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Developing Children's Fine Motor Skills Through a Combination of the Project-Based Learning Model, Demonstration Method, and Playdough Media in Group A

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ABSTRACT

This study was motivated by the low level of fine motor skills among Group A children at TK Aisyiyah Bustanul Athfal 1 Banjarmasin and the need for concrete, active learning activities that directly involve children. This study aims to describe teacher activities, children's activities, and the development of fine motor skills through a combination of the Project-Based Learning model, demonstration method, and playdough media. This study employed Classroom Action Research (CAR), conducted over four meetings involving 12 Group A children at TK Aisyiyah Bustanul Athfal 1 Banjarmasin. Data were collected through observation and documentation and subsequently analyzed descriptively based on the scores and percentages obtained at each meeting. The findings revealed improvements in all three observed aspects. Teacher activity increased from 61% to 89%, children's activity increased from 17% to 100%, and children's fine motor development

increased from 17% to 100%. At the end of the intervention, teacher activity reached the Very Good category, children's activity reached the All Children Active category, and fine motor development reached the Very Well Developed category. These findings indicate that the combination of Project-Based Learning, the demonstration method, and playdough media can serve as an alternative learning activity to support children's engagement and fine motor development in Group A.

Introduction

Early childhood education is an important stage in supporting children's holistic development. Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 137 of 2014 concerning National Standards for Early Childhood Education establishes six domains of child development, namely religious and moral values, physical-motor development, cognitive development, language development, social-emotional development, and artistic development. One component of physical-motor development that requires continuous stimulation is fine motor development. Such stimulation should be provided through activities that are appropriate to the learning characteristics of young children and offer opportunities for their direct involvement.

Fine motor skills are associated with children's ability to coordinate small muscles, particularly those of the hands and fingers, when

performing various activities (Amalia, 2024; Karimah & Masturoh, 2026; Syarifah, 2022). Activities involving finger movements, eye-hand coordination, and object manipulation can provide opportunities for children to develop these skills. Rezieka et al. (2022) demonstrated that mosaic activities could be used to improve children's fine motor skills through activities involving finger movements. Norlatifah and Novitawati (2022) also demonstrated that fine motor skills could be developed through activities that provide children with opportunities for direct participation. These findings indicate that fine motor stimulation should be designed through learning experiences that enable children to engage in hands-on practice.

One medium that can be utilized in these activities is playdough (Aryani & Kasman, 2026). Playdough allows children to perform various manipulative activities, such as pressing, squeezing, rolling, and shaping materials into different objects. Pamungkas et al. (2023) investigated the effects of playdough activities on early childhood fine motor development and reported improvements in fine motor development following the implementation of these activities. Putri et al. (2021) also found that playdough activities influenced the fine motor skills of children with autism through a study employing a single-subject research design. These findings indicate that playdough has potential as a medium for stimulating fine motor development. However, these studies have not examined the use of playdough

combined with the Project-Based Learning (PjBL) model and demonstration method in classroom action research involving Group A children.

In addition to instructional media, learning models and methods should also be considered to ensure that fine motor activities are conducted systematically and provide opportunities for children to participate actively (Hafidzah & Purwanti, 2025; Rachmawati et al., 2026). Project-Based Learning provides learning experiences through activities oriented toward completing projects or creating products. Loka and Robiah (2024) demonstrated that the implementation of PjBL in early childhood education could be utilized in learning activities that actively involve children in the project completion process. Meanwhile, Niqo and Wahyudi (2024) implemented a combination of PjBL and the demonstration method in cutting activities using recycled materials. Their study employed classroom action research and revealed that children's fine motor development increased to 100%, reaching the Very Well Developed category.

Nevertheless, previous studies have employed different combinations of instructional components and activity contexts. Pamungkas et al. (2023) focused on playdough activities as a medium for fine motor development but did not combine them with PjBL and the demonstration method. Putri et al. (2021) also focused on playdough; however, the research participants were children with autism, and the

study employed a single-subject research design. Meanwhile, Niqo and Wahyudi (2024) combined PjBL and the demonstration method, but the activities involved cutting using recycled materials. Wahliyanda and Sari (2025) employed a combination of PjBL and the Example Non-Example model in coloring, cutting, and pasting activities to develop children's fine motor skills. Their findings demonstrated improvements in fine motor development, reaching 100% at the fourth meeting. However, their study did not simultaneously incorporate playdough and the demonstration method.

