E-ISSN: 2502-3519 P-ISSN: 2798-3234
JGA, Vol. 9 (1), Maret 2024 (95-103)
DOI: https://doi.org/10.14421/jga.2024.91-09

Golden Age
Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini

OPEN ACCESS

Utilization of Corn Waste: A Learning Media Based on Madurese Local Wisdom to Stimulate Children's Symbolic Thinking

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Keywords:
Corn Waste, Learning Media, Symbolic Thinking Skills, Early Childhood

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Received 29 02 2024
Revised 25 03 2024
Accepted 27 03 2024
Published Online First

Check for updates

Abstract
The utilization of corn waste in education, particularly in early childhood education, offers various benefits, including the development of learning media. This study aims to analyze the use of corn waste in stimulating symbolic thinking skills in children aged 5-6 years. The research employs a qualitative method with a case study approach. The subjects include children from group B and educators at TK Muslimat NU Siti Fatimah Bangkalan. Data collection techniques encompass passive participant observation, semi-structured interviews, and documentation. Data analysis follows the model developed by Miles and Huberman. The results indicate that symbolic thinking skills can be stimulated using magazines, posters, and educational toys. Additionally, corn waste media also stimulate children's symbolic thinking skills by utilizing corn kernels, husks, and cobs. This study provides an alternative child-friendly medium by leveraging natural resources such as corn to stimulate symbolic thinking in early childhood. Therefore, this research aids educators in developing affordable and environmentally friendly learning media. The use of corn waste not only offers a creative solution in learning but also supports environmental conservation efforts through the use of readily available natural materials. Using corn kernels, husks, and cobs as learning media demonstrates that materials often considered waste can have significant value in the educational context. Consequently, it is crucial for educators to continuously seek and develop innovative and sustainable learning media, harnessing the potential of local resources available in their surroundings.

To cite: Adhani, D. N., Fitri, F., Nazarullail, F., & Latif, M. A. (2024). Utilization of Corn Waste: A Learning Media Based on Madurese Local Wisdom to Stimulate Children's Symbolic Thinking. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini, 9*(1), 95-103. https://doi.org/10.14421/jga.2024.91-09

Introduction
Learning media is a significant element in the learning process. Media is used as an alternative method or supporting tool by educators to deliver material or instruction to students (Zaini & Dewi, 2017). Learning media is crucial in facilitating teaching and learning activities in schools, especially for early childhood students. At this stage, children have not yet developed the ability to think abstractly. They learn through tangible examples or concrete objects and forms (Bodedarsyah & Yulianti, 2019). This approach helps children understand the meaning of what is conveyed by the educator more easily (Shafura & Adhani, 2022).

Various types of learning media are available, including visual, audio, and materials derived from natural resources or the surrounding environment (Palmin & Woda, 2023). Nowadays, many learning media are made from materials such as wood, plastic, or paper in the form of images or posters, which can be considered modern or contemporary media (Rusydiyah, 2020). However, it is rare to find learning media made from natural materials or waste from unused items, such as plant waste. When available, such media are still uncommon. Waste is often viewed merely as trash or useless items that do not provide any benefit. However, this perspective changes in the hands of creative and artistic individuals. Waste, typically discarded

and deemed worthless, can be repurposed into items that reduce environmental pollution and become useful objects (Marliani, 2015).

One alternative for processing waste is to utilize it by creating new, beneficial objects, particularly in the field of education, especially early childhood education (F. L. Ariyanto & Yuniar, 2020). Natural waste from the surrounding environment can be used as a medium to provide meaningful learning experiences for children, particularly through learning media (Syukur & Fallo, 2019).

