

## LEARNING INNOVATION THROUGH MAKING HANDICRAFTS FROM WASTE IN TRAINING PSYCHOMOTORIC SKILLS OF PRIMARY SCHOOL STUDENTS

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### ABSTRAK

Peran sumber daya manusia (SDM) sangat penting dalam proses pembangunan sebuah negara, SDM yang berkualitas dan unggul ini menjadi syarat utama yang harus dimiliki sebuah negara. Sehingga perlu adanya peningkatan kualitas sumber daya manusia (SDM) yang dapat dilakukan sejak dini salah satunya usia sekolah dasar. Tujuan penelitian ini untuk menjelaskan yakni inovasi pembelajaran melalui pembuatan kerajinan tangan dari limbah dalam melatih keterampilan psikomotorik siswa sekolah dasar. Jenis penelitian ini menggunakan studi literatur (*library research*), dengan pendekatan kualitatif deskriptif. Sumber data didapat melalui jelajah literature dari artikel jurnal, buku dan karya ilmiah lainnya. Kemudian dianalisis menggunakan tiga teknik yakni reduksi data, penyajian data, dan menarik kesimpulan. Hasil penelitian menjelaskan bahwa pembuatan kerajinan dari limbah ini dapat dilakukan oleh siswa dalam proses pembelajaran sebagai wujud inovasi pembelajaran yang dilakukan oleh guru. Ada beberapa limbah yang dapat digunakan oleh siswa sekolah dasar untuk menjadi bahan kerajinan tangan diantaranya limbah cangkang telur, limbah kertas, limbah kain flanel, limbah plastik dan limbah kain perca. Limbah-limbah tersebut tentunya dapat dibuat oleh siswa sekolah dasar menjadi berbagai macam jenis kerajinan tangan melalui langkah-langkah pembuatan yang dimasukkan dalam proses pembelajaran. Salah satu manfaat adanya kegiatan membuat kerajinan tangan pada proses pembelajaran siswa sekolah dasar adalah melatih psikomotorik siswa. Kemampuan psikomotorik akan terus berkembang jika sering dipraktikkan. Pembuatan kerajinan tangan dari limbah yang dilakukan oleh siswa sekolah dasar merupakan tahap paling tinggi dari keterampilan psikomotorik yakni penciptaan, artinya kemampuan untuk menciptakan atau memodifikasi sesuatu sehingga dapat menghasilkan hal baru dengan memaksimalkan kreativitasnya.

**Kata kunci** : Kerajinan Tangan, Limbah, Psikomotorik Siswa SD

### ABSTRACT

*The role of human resources (HR) is very important in the development process of a country. Quality and superior human resources are the main requirements that a country must have. So there is a need to*

*improve the quality of human resources (HR), which can be done from an early age, one of which is elementary school age. The aim of this research is to explain learning innovation through making handicrafts from waste in training elementary school students' psychomotor skills. This type of research uses a literature study (library research) with a descriptive-qualitative approach. Data sources were obtained by exploring the literature in journal articles, books, and other scientific works. Then it was analyzed using three techniques, namely data reduction, data presentation, and drawing conclusions. The results of the research explain that making crafts from waste can be done by students in the learning process as a form of learning innovation carried out by teachers. There are several wastes that can be used by elementary school students to make handicraft materials, including egg shell waste, paper waste, flannel waste, plastic waste, and patchwork waste. Of course, elementary school students can make these wastes into various types of handicrafts through the manufacturing steps included in the learning process. One of the benefits of having handicraft-making activities in the learning process of elementary school students is training students' psychomotor skills. Psychomotor abilities will continue to develop if they are practiced frequently. Making handicrafts from waste carried out by elementary school students is the highest stage of psychomotor skills, namely creation, meaning the ability to create or modify something so that they can produce new things by maximizing their creativity.*

**Keywords:** *Handicrafts, Waste, Psychomotorics of Elementary School Students*

## INTRODUCTION

Human resources (HR) have a very important role in the development process of a country. To become a developed country, of course, it must have quality and superior human resources (Astrama et al., 2024). This, of course, requires improving the quality of human resources (HR), which can be done from an early age, so that the quality of human resources that is improved from an early age needs to be considered and reviewed to become a quality, advanced, and more prosperous country in the future. Increasing the creativity and quality of human resources can start with basic education, namely elementary school (SD) or equivalent (Nurhayati et al., 2024). However, in the field, many elementary school students complain about the lack of space available to hone and maximize the creativity possessed by elementary school students. Especially considering that schools have limited learning during school hours and there is a lack of training in the learning process

for elementary school children, this is a problem that occurs in the current learning process in improving student creativity and quality (Uspitasari et al., 2022).