These differences in research focus indicate an opportunity to investigate the integrated use of all three components. PjBL can provide a structured learning process through project completion activities, the demonstration method can help children understand the steps of an activity through concrete examples provided by teachers, while playdough can offer opportunities for children to engage in various manipulative activities involving their hands and fingers. Therefore, the combination of these three components is expected to provide more structured learning experiences while allowing children to participate directly in activities that support fine motor development.

These problems were identified through preliminary observations conducted at TK Aisyiyah Bustanul Athfal 1 Banjarmasin on December 1, 2025. The observation and interview results indicated that the use of playdough in learning activities had not been implemented optimally,

and some children continued to experience difficulties performing activities requiring eye-hand coordination. Of the 12 Group A children, 9 children (75%) were categorized as Not Yet Developed (BB), while 3 children (25%) were categorized as Developing as Expected (BSH). Furthermore, children appeared less enthusiastic about participating in learning activities, became bored easily, were less active, and experienced difficulties maintaining their focus throughout the activities. These conditions indicate challenges in fine motor development and highlight the need for more concrete, active learning activities that directly involve children.

Based on these conditions, instructional interventions are needed to provide children with opportunities to observe concrete examples, participate actively, and engage directly in manipulative activities. The combination of the Project-Based Learning model, demonstration method, and playdough media was selected as the intervention in this study because these three components serve complementary functions. This study aims to describe teacher activities, describe children's activities, and analyze improvements in the fine motor skills of Group A children at TK Aisyiyah Bustanul Athfal 1 Banjarmasin through the combination of the Project-Based Learning model, demonstration method, and playdough media.

Methods

This study employed Classroom Action Research (CAR).

Classroom Action Research is a type of research conducted to improve the learning process through systematically planned, implemented, observed, and reflected actions. These stages are carried out to examine changes in the learning process and learning outcomes following the implementation of an intervention (Pahleviannur et al., 2022; Susilo et al., 2022; Utomo et al., 2024; Batubara & Gustafaruddin, 2024).

The study was conducted at TK Aisyiyah Bustanul Athfal 1 Banjarmasin, involving 12 Group A children, consisting of 7 boys and 5 girls. The research was conducted over four meetings by implementing a combination of the Project-Based Learning (PjBL) model, demonstration method, and playdough media. The study focused on three observed aspects, namely teacher activities, children's activities, and children's fine motor development.

The research was conducted through four stages: planning, action, observation, and reflection. During the planning stage, the researcher prepared learning activity plans incorporating a combination of the Project-Based Learning model, demonstration method, and playdough media, as well as observation instruments. The action stage involved implementing the learning activities according to the plans that had been developed. The teacher demonstrated the activities to be performed, after which the children participated directly in activities using playdough to create products. The observation stage was conducted throughout the learning process to collect data on teacher

activities, children's activities, and children's fine motor development. Subsequently, the observation results were used as a basis for reflection to determine the extent to which the intervention objectives had been achieved and to make improvements for subsequent meetings. These stages are consistent with the characteristics of CAR, which positions action and reflection as integral components of the continuous learning improvement process (Batubara & Gustafaruddin, 2024).

Data were collected through observation and documentation. Observation was employed to obtain data on teacher activities, children's activities, and children's fine motor development throughout the learning process. Documentation was used as supporting data, consisting of records of learning activities and the outcomes of children's activities. The use of observation as a data collection technique in CAR can assist researchers in obtaining information regarding the learning process and participants' engagement during the implementation of the intervention (Sukardi, 2022; Batubara & Gustafaruddin, 2024).

The research instruments consisted of teacher activity observation sheets, children's activity observation sheets, and children's fine motor development assessment sheets. The teacher activity observation sheets were used to examine the implementation of learning activities through the application of Project-Based Learning, the demonstration method, and playdough media. The children's activity observation sheets were

used to assess children's levels of engagement and active participation during learning activities. Meanwhile, the fine motor development assessment sheets were used to determine children's developmental achievements after participating in the learning activities.

Data analysis was conducted descriptively by comparing the observation results obtained at each meeting. Data on teacher activities, children's activities, and fine motor development were analyzed based on the scores or percentages obtained and subsequently classified according to the assessment criteria applied in the study. The analysis results were then presented in tables and graphs to illustrate developmental trends from the first to the fourth meeting.