Jiwaningrum & Suryono (2014) stated that direct experience leaves a profound impression involving various senses. The use of media based on the natural environment facilitates children's learning processes (Adhani & Nazarullail, 2020). This is because learning through direct experience allows children to better grasp the concepts being taught. Learning media play a crucial role, as they enhance the effectiveness of the teaching process (Guslinda & Kurnia, 2018)

Learning activities that reference the natural environment help children explore their surroundings as a learning tool, stimulating the development of early childhood (Arini & Fajarwati, 2020). When using natural-based learning media, educators are expected to have adequate knowledge of how to process and use these media, ensuring they can be utilized optimally (Faidin et al., 2022). Early childhood educators, in particular, must possess supportive skills and creativity. They are required to continually innovate by observing current developments (Suryana, 2021). Educators must think creatively in developing media, including natural materials such as corn plant waste (F. L. T. Ariyanto & Nazarullail, 2022).

Madura Island is known for its unique traditions and culture (Adhani & Nazarullail, 2020). Particularly in the Bangkalan area, in addition to being known for its sea salt, the region is also famous for its agricultural products, especially corn (Nur & Nuraini, 2011). Despite this, not many people are aware that Madura is a significant producer of corn. It is undeniable that the large harvests of corn also produce substantial waste. According to Sumadi et al. (2023) only 5% of corn plants are processed and utilized as food, with the remainder being waste or unused byproducts. This presents an opportunity to innovate and create something more beneficial, particularly in the field of education.

The utilization of corn waste in education, especially early childhood education, is highly diverse, including the development of learning media. As it stands, most learning media are modern and far from being considered waste materials. Therefore, early childhood educators are expected to have the skills and creativity to create or develop learning media, particularly those made from corn plant waste. Besides enhancing children's knowledge, this also serves to introduce regional advantages to the children, fostering a greater appreciation for their local area's uniqueness (Priyono et al., 2021).

According to Wahyuni et al. (2021) corn waste includes the stems, leaves, cobs, and husks of the corn plant. Paramita's research on the application of non-woven techniques to corn husks, cited by Wahyuni et al. (2021) indicates that corn husk waste can be utilized to create products, thereby adding value to the husks. Listiani and Kurniawati (2024) suggest that corn agricultural waste has the potential to be transformed into various creative products for children in the teaching and learning process. Seven types of learning media can be made from corn husks, including mosaics, collages, brooches, photo frames, wall decorations, dried flowers, and various other modern handicrafts that foster student creativity. Learning activities that incorporate engaging learning media, such as creating crafts using dried corn husks (Zea Mays), attract children's attention and interest. These materials are easily accessible, environmentally friendly, and close to the children's environment. Additionally, corn husks have a unique texture and can be colored in various hues, making them more appealing (Husnaini & Yaswinda, 2022).

Learning media are also considered crucial for developing children's growth (Rohaeni et al., 2021). Appropriate encouragement is needed to help children grow optimally (Pratiwi et al., 2018). In early childhood education, several developmental aspects need to be nurtured in each child. Among these aspects is cognitive ability, which relates to thinking skills, intelligence, and

a child's level of knowledge and understanding (Marinda, 2020). One of the abilities within cognitive development is symbolic thinking. This basic skill helps children recognize symbolic concepts, such as numbers or letters (Kania & Yusuf, 2023). Teaching this skill early on is essential as it prepares them for future educational stages.

Enhancing symbolic thinking skills is closely linked to media that introduce numbers and letter symbols (Suryana, 2022). One way to facilitate this introduction is through learning media made from corn waste. Corn waste is chosen because corn is a significant natural resource in Bangkalan, Madura. Given this context, the researcher aims to analyze the utilization of corn waste, specifically husks and cobs, as learning media to stimulate symbolic thinking skills in early childhood in Bangkalan Regency.

Methods

This study employs a qualitative research approach with a case study design. A case study approach is defined as research that systematically and directionally explains and describes the subject being studied (Yin, 2008). The subjects of this study consist of children and educators from Group B at TK Muslimat NU Siti Fatimah Bangkalan. The stages of this research include preparation, data collection, data analysis, and finally, reporting (Prastowo, 2011). Data collection techniques involve passive participant observation, semi-structured interviews, and documentation.