The rapid development of technology that is occurring rapidly in various fields, especially in the field of education, is also an influence that is a challenge in increasing the creativity and quality of human resources at the elementary school level. Moreover, when students are at home, they have the freedom to use cellphones, and this use is often misused by students, which will have a negative impact on them. One of these abuses is addiction to playing online games, so that schoolwork is forgotten (Abidah, 2023). Then students also become less interested in socializing, and this results in students' creativity not being able to be maximized (Darwin, 2023). Seeing this now, in the era of technology 5.0, online games have become part of the lifestyle that must be carried out by elementary school students, so things like this are the impact of the rapid development of technology and habits that develop in society (Nasution et al., 2022). Apart from that, the impact of excessive use of cell phones can cause children's fine motor development to be hampered, especially for elementary school students. where children aged between 6 and 12 years can usually do activities such as coloring, writing, sticking, and drawing, as well as other activities (Ghofururrohim et al., 2023).

Seeing the conditions of the problems described above, of course, improvements and prevention must be carried out so that the learning process carried out can train students' skills in improving the creativity and quality of human resources at the elementary school level and the negative impact of the rapid development of technology. Improvements and prevention carried out can be in the form of learning innovations implemented by teachers in the teaching and learning process, considering that this is very important in the increasingly advanced conditions of development and increasingly sophisticated technology. Learning innovations can be carried out by teachers in various ways, including the learning models and media applied and the activities carried out in the learning process. One of the activities carried out by teachers as a learning innovation is making handicrafts from waste in the learning process (Maddukelleng et al., 2023).

Afrida Laily Alindra et al., in their research published in a journal article with the title Learning innovations in elementary schools: an observational review

of creativity and implementation of the independent curriculum at Pupuk Kujang Elementary School, explained that a number of innovations had been carried out by Pupuk Kujang Elementary School, including literacy weeks, engineering projects, technology, and planting days. Extracurricular activities include robotics, coding, sports, the arts, and tahfidz. These activities have a positive effect on developing students' various skills and increasing their productivity in the classroom. Students are encouraged to use their skills in real-world situations (Alindra et al., 2023). Halimatu Sadiyah et al., in their research entitled Assistance in Making Handicrafts in an effort to increase the creativity of early childhood in the Wagir Hamlet environment, stated that (1) When taught handicraft skills, students did it very enthusiastically and responded well. (2) Students and children will get great benefits from implementing this community service program, enabling them to carry it out in Wagir Hamlet, Gantar Village (Halimatu Sadiyah et al., 2022).

Furthermore, Luvdiantri Non Tarisa et al., in their research entitled Increasing elementary school students' creativity through handicraft projects in P5 activities of the Merdeka Curriculum, explained that students' creativity increased by 20% during the first cycle of learning before implementation and by 80% during the implementation of cycle II. Based on the results of students' handicrafts, it can be concluded that this initiative was successful in increasing students' creativity. Apart from having economic value, the resulting work can be used as original decoration. Because the tools and materials for this project are made from used items that are often found around the house or in the community, this can also be used to show concern for the environment. The product is decorated using materials that can be obtained at the nearest shop. Carrying out handicraft projects will foster creativity and make use of household waste (Non Tarisa et al., 2024). The three studies described above focus on learning innovation in craft-making activities to increase creativity. Meanwhile, the research carried out by this researcher focuses on examining learning innovations through making handicrafts from waste in training students' skills by looking at various types of handicrafts from waste that can be made by elementary school students, the process of making handicrafts from waste in elementary school learning, and training elementary school students' psychomotor skills in learning through making handicrafts from waste.

