Available online: https://journal.uny.ac.id/v3/jpa
Jurnal Pendidikan Anak, Volume 14 (1), 2025, 217-228

# Development of Counting Bunny Board Mathematics Media to Improve Early Mathematics Skills of 5-6 Year Old Children

**Dea Putri Jelita**[1], **Ahmad Syukri Sitorus**[2]
Program Studi PIAUD, FITK, UIN Sumatera Utara Medan[1,2]
Alamat Jl. William Iskandar Pasar V Medan Estate, Indonesia
E-mail: putri0308213037@uinsu.ac.id

**ARTICLE INFO**
**Article history:**
*Received: April, 18 2025*
*Revised: April, 25 2025*
*Accepted: May, 23 2025*

**Keywords:**
*Counting Board Mathematics,*
*Media,*
*Children Age 5-6 Years*

**bit.ly/jpaUNY**

**ABSTRACT**
Media plays an important role in the learning process, and media is still often a problem for educators because of the lack of creativity in using it in the learning process to improve children's abilities, including early mathematics skills. Early mathematics skills in early childhood are important to be trained early on to prepare children for further education. In addition, children need to know and understand early mathematical concepts that can be used daily. Therefore, this study aims to develop Counting Bunny Board Mathematics media to improve children's early mathematics skills. This research was conducted with research subjects of group B Sentra Preparation students aged 5-6 years, with 17 children. The research method used by the researcher is Research and Development (R&D) with the ADDIE model consisting of 5 stages: analysis, design, development, implementation and evaluation. Data collection techniques in this Study used interview techniques, questionnaires, Material Expert and Media Expert Validation sheets and documentation. The data obtained were analyzed using descriptive, qualitative, and quantitative data analysis. The validation results show that the Counting Bunny Board Mathematics media is very feasible to be used as a learning media with a percentage of 100% and 97.5%, and the results of the product effectiveness trial showed an increase of 7.08% from the Pre-test-Post-test results. So this media can be used as an alternative for teachers to support learning.

## INTRODUCTION

Mathematics is not just arithmetic for children, when it is understood and observed when children are playing, it is indirectly seen that children are interested in counting (Safira, A., & I, 2020). Children's numeracy skills involve logical reasoning, numbers, etc (Mubarokah, 2021). The ability to count is also interpreted as the initial mathematical ability possessed by early childhood, such as grouping based on colour, size, and others, sorting, and counting numbers, as well as increasing children's ability to think logically, creatively, and critically (Maulida & Umi Kaidaro, 2022). In children's early mathematical abilities, one is the ability to count and think symbolically (Cahyono, 2013). Children's early mathematical abilities are listed in Minister of Education and Culture Regulation 137 regarding aspects of cognitive development, which are explained in the aspects of early mathematical abilities that are developed, namely counting, ordering numbers, knowing the concept of simple calculations, and others (Sufa, 2017).

Early mathematics according to Rika Mulyati is the ability that children can master to solve various problems in everyday life as well as activities to introduce basic mathematical concepts to children, including introducing the concept of numbers, counting numbers, recognizing patterns, classifying, grouping, sorting pictures of objects, distinguishing the same from the different, matching pictures with number symbols, and performing simple calculations (Mulyati et al., 2021). Suyitno emphasized that in the early stages, children's mathematical abilities are a process of developing an


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

understanding of numbers, shapes, patterns, and relationships, which will later become the basis for solving more complex mathematical problems. This ability can be strengthened through direct experience and the use of interesting media for children (Suyitno & Sugiharti, 2013). According to Piaget, children's basic mathematical abilities are closely related to cognitive development, especially in the pre-operational stage (between ages 2 and 7). Children begin to understand basic concepts such as counting, arranging sequences, and recognizing shapes and patterns at this stage. Piaget argued that children learn mathematics through direct experience and interaction with their environment (Fahma & Purwaningrum, 2021). Suppose Piaget argued that children's cognitive development is seen from the stages of the child's age. However, Vygotsky argued that the function of children's cognitive development begins when there is interaction between humans in the concept of culture, although a person's age still influences it. Vygotsky emphasised the concept of children's cognitive development with two terms, namely Zone of Proximal Development (ZPD) and Scaffolding (Sit, 2017). According to Brunner, children develop mathematical concepts through three stages in learning mathematics. The first stage is the active stage, where children understand concepts through direct physical action. The second stage is the iconic stage, which involves using pictures or visual representations to illustrate concepts. The final stage is the symbolic stage, where children begin to use symbols or notations to represent mathematical concepts.