The observation in this study focuses on various events related to local wisdom-based media that stimulate children's symbolic thinking. The interviews aim to gather data on the utilization of waste as local wisdom-based media, following pre-prepared interview guidelines. Documentation involves photographing events related to the use of corn waste and instances of children's symbolic thinking. Data analysis uses the interactive model by Miles and Huberman. Activities in qualitative data analysis are conducted interactively and continuously until saturation is achieved (Milles & Huberman, 2007).

Result

3.1. Learning Media in Stimulating Children's Symbolic Thinking Skills

Based on observations conducted at TK Muslimat NU Siti Fatimah, it was found that the learning media used included corn waste materials. Informants indicated that the learning media used to stimulate children's symbolic thinking skills comprised simple materials like corn waste available at the institution. Additionally, they utilized magazines, images or posters, and educational visual aids. Magazines or children's workbooks (LKA) were considered practical because the material was already available at the school, so teachers only needed to explain to the children, who then followed the instructions in the book. Below is an excerpt from an interview revealing that teachers use magazines or children's workbooks in the teaching process:

> "...for learning at this school, the media available are limited, so we use what we have, like magazines or what we call LKA, as well as pictures and posters. We use magazines because the materials are already there, so the teacher doesn't have to create activities or media; we just use the LKA. The contents are complete, so we just need to convey the material according to the LKA."

The development of symbolic thinking skills is also introduced through image media, especially images displayed on classroom walls. These images include number trees and alphabet letters from A to Z. Various educational toys are also used in the school, such as blocks with numbers from 1 to 10 and blocks with alphabet letters from A to Z, as well as reading and counting boards.

doi: *https://doi.org/10.14421/jga.2024.91-09*

Another form of media used by educators at TK Muslimat NU Siti Fatimah to stimulate children's symbolic thinking skills, as mentioned by Mrs. SM, a B1 class teacher, includes digital media like LCD projectors. Through this media, children are shown songs and videos that introduce numbers and letters. This activity is conducted collectively, gathering children in one room to watch videos that teach numbers and letters through movement and song. Additionally, a chalkboard is used where the teacher directly teaches children to recognize letters by spelling or reading together, not individually. For example, with the word "Saturday," the teacher introduces the letters in the word "Saturday." The following interview excerpt explains that teachers also use digital media to stimulate children's symbolic thinking skills:

> "...here, besides using tangible media directly, we also mix in digital media. It's the technology era, so we introduce children to IT using LCD projectors to teach numbers and letters through singing and movement. But it's not per class because we have limited equipment and it's not regular, just to keep it interesting. The children are gathered in one room to watch videos together. We also use the chalkboard; every school has one, so we use it for learning to write numbers and letters."

The stimulation provided by educators at TK Muslimat NU Siti Fatimah to enhance children's symbolic thinking skills is not only through visual and digital learning media but also through play activities. It is well known that early childhood revolves around play, so it is appropriate to package learning in the form of enjoyable games. As mentioned by the research informant, besides using learning media, the institution also implements learning through play. One such activity is ball games, where children are asked to count the number of balls and name their colors while moving them. Another activity is bowling, where children throw a large ball and count the number of pins knocked down. A simpler example is playing with friends, where before playing, the teacher takes attendance and asks the children to count in sequence according to the number of students. These simple activities naturally enhance children's ability to recognize numbers and count. Below is an explanation and description of play activities aimed at stimulating children's thinking skills at school:

> "...in teaching children, we know that their world is play, so we conceptualize learning with the concept of learning through play. The games are also aligned with the theme, making them coherent. For example, when children play with balls, they are asked to count the balls and name their colors. These are simple things, but they make the children happy. Sometimes we also play bowling or use natural materials like pebbles, and the children can count those items."