Learning through the activity of making handicrafts from waste is an innovative form of learning process that is expected to train students' psychomotor skills because making handicrafts from waste means students practice directly in the process of making them (Mulyadi et al., 2024). The psychomotor development of elementary school students is interpreted as physical activity related to mental and psychological processes. Actions and skills relate to psychomotor processes (Istati, 2016). Students can make handicrafts from waste in the form of handicrafts made from the remains of unused items, such as flower pots from unused gallon materials, pencil holders, piggy banks from used materials, and other crafts. It is hoped that students' training in psychomotor skills will be a provision for life in the future so that they can take advantage of the rapid development of technology and avoid negative impacts.

Therefore, based on the background above, the researcher intends to examine and explain his research, namely, learning innovation through making handicrafts from waste in training elementary school students' psychomotor skills.

## **METHOD**

Researchers in this study used a literature study type of research (library research) and a qualitative descriptive approach to explain that one learning model that can train elementary school students' psychomotor skills is learning by making handicrafts from waste. All the data in this research was collected from relevant literature, such as books, scientific articles, and other sources. After the data was collected, the researcher carried out data analysis. There are three stages to analyzing this data: data reduction, data presentation, and drawing conclusions. The data reduction process involves selecting and processing information to facilitate data presentation. The next stage is presenting the data that has been obtained and reduced before presenting it in story form. Next, the final step is to draw conclusions from the data that has been presented. This conclusion is also called the researcher's argument.

## **RESULT AND DISCUSSION**

### **Various Kinds of Handicrafts From Waste That Can Be Made By Elementary School Students**

A variety of types of handicrafts made from waste have aesthetic and economic value and can be used as learning resources for elementary school students. Some handicrafts made from waste that can be made by elementary school students include the following: First, egg shell waste. This waste is the outer part of the egg shell, which has a hard texture. This waste can be used to make works or crafts that have benefits and high selling value (Hamka et al., 2023). The advantage of this eggshell waste is that it is resistant to fire, termites, pests, weather changes, and sunlight. Many crafts or fine arts can be produced from eggshell waste, which can be made by elementary school students, some of which are: a) Doll Crafts; b) Calligraphy Craft; c) Painting; d) Frame/Pigora; e) Flower Vase; f) Candle Holder; g) Animal Shape; h) Decorating Used Bottles; i) Mosaic; j) Decorative Lights; k) Mini Speakers; l) Greeting Cards; and others (Akbar et al., 2021).

Second, waste paper, Paper is a medium or tool used to express creative ideas in the form of scribbles, writing, or drawings. Meanwhile, paper waste is the remains of unused paper. This paper waste is very easy to find and is even very close to students' lives because paper is one of the media that students must have in the learning process. Even though paper has become a waste, students can still use it to make crafts or other works that are more interesting and add value (In Wariin Basyari et al., 2022). The advantages of this paper waste include that it is environmentally friendly, easy to recycle, easy to obtain, light, and easy to shape (Nairfana et al., 2023). Many crafts or works that can be produced from waste paper include: a) photo frames; b) frames for mirrors; c) night lights; d) flower pots; e) tote bags; f) paper jars and vases; g) storage baskets and trash cans; h) wall decoration; i) pigora; j) tissue boxes; k) flower replicas; l) wall clock replicas; m) miniature objects; and others.

Third, flannel fabric waste: flannel fabric is a type of fabric made from wool fiber whose manufacturing process is not woven but through a heating and evaporation process to produce fabric that has a diversity of textures and types. This flannel fabric has the advantages of being easy to shape, when cut, the fabric fibers don't bleed, are easy to find, bright colors,, and a smooth texture. There are many kinds of handicraft arts that can be made by elementary school students from flannel waste. The following are several types of crafts that can be made from flannel as

basic materials, including: a) pencil cases; b) flower-shaped pillow decoration; c) keychain; d) laptop bag; e) bookmark; f) women's accessories (hairpins or brooches); g) tablecloth; h) key chain; and others.