Next is Dienes' view on children's early mathematics: every concept must be presented concretely, using objects or things that can be manipulated and packaged as games (Basri, 2018). The more concepts presented in various forms, the more precise the child's understanding of the concept will be, which trains children to think logically and mathematically (Raudhatul, 2013). Dienes also explained that early mathematical concepts are introduced to children through the play stage. Montessori also explained that in learning mathematics, children need to experience firsthand, not just listen to explanations from teachers (Fina Faizah et al., 2022). For example, when learning to count, children memorise numbers, practice them with counting objects, and do addition directly (Lestari Pratiwi & Akbar, 2022).

Children's Early Mathematics Skills are important for improvement from an early age. The goal is to prepare children not to be afraid of mathematics from the beginning, as it has been known in several cases that the ability of students in Indonesia to learn mathematics is still relatively low. This is due to several factors: the weak curriculum in Indonesia, teachers not well trained in preparing enjoyable learning for children, and a lack of support from schools and families (Clements & Sarama, 2018). Therefore, introducing early Mathematics concepts to children from an early age is very beneficial. Children's early Mathematics skills are also important for their daily lives, because with this ability children can spontaneously carry out mathematics learning activities while playing such as being able to solve problems, carry out simple calculation processes in games that involve calculations, group objects according to order, color, size, shape and others (Carl, 2018). Therefore, teaching children early mathematics skills can prepare them for further education (Oktriyani, 2017).

Researchers conducted initial observations regarding children's early mathematical abilities, namely the ability to count at school and find, not yet, as an appropriate ability, mathematics, at the beginning of the child, with indicators of their developmental achievements. There are still children who can count numbers 1 to 20 but do not recognise their shapes, there are still children who cannot group the number of objects with numbers, and complete simple addition and subtraction. Based on the results of interviews conducted by researchers with teachers at this school, they said that during the play activity process, there were already children's worksheets to improve their initial mathematical abilities, namely counting. However, this is only a worksheet, so some children still find it challenging to understand and complete it, and children also feel bored when participating in learning activities. In addition, this school also hones children's counting skills in early learning activities after tahfiz. However, to introduce children's counting skills, teachers only use random story methods without using media, making children less likely to pay attention to teachers and get bored easily (Rinawati, 2016). A study by Nanda Syahputri explains that children's learning must be varied and fun to avoid getting bored easily during the learning process (Nanda Syahputri & Sit, 2023). Study Mudtalifah also emphasises that to increase the ability, children need media, which is proven by research that media is very influential for children's learning to think (Mudtalifah et al., 2016). Learning media is also useful in increasing children's motivation to learn, attracting children's focus, and making it easier for children to understand the learning material


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

being taught (Azhima et al., 2021). So, the role of media is vital to support learning, such as improving children's early mathematical abilities.

Playing while studying will pique children's interest and increase their creativity. To produce an effective learning process in every development, the child's learning process must be fun (Amiran, 2016). Learning that uses learning media will foster children's enthusiasm for learning. Using engaging and fun media or tools during the learning process can positively impact learning (Liyana & Kurniawan, 2019). Tools Games Educational (APE) or educational learning media can foster children's interest in learning. This educational game tool is a type of activity carried out to get pleasure from the educational method or media used in playing activities (Khadijah, 2015). To improve early mathematics skills in early childhood, it is very necessary to use media that can make children interested, according to the development and needs of children, as explained previously (Ariyanti, 2007). Learning media is also useful in increasing children's motivation to learn, attracting children's focus, and making it easier for children to understand the learning material being taught (Azhima et al., 2021). Therefore, appropriate, interesting and varied learning media are needed in learning and teaching activities (Nuryati, 2020). Moreover, one of the media that can be used to improve early mathematical skills, namely counting skills, is the Counting Bunny Board Mathematics media.