Each educator at TK Muslimat NU Siti Fatimah has their own method of introducing numerical and alphabetical symbols to children. For instance, Mrs. LL teaches number and letter recognition through analogies or terms. If the teacher wants to introduce the letter B, she might say, "Stand sideways and stick your stomach out, then stand straight and make your belly round like the letter B." This simple method helps children recognize letters. On the other hand, Mrs. SM tends to use more tangible media and pictures to introduce numbers and letters. For example, to teach numbers, she might ask children to count items around them, such as pencils, or use real objects like apples placed in front of the children. These various methods ensure that children at TK Muslimat NU Siti Fatimah are engaged in learning numbers and letters through interactive and enjoyable activities.

3.2. Corn Waste-Based Learning Media to Stimulate Symbolic Thinking

Regarding the utilization of corn waste as learning media, Mrs. LL explained that the corn-related learning media primarily use corn kernels. These kernels are used by students to create collages or mosaics, as shown in Figure 1. Most of the natural waste activities conducted by Mrs. LL do not involve corn plants but rather other natural materials available around the school, such as

cassava leaves, mango leaves, jackfruit leaves, and banana stems. Below is an excerpt from the interview about the use of natural waste materials:

> "...learning media made from natural materials related to corn usually only use the kernels. For example, corn kernels are used to make collages or mosaics. At this institution, it's not really corn, but mostly materials that are easy to use, like cassava leaves, mango leaves, jackfruit leaves, and banana stems. Basically, things that are nearby and easy to find, so it's not difficult to get the materials.

Figure 1. Corn Kernel Collage

Similarly to what Mrs. SM does, she explained that the use of corn is not limited to the kernels for collages. Mrs. S also introduces children to the corn plant by having them plant corn using recycled bottles. Additionally, she uses pictures to show the different parts of the corn plant.

> "...for corn, we usually use the kernels to make collages. To introduce corn to the children, we have them plant corn and show them the different parts of the plant. Once, we even had the children plant corn in the front yard and watch it grow."

Mrs. S mentioned that the corn silk is used as hair decorations for dolls. She emphasized that the use of corn waste is primarily for decorative purposes. This is supported by her interview, where she explained that corn husks can be used to make flowers or teach children creativity.

Discussion

As evidenced by the findings, the learning media used by educators at TK Muslimat NU Siti Fatimah to stimulate the development of children's symbolic thinking skills are highly varied. These media include magazines, blocks, reading and counting boards, number and letter images, digital media, chalkboards, and play-based learning activities.

The stimulation of symbolic thinking skills through magazines involves teachers instructing children to follow directions given in the magazines. For example, counting the number of objects shown in pictures, matching number symbols with the correct number of items, tracing words and then reading them, and other similar activities. In contrast, the stimulation using educational block media involves geometric blocks labeled with numbers and letters. Children not only learn to recognize these numbers and letters but also to match geometric shapes to the corresponding number of holes, thus honing their counting skills.

Reading and counting boards introduce children to basic reading and counting from 1 to 5, featuring simple addition concepts through images of objects, fruits, or animals. Images and posters are also used to stimulate symbolic thinking skills. These include number trees and alphabet posters from A to Z, which are mostly displayed on classroom walls or framed, ensuring children can see them constantly. In addition to concrete media, the institution also uses digital

media, such as LCD projectors, to stimulate children's symbolic thinking skills. Engaging play-based learning activities are also conducted to stimulate symbolic thinking, often involving outdoor learning sessions.

Utilizing media made from natural waste, particularly from corn plants, has been implemented at TK Muslimat NU Siti Fatimah. However, the use of these materials is not yet comprehensive in utilizing all parts of the corn plant. The parts of the corn plant used as media in the learning process include corn seeds and corn silk. As previously mentioned, corn seeds are used only in fine motor skill development activities through collage projects. In developing symbolic thinking skills, corn waste has not been utilized. Further investigation into the use of corn husks and cobs as media for stimulating children's symbolic thinking abilities yielded similar results. The use of natural materials in learning media has proven beneficial not only for stimulating student development but also for providing economic benefits for teachers and ecological benefits for the environment. According to research by F. L. Ariyanto & Siswoyo (2020) utilizing waste in learning media can teach about environmental cleanliness. Items that previously had no use, when given the right touch, can become useful, such as being used as learning media (Putri et al., 2022).