The success of the intervention was determined based on the achievement of the three observed aspects. Teacher activities were assessed according to the categories of learning implementation, children's activities were assessed based on their levels of active participation during learning activities, and fine motor development was assessed according to children's developmental categories. Based on the criteria applied in the research findings, the final success of the intervention was indicated by the achievement of the Very Good category for teacher activities, the Very Active category for children's activities, and the Very Well Developed (BSB) category for children's fine motor development. These three aspects were used as the basis for evaluating the success of the intervention at each meeting.

Overall, the research procedure began with problem identification, followed by action planning, the implementation of learning activities combining Project-Based Learning, the demonstration method, and playdough media, observations of teacher and children's activities and fine motor development, analysis of observation results, and reflection. The reflection results were used as the basis for improving learning activities in subsequent meetings until improvements consistent with the research success indicators were achieved.

Result and Discussions

Based on the overall findings of the study conducted by implementing the Project-Based Learning (PjBL) model, demonstration method, and playdough media among Group A children at TK Aisyiyah Bustanul Athfal 1 Banjarmasin over four meetings, data were obtained regarding teacher activities, children's activities, and children's fine motor development. All three aspects demonstrated changes at each meeting. Improvements in teacher activities during the learning process can be observed from the observation results presented in the following table.

Table 1. Trends in Teacher Activities

Meeting	Score	Criteria
1	17	Fairly Good
2	20	Good

3	22	Good
4	25	Very Good

Based on Table 1, the teacher activity score increased from 17 at the first meeting to 25 at the fourth meeting. Thus, there was an increase of 8 points, equivalent to approximately 47.06% compared to the score obtained at the first meeting. In terms of assessment categories, teacher activities improved from Fairly Good to Very Good. The scores increased gradually, from 17 at the first meeting to 20 at the second meeting, 22 at the third meeting, and 25 at the fourth meeting.

This improvement indicates that the implementation of learning activities became increasingly structured over the four meetings. The teacher became more capable of implementing the learning procedures using the PjBL model, demonstration method, and playdough media. In PjBL activities, the teacher plays a role in guiding children throughout the learning process, while the demonstration method provides concrete examples of the activities to be performed. The use of playdough subsequently provides children with opportunities to practice the activities directly.

These findings are consistent with the study conducted by Niqo and Wahyudi (2024), which employed a combination of the PjBL model and demonstration method in activities designed to develop children's fine motor skills. Their study demonstrated that combining learning models and methods could support the fine motor learning process.

However, Niqo and Wahyudi's study utilized recycled materials and cutting activities, whereas the present study employed playdough media. The observation results of children's activities at each meeting are presented in the following table.

Table 2. Trends in Children's Activities

Meeting	Percentage	Criteria
1	17%	A Small Proportion of Children Were Active
2	33%	A Small Proportion of Children Were Active
3	75%	Most Children Were Active
4	100%	All Children Were Active

Based on Table 2, children's activity increased from 17% at the first meeting to 100% at the fourth meeting, representing an increase of 83 percentage points. The greatest increase occurred between the second and third meetings, rising by 42 percentage points from 33% to 75%. At the fourth meeting, all children actively participated in the learning activities.

These changes indicate that children's engagement in learning activities increased progressively. During the initial meeting, children's participation remained limited. However, in subsequent meetings, children became increasingly capable of following instructions and

participating directly in the activities. This finding is consistent with the characteristics of PjBL, which provides opportunities for children to participate directly in the learning process until they produce a completed work.

The demonstration method also helped children understand the activities through concrete examples provided by the teacher before they performed the activities independently. After observing the examples, children gained an understanding of how to use playdough and the steps required to complete the activities. Thus, the learning process was not solely centered on teacher explanations but also provided opportunities for children to observe, experiment, and complete the activities.

These findings are consistent with the study conducted by Ariana and Novitawati (2023), which implemented a combination of PjBL and direct instruction in mosaic activities. Their study demonstrated that activities providing children with direct learning experiences could support their engagement in learning processes involving the use of fine muscles. The results of children's fine motor development at each meeting are presented in the following table.