Previous studies have shown that several media can be used to improve children's early mathematics skills, namely: (1) literacy boards, (2) pin boards, (3) Macer games (fun mathematics), (4) magnetic boards, and many more (Farihah, 2017). Research conducted by Nanda Syahputri and Masganti also explained that the developed Busy Book media was also considered sufficient to improve the literacy and numeracy skills of children aged 5-6 years (Nanda syahputri & Sit, 2023). Then, Idzni Azhima researched the use of Flashcard media to introduce early mathematical concepts to early childhood, and research results show an increase in children (Azhima et al., 2021). Furthermore, the research study conducted by Mudtalifah and others, titled The Influence of Counting Box Media on Children's Thinking Skills in mathematics learning, " has been proven to influence children's thinking skills (Mudtalifah et al., 2016). Other research literature studies with the title of improving early childhood mathematics skills with Counting Box media have also been proven by an increase in cycles 1 and (Barkatussalsabila et al., 2024). The research conducted by Holy Midday, which uses smart tree media numbers to develop the ability to balance child age, also shows promising results in the development of children's counting abilities (Azizah et al., 2023). Apart from that, research conducted by Ina Aqidatul about house counting media to improve early childhood mathematics skills showed an increase in the percentage of results (Wahidah & Jazariyah, 2016).

Media, of course, have strengths and weaknesses. The strength of the media can indeed improve children's early Mathematics skills quite well, but the weakness of this media is in appearance and use, which makes children easily bored when playing or using it (Liyana & Kurniawan, 2019). The difference between the research conducted by the researcher and several previous studies is that the researcher developed counting media to improve children's early mathematical abilities with a rabbit theme, a typical character of the media used by the researcher develop, and character This is what differentiates it from the media in previous research and can provide motivation for children.

The use of media is essential in the learning process. In this study, the author developed the Counting Bunny Board Mathematics media to improve the early mathematics skills of children aged 5-6 years, and introduce early mathematics concepts to children. This media is designed for early childhood using visuals as its primary medium. Therefore, the Counting Bunny Board Mathematics media is a visual media containing various learning tools to help achieve learning goals, including improving children's early mathematics skills. This media is equipped with rabbit characters and Carrot Pins to add to the appeal of this media, so that children are interested and feel happy when using it to learn. The purpose of this Study is to develop the Counting Bunny Board Mathematics media that can be used to improve the abilities of early childhood children in basic mathematics and introduce basic mathematics concepts through play.

## METHOD

This research was conducted at TKIT Nurul Ilmi for children aged 5-6 group B TKIT Nurul Ilmi consisting of 3 classes. However, the participants the researcher chose to sample were the Preparation


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Centre Group, with 17 students and class/centre teachers. Because they considered the characteristics needed for product development, 17 children were sufficient to obtain the necessary data. The research applied in this Study is research and development, commonly called Research and Development (R&D). This method tests the feasibility and effectiveness of the product being developed (Sugiyono, 2020). Based on the above understanding, it can be interpreted that development research, commonly called Research and Development (R&D), is research used to create new validated products (Sugiyono, 2017). Researchers use the Research and Development research method using the ADDIE model as proposed by Dick and Carry (Hidayat & Nizar, 2021).

The development procedure in this research uses the ADDIE model, which consists of five stages, namely (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation (Krismony et al., 2020). A feasibility test of the media developed by two expert media and material expert validators will be conducted, and a product effectiveness test will be carried out. Data is analyzed using qualitative and quantitative methods. Qualitative data is obtained from the product analysis and design stages, which are sourced from expert validation results in the form of suggestions and criticisms of the media being developed. The data is analyzed using descriptive qualitative methods, which are also used to draw broad conclusions and determine the extent of children's early mathematical abilities. The following is the ADDIE Research Model Flowchart (Figure 1).