The components of a corn plant include the corn husk, corn silk, corn kernels, and the corn cob. Generally, schools only utilize corn kernels to stimulate various aspects of children's development, such as fine motor skills and cognitive abilities (Lestariningrum, 2015). The use of corn kernels in learning activities has become a common practice among educators in utilizing seeds as learning media. However, other components of the corn plant can also support children's growth and development by utilizing what is often considered corn plant waste. Research findings (Shafura & Adhani, 2022) ndicate that corn silk can also be used as a medium to enhance children's numerical recognition abilities. Another study explains that the corn husk, often referred to as "klobot," can assist educators in stimulating children's motor development (Nurtanti et al., 2023).

Besides being viewed merely as waste, corn cobs also have ecological benefits if used appropriately. For instance, they can be used to create wire games, as demonstrated in a study by F. L. T. Ariyanto & Nazarullail (2022). Utilizing corn cobs as educational media can also serve as an alternative to reduce environmental pollution caused by burning corn cobs as kitchen fuel.

Based on research conducted to gather information from schools about the use of corn-based media, it was found that corn kernels are commonly used to stimulate children's fine motor and cognitive skills. Additionally, other components of the corn plant can serve as eco-friendly learning media and help teachers utilize waste as educational materials (F. L. Ariyanto & Yuniar, 2020).

Conclusion

Symbolic thinking skills in young children can be stimulated by various media, including magazines, educational toys, stickers, play activities, and real objects in their surroundings. Learning media made from corn waste components, such as seeds, husks, and cobs, are also effective in stimulating children's symbolic thinking skills. These findings suggest that future research should explore using corn waste as a basic medium to stimulate other, more complex developmental aspects. Additionally, using waste materials not only fosters creativity in educators and children but also supports environmental conservation efforts through the use of readily available natural materials. Therefore, it is important to continue developing innovative and sustainable learning media by utilizing the potential of locally available resources. This research demonstrates that materials often considered waste can have significant added value in an educational context, and the use of corn waste can be an eco-friendly and affordable alternative for early childhood education.

References

Adhani, D. N., & Nazarullail, F. (2020). The Implementation of traditional games based on nature in RA (Raudatul Athfal) in Bangkalan Madura. *Jurnal Golden Age*, *4*(2), 369–378. https://e-journal.hamzanwadi.ac.id/index.php/jga/article/view/2625

Arini, I., & Fajarwati, A. (2020). Media Bahan Alam Untuk Mengembangkan Kemampuan Klasifikasi Pada Anak Usia Dini. *JIV-Jurnal Ilmiah Visi*, *15*(2), 117–126. https://doi.org/10.21009/JIV.1502.3

Ariyanto, F. L., & Siswoyo, A. A. (2020). Pemanfaat Limbah Tongkol Jagung Sebagai Media pembelajaran Anak Usia Dini di Madura. *WISDOM: Jurnal Pendidikan Anak Usia Dini*, *1*(2), 107–115. https://doi.org/10.21154/wisdom.v1i2.2336

Ariyanto, F. L. T., & Nazarullail, F. (2022). Tongkol Jagung sebagai Alat Permainan Edukatif dalam menstimulasi Kemampuan Kognitif anak Usia Dini. *JCE (Journal of Childhood Education)*, *5*(2), 608–616. https://doi.org/10.30736/jce.v5i2.649

Ariyanto, F. L., & Yuniar, D. P. (2020). Pemanfaat Limbah Tongkol Jagung Sebagai Media pembelajaran Anak Usia Dini di Madura. *WISDOM: Jurnal Pendidikan Anak Usia Dini*, *1*(2), 107–115. https://doi.org/10.21154/wisdom.v1i2.2336