Fourth, plastic waste is a general term for polymers, namely materials consisting of long chains of carbon and other elements (oxygen, nitrogen, chlorine, or sulfur). Meanwhile, plastic waste is the remains of waste in the form of plastic resulting from a production process, both industrial and domestic (household, better known as trash), whose presence at a certain time and place is undesirable for the environment because it has no economic value. . So that plastic waste continues to have economic value and reduces plastic waste pollution, which is harmful to the environment, it is necessary to recycle the waste into more useful items or use it as arts and crafts skills. Plastic has advantages for making crafts, including being long-lasting, not easily damaged, flexible and easy to shape, light and easy to store, resistant to hot and cold weather, can be printed with ink, and is easy to obtain (Hasan Syaiful Rizal & M. Mustofa, 2022). There are many kinds of handicrafts that elementary school students can make using plastic waste, including the following: a) Hanging Plant Pot; b) Pencil Case; c) Piggy Bank; d) Decorative Flowers; e) Recycle Bin; f) Fruit Basket; g) Bag; h) Flower Basket; i) Trash cans, and others.

Fifth, patchwork waste: patchwork is fabric that is obtained from the remainder of large fabric cuttings in the process of making clothes, crafts, and various other textile products. Even though this leftover cloth is a cloth that has no use, it can actually be used to make a useful craft product (Gunawan et al., 2019). The advantages of patchwork itself for use as a material for making crafts include that it is easy to obtain, can be used as a business opportunity, has diverse motifs, is unique, and is long-lasting. Some crafts that can be made by school students in the learning process through the use of rag waste are as follows: a) Masks; b) Keychain; c) Bag; d) Wall Decoration; e) Funds; f) Doormat; g) Wallet; h) Book Cover; i) Apron; j) Tablecloth; and others (Zahrotulmuna et al., 2024).

### **The Process of Making Handicrafts from Waste in Elementary School Learning**

Making handicrafts from waste certainly has steps in the making process. Researchers in this study explain the steps in the process of making one craft from each piece of waste. First, eggshell waste can be used and made into collage calligraphy crafts. The tools and materials needed for this activity are egg shells, cardboard as a base for attaching the egg shells, adhesive material in the form of glue, and husks to make frames on cardboard. In the first stage, students make a sketch or calligraphy using a pencil on cardboard, then stick the egg shell that has been slightly crushed on cardboard by following the calligraphy pattern that has been made by the student. At this stage, students train their psychomotor skills, beauty, and flexibility when working on it. so that it gives an artistic impression, then to make the calligraphy more beautiful, students make a frame on cardboard by arranging the husks and attaching them to each side of the cardboard to form the desired frame (Kurniawan & Saaduddin, 2023).

Second, the activity of making and utilizing waste paper into works of art in the form of decorations in the form of miniature buildings. Making this work requires several tools and materials, namely: unused paper, wood glue, scissors, plywood boards, and pilox paint. The activity begins by making a square base from plywood, then continues with the stage of making a miniature building. In the first stage, students determine the shape they will make, then roll the paper from end to end and apply wood glue to the end of the paper. When rolling, students have to focus and press the roll a little so that the result is neat and dense, then they can arrange and stick the roll to form an object. desired, then apply wood glue between the paper rolls and dry in the sun so that the miniature is sturdy, and the final stage is to decorate by adding color to the miniature using pilox paint (Widiyono et al., 2022).

Third, crafts from flannel that can be made by elementary school students are tissue holders. To make this craft, there are several tools and materials needed, namely a medium-sized shoe box, whose size can be adjusted to the design you want to make, scissors, a ruler, white glue, a cutter, and a and a marker. The steps for making it are to make a rectangular or oval image right in the middle of the cardboard lid; this image will be the right hole for the tissue to come out of. Then cut using a cutter. Next, measure the shoe box using a ruler, then cut the flannel to

line all parts of the shoe box according to the size of the shoe box. The choice of flannel fabric color can be adjusted to your taste and the design you want to make. Cover the entire outside of the shoe box with white glue. Attach the flannel cloth to the shoe box that has been smeared with glue carefully and precisely. Make a hole in the middle of the flannel cloth to take the tissue. After all the outside of the shoe box is covered with flannel cloth, students can decorate the tissue box using flannel cloth shaped into flowers, animals, or food according to their' creativity (Amali dan Mahmud 2019).

Fourth, one of the crafts made from plastic waste that can be made by elementary school students is a piggy bank in the shape of an owl and an airplane. The tools and materials needed to make this work are bottles, cutters or scissors, cardboard or Manila paper, paper glue, acrylic paint or spray paint, and brushes. Steps to make a piggy bank from used bottles, namely: 1) Students clean the prepared used bottles. 2) Determine the size of the piggy bank and the desired shape, then cut it. 3) Mark the location of the hole where you can put the money. 4) Decorate the piggy bank using various forms of paper decorations. manila, then stick it to the bottle, then color the bottle using acrylic paint or spray paint (Yuli Apriati, 2023).

