacher reflect on the APE work that has been created, reviewing aspects of safety, usefulness, and potential for further development.

The tools and materials used in this mentoring activity include:

- Used items: plastic bottles and used cardboard,
- Supporting/additional tools and materials: origami paper, cardboard paper, markers, hot glue, and raffia string
- Stationery and documentation: office supplies, camera/phone for documenting activities, as well as observation sheets and activity evaluation sheets

## RESULTS AND DISCUSSION

The initial observation was carried out over four days, on July 22 and 23, 2026. During this stage, the volunteer team (students doing community service) observed the available learning play equipment at TK Gang-Gang Laut and found that most of the play tools used were still conventional and had minimal variation. This aligns with findings that most of the play tools used so far were purchased ready-made due to a lack of ideas and creativity from teachers in making learning play equipment from easily found materials (Sakerani, 2023). In addition, the volunteer team also identified the potential of used items in the school surroundings, such as plastic bottles and old cardboard, which could be processed into learning media.



**Figure 1. Observation Activity with the Principal of Gang-Gang Laut Kindergarten**

The coordination stage was carried out on July 27, 2026, with the principal and the teaching staff of Gang-Gang Laut Kindergarten. During this stage, it was

agreed on the type of APE to be made, which are media focused on the development of fine motor skills, language, and cognitive abilities of children. The suitability of the APE type with children's developmental aspects was the main consideration, given that choosing the right APE significantly affects the optimization of language and cognitive aspects of early childhood (Nasirun, M., Suprapti, A., Daryati, M. E., 2021). In addition, the division of tasks between the service team and the teachers in preparing the tools and materials needed for the implementation stage was also agreed upon.

The preparation of tools and materials was carried out on July 28, 2026. At this stage, the service team, together with the teacher, prepared various tools and materials that had been agreed upon beforehand, such as basic materials for making educational play tools (APE), supporting equipment, and other necessary supplies so that the media creation process during the implementation stage could run smoothly. This preparation also included checking that the quantity and condition of the tools and materials matched the needs of the activity, so that during the implementation stage, there would be no obstacles that could hinder the making of the APE



**Figure 2. Coordination of Assistance Activities**

The main activity took place on July 29, 2026, in the form of hands-on guidance for making learning aids (APE) from recycled materials. The activity started with a brief introduction about safety principles, educational value, and aesthetics in creating APE, then continued with direct practice with teachers using tools and materials such as plastic bottles, used cardboard, origami paper, cardstock, markers, hot glue, and raffia rope. The teachers were enthusiastic and actively creative, producing some simple APE, namely, a smart wheel and a color ball. These findings align with similar activities, which showed that training participants became enthusiastic and were able to create APE from recycled materials until the activity ended (Permata, R. A., & Pelawi, 2024).



**Figure 3. The Process of Making APE**




**Figure 4. Results of Assistance in Making Simple Learning Tools (smart wheel and colored ball)**

The mentoring results show that teachers have a better understanding of how to turn used items into safe and educational learning materials. This aligns with the idea that using used items as learning tools can make the learning process easier for young children while also reducing waste around the school (Hayati, K., & Amilia, 2020).

Teachers also showed an increase in creativity in combining colors, shapes, and media functions, which aligns with findings that making educational play equipment from recycled materials can boost teachers' creativity in designing learning media (Soleha, R., Astini, B. N., Astawa, I. M. S., 2022).

Besides the educational benefits, this activity also impacts instilling environmental care values among teachers and students. Using recycled materials to make educational teaching aids is considered effective for fostering environmental awareness and character from an early age (Nurrohmah, 2022). So, the mentoring activity on utilizing recycled materials as teaching aids at TK Gang-Gang Laut not only contributes to developing learning media but also to building sustainable environmental awareness, as also highlighted in the educational game

models made from used cardboard, which can boost children's creativity and learning achievement (Mawarnisa, 2022).

The results of the mentoring activities at Gang-Gang Laut Kindergarten show some similarities as well as differences when compared to similar research and community service conducted previously. In terms of methods, this activity aligns with training on making educational play tools (APE) from used goods for Raudlatul Athfal teachers, which also uses a socialization and hands-on practice approach to reduce waste while improving teachers' skills (Isnaningsih, A., Nur, I., Hermawan, R., Wahyuning, A., Hambali, H., & Hasanah, 2022). The difference lies in the geographical context, where the activities at Gang-Gang Laut Kindergarten are carried out in a coastal island area with used items mostly consisting of plastic bottles and materials from fishermen's activities, unlike the urban context of previous studies where the used items were more diverse and easier to obtain from the market environment.

In terms of children's language development, previous research findings show that using recycled materials as learning tools is effective in improving the language skills of early childhood at PAUD Al Ma'arif, Kedondong District, Pesawaran Regency (Khosiah, 2023). Activities at TK Gang-Gang Laut haven't specifically measured the impact on children's language because the main focus is on improving teachers' skills in making learning tools. So, this could be a recommendation for future research or community service to measure the impact of these tools on children's development more accurately.

Meanwhile, in terms of participants' enthusiasm and involvement, the results of this activity reinforce the finding that training on making learning tools from used materials tends to be met with high enthusiasm from both teachers and prospective educators, as shown in similar training involving early childhood education students, which resulted in various learning tools made from recycled materials (Isnaningsih, A., Nur, I., Hermawan, R., Wahyuning, A., Hambali, H., & Hasanah, 2022). This similar pattern of positive responses suggests that a hands-on mentoring approach is consistently effective across different target groups, whether active teachers in early childhood education centers or prospective educators, meaning this kind of mentoring model is worth replicating in other early childhood education centers with different characteristics and resources.

## CONCLUSION AND RECOMENDATION

The activity of assisting the use of used items as Educational Play Tools (APE) at TK Gang-Gang Laut, which was carried out through observation (July 22–23, 2026), coordination (July 27, 2026), preparation (July 28, 2026), implementation (July 29, 2026), and the final stage, which was evaluation conducted after the assistance, has proven to have a positive impact on teachers in improving their knowledge, skills, and creativity in creating learning media from used items. Teachers have become more capable of identifying the potential of used items in their surroundings and transforming them into APE that are safe, educational, and economical. Besides the pedagogical benefits, this activity also fosters awareness of the importance of waste management and environmental conservation in the school environment. A similar mentoring program is recommended to continue

being developed and expanded in other early childhood education units, especially those facing limited learning facilities, as an ongoing effort to improve the quality of early childhood learning.

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