Bodedarsyah, A., & Yulianti, R. (2019). Meningkatkan kemampuan berpikir simbolik anak usia dini kelompok a (usia 4-5 tahun) dengan media pembelajaran lesung angka. *Jurnal Ceria*, *2*(6), 354–358. https://doi.org/10.22460/ceria.v2i6.p354-358

Faidin, F., Suharti, S., & Lukman, L. (2022). Pelaksanaan Pendidikan Karakter berbasis Kearifan Ekologis untuk Mendukung Program Merdeka Belajar. *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)*, *6*(1), 2422-2430. http://dx.doi.org/10.58258/jisip.v6i1.2850

Guslinda, S. P., & Kurnia, R. (2018). *Media pembelajaran anak usia dini*. Jakad Media Publishing.

Husnaini, D., & Yaswinda, Y. (2022). Pengaruh Kreasi Kulit Jagung Terhadap Pengembangan Kreativitas Anak Usia 5-6 Tahun. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(6), 5487–5494. https://doi.org/10.31004/obsesi.v6i6.2956

Jiwaningrum, S., & Suryono, Y. (2014). Penggunaan media pembelajaran berbasis alam untuk pengembangan kognitif anak usia 5-6 tahun. *JPPM (Jurnal Pendidikan Dan Pemberdayaan Masyarakat)*, *1*(2), 223–237. https://doi.org/10.21831/jppm.v1i2.2691

Kania, G., & Yusuf, R. N. (2023). Upaya Meningkatkan Kemampuan Berpikir Simbolik dengan Menggunakan Media Papan Hubung Pada Anak Usia 5-6 Tahun. *Jurnal Tahsinia*, *4*(1), 71–81. https://doi.org/10.57171/jt.v4i1.341

Lestariningrum, A. (2015). Pemanfaatan media biji-bijian sebagai sumber belajar bidang pengembangan matematika pada anak usia dini. *Efektor*, *2*(2), 15-24. https://doi.org/10.20961/ecedj.v4i1.60875

Listiani, P. F., & Kurniawati, W. (2024). Memanfaatkan limbah tanaman jagung sebagai sumber inovasi pendidikan di Indonesia. *Wiyata Dharma: Jurnal Penelitian Dan Evaluasi Pendidikan*, *12*(1), 9–19. https://doi.org/10.30738/wd.v12i1.16961

Marinda, L. (2020). Teori perkembangan kognitif Jean Piaget dan problematikanya pada anak usia sekolah dasar. *An-Nisa Jurnal Kajian Perempuan Dan Keislaman*, *13*(1), 116–152. https://doi.org/10.35719/annisa.v13i1.26

Marliani, N. (2015). Pemanfaatan limbah rumah tangga (sampah anorganik) sebagai bentuk implementasi dari pendidikan lingkungan hidup. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, *4*(2), 124-132. http://dx.doi.org/10.30998/formatif.v4i2.146

Milles, M. B., & Huberman, A. M. (2007). *Analisis Data Kualitatif: Buku Sumber Tentang Metode-metode Baru*. UI Press.

Nur, A. F., & Nuraini, I. (2011). Analisis potensi ekonomi sektoral pada empat kabupaten di pulau Madura. *Jurnal Ekonomi Pembangunan*, *9*(1), 21–41. https://doi.org/10.22219/jep.v9i1.3644

Nurtanti, S., Linawati, R., & Rahayu, S. S. (2023). Upaya Meningkatkan Perkembangan Motorik Halus Anak Melalui Kelobot Usia 3-4 Tahun Di KB Pelangi Insani Jambon Pulokulon Grobogan. *Journal of Research and Development Early Childhood*, *1*(1), 29–35.

Palmin, B., & Woda, M. I. (2023). Manfaat Media Bahan Alam Dalam Pembelajaran Anak Usia Dini. *Jurnal Lonto Leok Pendidikan Anak Usia Dini*, *5*(1), 1–7.