Fifth, patchwork waste can be made into key chains. In making this craft, students must prepare several tools and materials, namely: patchwork, key chains, glue gun, thread, scissors, needle, paper, and compass. How to make this craft starts by making a circle pattern with a diameter of 6 cm using a compass, then folding the fabric twice to form a quarter circle, then students sew the curved part and pull it, make 5 petals, then put each petal together to form a flower, close the front and behind the hole in the flower with a circle of patchwork, and then students make a hole in one of the petals as a place to attach the key chain (Yuli Apriati, 2023).

### **Training Elementary School Students' Psychomotor Skills in Learning Through Making Handicrafts from Waste**

One of the benefits of making handicrafts for elementary school students is that it trains students' psychomotor skills. Psychomotor skills are activities or movements that coordinate physical, motor, and physical abilities (Firdaus dan Fahrizqi 2023). Psychomotor abilities will continue to develop if they are practiced

frequently. So by practicing making handicrafts, you can develop students' psychomotor abilities.

Psychomotor abilities consist of several categories, namely the lowest stage, imitation, namely the child's ability to imitate or repeat previously observed movements. Readiness category, namely the child's ability to carry out a movement in accordance with orders or stimuli given by other people. The next category, imitation, is the performance of a series of complex movements that are practiced continuously. The mechanism category is a habit or movement that is carried out independently with certain confidence and precision. The next category is responses that appear complex, motor movements that show skills, and complex movements that have been coordinated. The sixth category, in the form of adaptation, is that children are able to modify and use their skills in a variety of different situations. The highest stage is creation, meaning the ability to create or modify something so that it can produce new things by maximizing one's creativity. Handicraft-making activities can be categorized in the highest psychomotor stage, namely creation, because in this activity, students change used or waste items into new items that have aesthetic value and require high creativity in making them. (Winingsih, Hariyanti, dan Sari 2020).

Handicraft-making activities for elementary school students are activities that train students' fine motor skills because they involve small muscles and coordination between eyes and hands. Good motor skills in students can improve student learning outcomes (Pratama & Santoso, 2020), and student learning motivation (Ismail, 2021), Apart from that, according to research conducted by Erlina, fine motor stimulation can increase children's concentration power (Astuti, Wahyuningsri, dan Warastuti 2014).

According to Hurlock in the book by Fitri Ayu Fatmawati, there are 4 functions of psychomotor or motor skills, namely: a) self-help skills, namely children must master motor skills that can help children carry out all basic activities independently, for example, eating, and take care of themselves. b) social support skills: with good psychomotor skills, students or children can adapt to all social environments, including family, school, and society. c) playing skills: with good psychomotor skills, children can play, entertain, and mingle with peers. d) school

skills: good psychomotor skills will lead to good social adjustment, so school performance will be better (Fitri Ayu Fatmawati, 2020).

## CONCLUSION

Based on the results and discussion above, the researcher concluded that waste from various items that are no longer used can be used to make handicrafts that have more value and can reduce waste pollution in the environment. Students can make crafts from waste in the learning process as a form of learning innovation carried out by teachers. So that the learning process activity of making handicrafts from waste can increase students' motivation and make them more enthusiastic about participating in learning activities. There are several wastes that can be used by elementary school students to make handicraft materials, including egg shell waste, paper waste, flannel waste, plastic waste, and patchwork waste. Elementary school students can, of course, turn these wastes into various types of handicrafts, such as: a) collage calligraphy; b) decoration in the form of miniature buildings; c) tissue holders; d) piggy banks in the shape of an owl and a plane; and e) key chains. In making handicrafts from waste, of course, there are steps that can be included in the learning process in elementary schools. One of the benefits of having handicraft-making activities in the learning process of elementary school students is training students' psychomotor skills. Psychomotor abilities will continue to develop if they are practiced frequently. So by practicing making handicrafts, you can develop students' psychomotor abilities. Making handicrafts from waste carried out by elementary school students is the highest stage of psychomotor skills, namely creation, meaning the ability to create or modify something so that they can produce new things by maximizing their creativity.

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