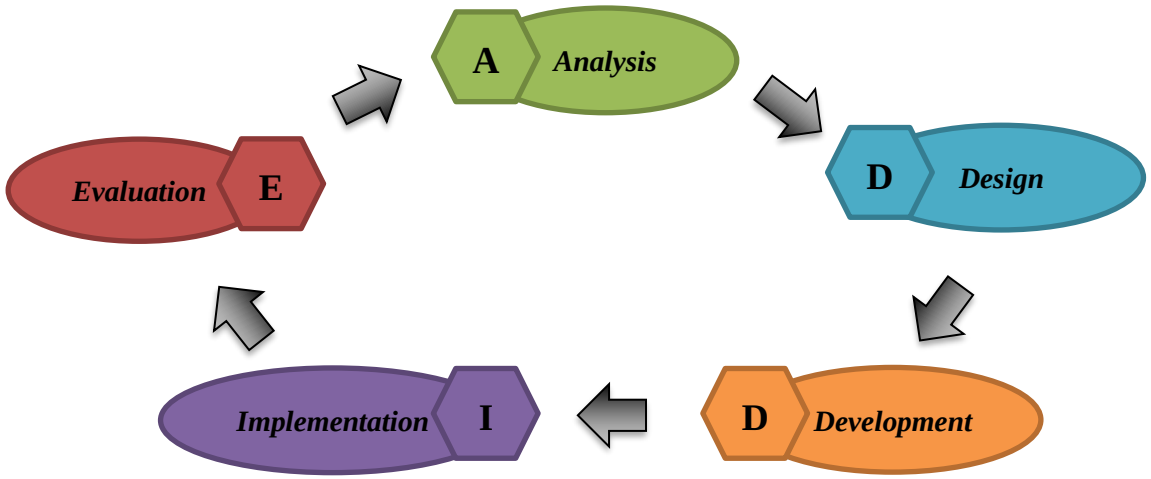


Figure 1. Stages of Research and Development

At the analysis stage, researchers analyze the learning curriculum, learning objectives, and student's needs for information sources to support educational goals (Tanjung, 2021). Tahap *design*, peneliti merancang konsep media pembelajaran yang mencakup produk yang akan dikembangkan. At the design stage, researchers design learning media concepts that include the products to be developed. At the development stage, researchers develop and realize the product design that has been designed and will be validated by expert validators from an early childhood education background to determine the feasibility of the media developed (Fina Faizah et al., 2022). At the implementation stage, researchers will conduct a trial of the developed product in the field according to previous validation results. Finally, at the evaluation stage, researchers will collect suggestions and input from validators and teacher assessments for the feasibility of the developed media (Ilmiya et al., 2025).

Table 1. Data Collection Grid

| No. | Criteria | Instrument | Data source |
|---|---|---|---|
| 1 | Feasibility test | Practicality Test | a. Media Expert: Early Childhood Education Lecturer<br>b. Subject Matter Expert: Early Childhood Education Lecturer |
| 2 | Validation Sheet | Questionnaire Sheet | Kindergarten/Preschool Teacher |


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Technique data collection used by the researcher includes interviews, observations, questionnaires (validation The experts consist of two people, namely expert materials and experts media, one teacher), and documentation. The research instruments used by the researcher include validation sheets (Table 4 and Table 5), observation sheets (Table 6), and questionnaires measured using a Likert scale. The questionnaire method was applied to measure indicators related to the content and appearance of the Counting Bunny Board Mathematics media (Kemendiknas, 2014).

Table 2. Early Childhood Mathematics Ability Indicators

| No | Indicator |
|---|---|
| 1 | Able to number sequences from 1-10 correctly |
| 2 | Capable of counting sequence numbers from 11 to 20 correctly |
| 3 | Able to group objects according to number symbols |
| 4 | Capable to finish summation simple |
| 5 | Able to complete simple subtraction |

Initial Mathematics Ability Indicators in Table 2 are assessed with four assessment scales, namely BB (Not Yet Developing), MB (Starting to Develop), BSH (Developing as Expected), BSB (Developing Very Well). Table 3 is a description of the assessment scales.