Prastowo, A. (2011). *Metode Penelitian Kualitatif: Dalam Perspektif Rancangan Penelitian*. Ar-Rus Media.

Pratiwi, A. R., Fitroh, S. F., & Adhani, D. N. (2018). Pengaruh Metode Bermain dengan Bahan Bekas Terhadap Kemampuan Berhitung Anak Kelompok B 5-6 Tahun. *Jurnal PG-PAUD Trunojoyo: Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, *5*(1), 64–74. https://doi.org/10.21107/pgpaudtrunojoyo.v5i1.3851

Priyono, F. H., Rahmawati, A., & Pudyaningtyas, A. R. (2021). Kemampuan Berpikir Simbolik Pada Anak Usia 5-6 Tahun. *Kumara Cendekia*, *9*(4), 212–217. https://doi.org/10.20961/kc.v9i4.53280

Putri, A. R., Muzakki, M. A., Yulistianti, H. D., & Nafisah, Z. (2022). Pembuatan Boneka Puppet sebagai Media Pembelajaran untuk Meningkatkan Kreativitas Guru Taman Kanak-Kanak. *Kifah: Jurnal Pengabdian Masyarakat*, *1*(1), 51–60. https://doi.org/10.35878/kifah.v1i1.404

Rohaeni, H., Zultiar, I., & Munajat, A. (2021). Efektivitas Media Bahan Alam Terhadap Kemampuan Berpikir Simbolik Anak Usia 4-5 Tahun. *Jurnal Pendidikan Tambusai*, *5*(2), 4628–4632. https://doi.org/10.31004/jptam.v5i2.1595

Rusydiyah, E. F. (2020). *Media pembelajaran problem based learning*. UIN Sunan Ampel Press Surabaya.

Shafura, A. A. S., & Adhani, D. N. (2022). Analisis Media Berbahan Dasar Rambut Jagung untuk Meningkatkan Pengenalan Bilangan Anak Usia Dini. *Al-Abyadh*, *5*(2), 97–102. https://doi.org/10.46781/al-abyadh.v5i2.583

Sumadi, C. D., Fajrin, N. D., Chayani, S. N., & Ramadaniyanti, D. P. (2023). Pengembangan media pembelajaran klobocard sebagai upaya pemanfaatan limbah kulit jagung madura untuk siswa sekolah dasar. *Seminar Nasional Sosial, Ekonomi, Pendidikan, Penelitian, Pengabdian, Dan Kesehatan*, *3*(2).

Suryana, D. (2021). *Pendidikan anak usia dini teori dan praktik pembelajaran*. Prenada Media.

Suryana, D. (2022). Permainan edukatif setatak angka dalam menstimulasi kemampuan berfikir simbolik anak usia dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *6*(3), 1790–1798. https://doi.org/10.31004/obsesi.v6i3.1857

Syukur, A., & Fallo, Y. T. (2019). Peningkatan Kemampuan Anak dalam Mengenal Konsep Bilangan Melalui Penggunaan Media Pembelajaran Berbasis Alam. *Jurnal PG-PAUD Trunojoyo: Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, *6*(1), 1–11. https://doi.org/10.21107/pgpaudtrunojoyo.v6i1.5365

Wahyuni, S., Astini, B. N., Suarta, I. N., & Astawa, I. M. S. (2021). Pengembangan Boneka Kulit Jagung Untuk Meningkatkan Kemampuan Berbicara Anak. *Indonesian Journal of Elementary and Childhood Education*, *2*(1), 185–190. https://www.journal.publication-center.com/index.php/ijece/article/view/635

Yin, R. K. (2008). *Case Study Research and Applications: Design and Methods*. Sage

Zaini, H., & Dewi, K. (2017). Pentingnya media pembelajaran untuk anak usia dini. *Raudhatul Athfal: Jurnal Pendidikan Islam Anak Usia Dini*, *1*(1), 81–96. https://doi.org/10.19109/ra.v1i1.1489