Table 3. Trends in Children's Fine Motor Development

Meeting	**Percentage**	**Criteria**
1	17%	Not Yet Developed

2	42%	Not Yet Developed
3	67%	Developing as Expected
4	100%	Very Well Developed

Based on Table 3, children's fine motor development increased from 17% at the first meeting to 100% at the fourth meeting. Overall, there was an increase of 83 percentage points. The improvement occurred gradually, with an increase of 25 percentage points from the first to the second meeting, followed by another increase of 25 percentage points from the second to the third meeting, and an increase of 33 percentage points from the third to the fourth meeting. Changes in developmental categories were also observed, progressing from Not Yet Developed at the first and second meetings to Developing as Expected at the third meeting and subsequently reaching Very Well Developed at the fourth meeting.

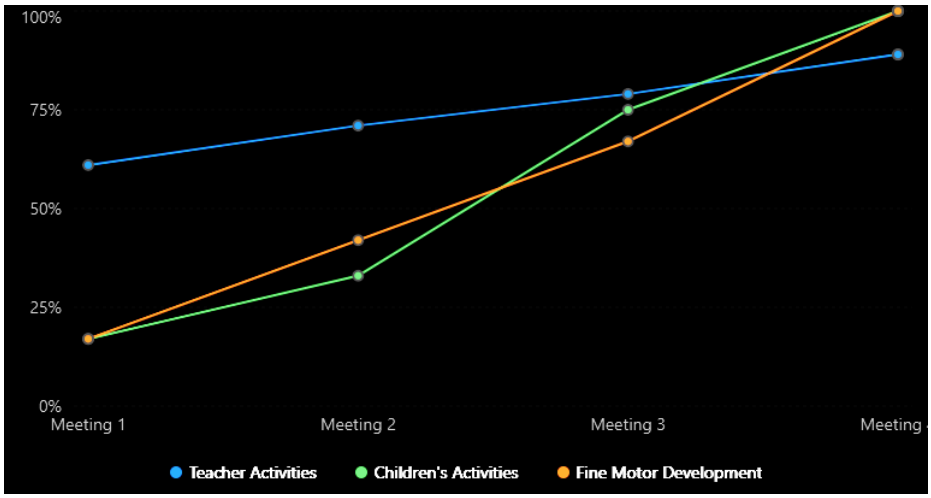
These developmental improvements can be associated with the characteristics of playdough activities, which provide opportunities for children to perform hand and finger movements directly. When children press, squeeze, roll, pinch, and shape playdough, they coordinate their hands and fingers to create forms according to the assigned activities. These activities provide manipulative experiences that are relevant to the development of fine motor skills.

These findings are consistent with Suryameng (2016), who demonstrated that playing with playdough could improve children's

fine motor skills, including finger dexterity, shaping abilities, and eye-hand coordination. Thus, playdough can be utilized not only as a play medium but also as a medium that provides opportunities for children to practice hand and finger movements through concrete activities.

The study conducted by Pamungkas, Rahman, and Infrantini (2023) also demonstrated that playdough activities influenced children's fine motor development. Their research employed a quantitative approach using a one-group pretest-posttest design and obtained a significance value of 0.001. Although both studies reported similar findings regarding playdough use, the previous study differed from the present research because it employed an experimental design, whereas the present study utilized classroom action research combining PjBL, the demonstration method, and playdough media. Trends in teacher activities, children's activities, and children's fine motor development can be observed more clearly in the following figure.

Figure 1. Graph of Trends in Teacher Activities, Children's Activities, and Children's Fine Motor Development Outcomes



Based on Figure 1, teacher activities showed a percentage increase from 61% at the first meeting to 71% at the second meeting, 79% at the third meeting, and 89% at the fourth meeting. This represents an increase of 28 percentage points from the first to the fourth meeting.

Regarding children's activities, the percentage increased from 17% to 100%, representing an increase of 83 percentage points. Meanwhile, children's fine motor development also increased from 17% to 100%, representing an increase of 83 percentage points. These patterns indicate that all three aspects improved during the implementation of the intervention, although the rates and magnitudes of improvement varied.

The improvement in teacher activities indicates that the implementation of learning activities became increasingly effective at each meeting. At the same time, the improvement in children's activities indicates that a growing number of children became involved in the

learning process. This engagement provided greater opportunities for children to participate in manipulative activities using playdough. Thus, PjBL, demonstration activities, and playdough were interconnected in providing learning experiences that enabled children to observe examples, follow procedures, and perform activities directly.

The combination of these three approaches can be understood through the respective functions of each component. PjBL provides a learning framework oriented toward the process and the creation of products, the demonstration method provides concrete examples of how to perform activities, and playdough serves as a medium that children can manipulate directly. Together, these components provide learning experiences that actively engage children in fine motor activities.