Table 3. Early Childhood Mathematics Ability Assessment Category

| Kategori | Deskripsi |
|---|---|
| BB | Children cannot yet number in the correct order of numbers 1-20, group objects according to number symbols, complete simple addition and subtraction, and need teacher help. |
| MB | Children are starting to be able to number in the correct order of numbers 1-20, group objects according to number symbols, and complete simple addition and subtraction, but need the teacher's help. |
| BSH | Children can count in the correct order of numbers 1-20, group objects according to number symbols, and complete simple addition and subtraction without help from the teacher. |
| BSB | Children can count in the correct order of numbers 1-20, group objects according to number symbols, and complete simple addition and subtraction independently and can help their friends. |

Table 4. Material Expert Validation Instrument

| No | Aspect | Indicator |
|---|---|---|
| 1 | Contents | 1. Counting Bunny Board Mathematics media is relevant to the theme |
| | | 2. Helping children learn to recognize numbers 1-20 |
| | | 3. Helping children learn to group objects according to numbers |
| | | 4. Helping children to learn simple arithmetic operations |
| | | 5. Suitability of media content to the child's developmental stage |
| 2 | Content View | 6. Ease of use of media |
| | | 7. Image quality |
| | | 8. Selection of images according to the theme |
| | | 9. Interesting media to be used as learning media for early childhood |


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Table 5. Media Expert Validation Instrument

| No | Aspect | Indicator |
|---|---|---|
| 1 | Media view | 1. Media size |
| | | 2. Media can be used efficiently for children aged 5-6 years. |
| | | 3. Media display is attractive to children |
| 2 | Media size | 4. Equipped with instructions or media use |
| | | 5. Media appropriate for the development of children aged 5-6 years to introduce the concept of numbers 1-20 and simple arithmetic operations. |
| | | 6. Media suitable for cognitive development of 5-6 year-olds |
| | | 7. Suitability of the theme used |
| | | 8. Media can be used for children aged 5-6 years |
| 3 | Content view | 9. Media can be used for an extended period |
| | | 10. The materials used are safe for children aged 5-6 years. |

Table 6. Teacher Response Instrument

| No | Aspect | Indicator |
|---|---|---|
| 1 | Media view | 1. Media size |
| | | 2. Media can be used efficiently for children aged 5-6 years. |
| | | 3. Media display is attractive to children |
| 2 | Content view | 4. Equipped with instructions or media use |
| | | 5. Media can be used for children aged 5-6 years |
| | | 6. Suitability of the theme used |
| | | 7. In accordance with learning objectives |
| | | 8. The material presented in the media is easy for children aged 5-6 years to understand. |
| | | 9. Media appropriate for the development of children aged 5-6 years to introduce the concept of numbers 1-20 and simple arithmetic operations |
| 3 | Security/usage display | 10. Media can be used for an extended period |
| | | 11. The materials used are safe for children aged 5-6 years. |

The expert validation sheet is compiled using a Likert scale questionnaire from 1 to 4; the assessment is done by giving a check mark ( ✓ ), accompanied by comments and suggestions as input or product improvements. Table 7 is the assessment category in the validation sheet.

Table 7. Description of Validation Test Values

| Category | Score |
|---|---|
| Very good | 4 |
| Good | 3 |
| Not enough | 2 |
| Very less | 1 |

The steps in carrying out validation are compiling a validation instrument, submitting it to the validator (material expert and media expert), and documenting and collecting data. Then, the data has been obtained will analyze use analysis quantitative with the following formula (Hamzah, 2016)

$$P = \frac{\sum R}{N} \times 100\ \%$$

Informationn :
P : Percentage value (rounded)
∑R : Total score from respondents' answers
N : Maximum score of the test used


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Table 8. Eligibility Criteria for Counting Bunny Board Mathematics Media

| No | Percentage | Criteria |
|---|---|---|
| 1. | 76 % - 100 % | Very Worth It |
| 2. | 51 % - 75 % | Worthy |
| 3. | 25 % - 50 % | Quite Decent |
| 4. | 0 % - 24 % | Not enough |

## RESULT AND DISCUSSION

Based on the research results, the Counting Bunny Board Mathematics media has proven valid in improving the early Mathematics skills of children aged 5-6 years. This validity was obtained through 5 (five) stages in the Research and Development (R&D) approach with the ADDIE model. The following are the findings at each stage that was passed. The development of the Counting Bunny Board Mathematics media was carried out using the ADDIE model with five stages: Analysis, Design, Development, Implementation, and Evaluation.