The findings of this study are also consistent with those of Wahliyanda and Sari (2025), who implemented a combination of PjBL and the Example Non-Example method to develop children's fine motor skills. Their study reported final outcomes in which children's activities and development reached very good categories. However, the present study differs in its use of the demonstration method and playdough media, thereby offering an alternative instructional combination for fine motor activities among Group A children.

Although the research findings demonstrated positive developmental improvements, these results should be interpreted

within the limitations of the study. The research involved 12 children, consisting of 7 boys and 5 girls, from a single group at TK Aisyiyah Bustanul Athfal 1 Banjarmasin. The study was also conducted over four meetings and did not involve a comparison group. Therefore, the observed improvements indicate changes during the implementation of the intervention but cannot yet be used to establish general effectiveness or statistically demonstrate a cause-and-effect relationship.

Overall, the findings indicate that implementing a combination of the Project-Based Learning model, demonstration method, and playdough media over four meetings was accompanied by improvements in teacher activities, children's activities, and children's fine motor development. Teacher activities increased from a score of 17 to 25, or from 61% to 89%, children's activities increased from 17% to 100%, and fine motor development increased from 17% to 100%. At the end of the intervention, teacher activities reached the Very Good category, children's activities reached the All Children Active category, and children's fine motor development reached the Very Well Developed category.

Conclusion

Based on the research findings, the implementation of a combination of the Project-Based Learning (PjBL) model, demonstration method, and playdough media among Group A children at TK Aisyiyah Bustanul Athfal 1 Banjarmasin demonstrated positive improvements in

the learning process and children's fine motor skills. The implementation of this combination not only increased children's engagement in learning activities but also provided direct learning experiences through observing, experimenting, and creating products using playdough.

The findings addressed the research objectives by demonstrating that the implementation of a combination of the Project-Based Learning model, demonstration method, and playdough media could support improvements in teacher activities, children's activities, and children's fine motor development over four meetings. At the end of the intervention, teacher activities reached the Very Good category, children's activities reached the All Children Active category, and fine motor development reached the Very Well Developed category. These findings indicate that fine motor learning through direct, active, and manipulative activities can serve as an appropriate alternative learning approach for Group A children.

In general, the findings of this study reinforce previous research demonstrating that playdough activities can support children's fine motor development through activities involving finger movements, shaping objects, and practicing hand-eye coordination. Previous studies have also shown that the combination of Project-Based Learning and the demonstration method can be implemented in activities designed to develop children's fine motor skills. Thus, the contribution of this study

lies in providing empirical evidence within the learning context of TK Aisyiyah Bustanul Athfal 1 Banjarmasin that these three components can be implemented in an integrated manner to support children's fine motor activities.

References

Amalia, A. (2024). Hubungan antara Aktivitas Merobek Kertas dengan Kemampuan Motorik Halus Anak Usia Dini. *Journal of Early Childhood Education Studies*, *4*(2), 199-236. https://doi.org/10.54180/joeces.2024.4.2.1-38

Ariana, L., & Novitawati. (2023). Mengembangkan kemampuan anak dalam mengontrol gerakan tangan menggunakan otot halus melalui kombinasi model Project Based Learning dan model *Direct Instructions* pada kegiatan mozaik. JIKAD: Jurnal Inovasi, Kreativitas Anak Usia Dini, 3(3).

Aryani, I., & Kasman, A. (2026). Pemanfaatan Media Playdough untuk Mengembangkan Kemampuan Motorik Halus Anak. *Jurnal Keilmuan Pendidikan*, *2*(1), 45-55. https://doi.org/10.63203/040946800

Batubara, B., & Gustafaruddin. (2024). Pengumpulan data penelitian tindakan kelas sebagai literasi pendidikan agama Islam. Educatia: Jurnal Pendidikan dan Agama Islam, 14(2), 156–165. https://doi.org/10.69879/0xksew71

Hafidzah, N., & Purwanti, R. (2025). Mengembangkan Motorik Halus Anak Menggunakan Model Project Based Learning, Metode Demonstrasi Dan Media Kertas Kokoru Di Kelompok B TK Betlehem. *Journal Educational Research and Development| E-ISSN: 3063-9158*, *1*(4), 493-502. https://jurnal.globalscients.com/index.php/jerd/article/view/529

Karimah, H., & Masturoh, U. (2026). Optimizing Early Childhood Sensorimotor Development through Nature-Based Art Activities: A Case Study at Tarbiyatul Islamiyah Playgroup. *Ceria: Jurnal Program Studi Pendidikan Anak Usia Dini*, *15*(2), 925-939. https://doi.org/10.31000/16154

Loka, D. N., & Robiah, R. S. (2024). Penerapan model pembelajaran berbasis proyek (PjBL) dalam meningkatkan kemampuan kerja sama anak usia dini. Jurnal Inovasi, Kreatifitas Anak Usia Dini (JIKAD), 1(1), 45–55.

Niqo, H., & Wahyudi, M. D. (2024). Mengembangkan motorik halus anak dalam kegiatan menggunting melalui kombinasi model Project Based Learning dan metode demonstrasi dengan media bahan bekas di TK. JIKAD: Jurnal Inovasi, Kreatifitas Anak Usia Dini, 4(2), 1–12. https://doi.org/10.20527/jikad.v4i2.12611

Norlatifah, & Novitawati. (2022). Mengembangkan motorik halus menempel menggunakan model explicit instruction, metode drill dan teknik mozaik kelompok B. Jurnal Inovasi, Kreatifitas Anak Usia Dini (JIKAD), 2(2), 50–58.

Pahleviannur, M. R., Mudrikah, S., Mulyono, H., Bano, V. O., Rizqi, M., Syahrul, M., ... & Aini, K. (2022). *Penelitian tindakan kelas*. Pradina Pustaka.

Pamungkas, M. S. H., Rahman, T., & Infrantini, L. D. (2023). Pengaruh permainan playdough terhadap perkembangan motorik halus anak usia dini. Tinta Emas: Jurnal Pendidikan Islam Anak Usia Dini, 2(1), 49–60. https://doi.org/10.35878/tintaemas.v2i1.763

Putri, E. D. A., Wahyuno, E., Susilawati, S. Y., & Ummah, U. S. (2021). Keefektifan permainan playdough terhadap kemampuan motorik halus autis. Jurnal ORTOPEDAGOGIA, 7(2), 97–104. https://doi.org/10.17977/um031v7i22021p97-104

Rachmawati, A., Atiqoh, I., Chotimah, B. K., Sari, A. M., Fadliyah, N., Nadhiroh, R., ... & Umaroh, U. (2026). *Stimulasi dan Optimalisasi Perkembangan Motorik Anak Usia Dini Berbasis Pembelajaran Aktif*. Ganesha Kreasi Semesta.

Rezieka, D. G., Munastiwi, E., Munar, A., Aulia, A., Billah, A., & Muhammadkan, F. (2022). Memfungsikan jari jemari melalui kegiatan mozaik sebagai upaya peningkatan motorik halus anak usia dini. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 6(5), 4321–4334. https://doi.org/10.31004/obsesi.v6i5.2501

Sukardi, H. M. (2022). *Metode penelitian pendidikan tindakan kelas:*

implementasi dan pengembangannya. Bumi Aksara.

Suryameng, S. (2016). Peningkatan keterampilan motorik halus kelompok A melalui bermain playdough. JPPM: Jurnal Pendidikan dan Pemberdayaan Masyarakat, 32), 197–206. https://doi.org/10.21831/jppm.v3i2.10031

Susilo, H., Chotimah, H., & Sari, Y. D. (2022). *Penelitian tindakan kelas*. Media Nusa Creative (MNC Publishing).

Syarifah, A. (2022). *Mengembangkan Motorik Halus Anak Prasekolah Dengan Paper Toys*. Penerbit Nem.

Utomo, P., Asvio, N., & Prayogi, F. (2024). Metode penelitian tindakan kelas (PTK): Panduan praktis untuk guru dan mahasiswa di institusi pendidikan. Pubmedia Jurnal Penelitian Tindakan Kelas Indonesia, 1(4), 1–19. https://doi.org/10.47134/ptk.v1i4.821

Wahliyanda, & Sari, D. D. (2025). Mengembangkan keterampilan motorik halus melalui kombinasi model Project Based Learning dan example non example di TK Trisula II Perwari Banjarmasin. Jurnal Inovasi, Kreatifitas Anak Usia Dini (JIKAD), 5(3), 1–12. https://doi.org/10.20527/jikad.v5i3.17134