*Analysis Stage*

The analysis process in designing learning media begins with recognizing the needs of children as learners, understanding their characteristics, and adjusting them to curriculum standards and the content of the material to be taught. This stage ensures that the media designed truly supports the developmental stages of early childhood thinking and can accommodate their learning needs. This analysis also includes identifying core competencies in early mathematics, such as number recognition, basic geometric shapes, simple patterns, and concepts of size and sequence. Sukiman (2012) explains that needs analysis is an important initial step in developing educational media because it provides a comprehensive picture of the actual conditions and needs of media users, both children and the context of their learning environment. Therefore, the media developed needs to be based on direct observation results and real data from the field

At this stage, the researcher found that educators or teachers in the Preparatory Center class had not used media to introduce early mathematical concepts to children. Teachers only used storytelling methods, so some children still did not know numbers and counting. This stage obtained data by observing, interviewing, and providing Pre-Test sheets to teachers and documenting the learning process at the Nurul Ilmi Kindergarten Preparation Center. In the analysis of children's needs, what needs to be known is the challenges or difficulties of children in understanding the learning provided and seeing media that supports the learning provided, especially in improving children's early mathematical abilities. Based on the results of teacher interviews, it is said as follows.

> *"To introduce mathematics, we usually just use random stories and use our fingers. To introduce letters, we usually use songs."*

Although introducing mathematical concepts to children is often done simply in practice, such as through random stories and fingers, learning media is essential to maintain children's interest and a conducive learning atmosphere. Research conducted by Rinawati explains that learning media is needed to introduce children's counting skills. A monotonous learning process makes children uncomfortable and easily bored (Rinawati, 2016). Educational Game Tools (APE) or educational learning media can foster children's interest in learning. Using these educational game tools is a type of activity carried out to get pleasure from the educational methods or media used in playing activities. (Khadijah, 2015) Therefore, the researcher aims to develop a new medium, Counting Bunny Board Mathematics, with a rabbit theme and visual media that directly and actively involves children while playing.

*Design Stage*

Researchers collect various data types in the design stage to help develop the product. Researchers collect data from learning videos and illustrations accessed on social media as a reference for developing Counting Bunny Board Mathematics learning media. Learning media is also helpful in increasing


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

children's motivation to learn, attracting children's focus, and making it easier for children to understand the learning material being taught. (Azhima et al., 2021). Therefore, appropriate, interesting, and varied learning media are needed in teaching and learning activities. (Nuryati, 2020). Researchers do these as initial steps before entering the stage of designing the learning media to be created.

The Design Stage is the stage that designs the concept of learning media that includes the product to be developed. The following is a design of the Counting Bunny Board Mathematics media product developed by the researcher in Figure 2. This media is rectangular and has a pet theme, namely rabbits. This game can be played individually or in groups. This media is designed to introduce the shape of numbers 1 to 20, group objects based on numbers, and perform simple addition and subtraction. This shows that learning media must have flexibility of use, and the media not only introduces the concept of numbers to children but also helps children group objects and practice counting skills. (Nuryati, 2020). Although the Counting Bunny Board Mathematics media that has been developed is effective, it would be better if it could continue to be developed to be more complete, both in terms of material and design.


Figure 2. Counting Bunny Board Mathematics Media Design Process

*Development Stage*

Assembling all the parts that have been collected and designed at the design stage is a way to complete the media creation stage (Figure 3). Counting Bunny Board Mathematics Media is designed like a miniature counting board where children can be directly involved in the counting process. In line with Montessori's explanation that the use of learning media for children is not to make children only memorize numbers or materials in the media but also to make children practice directly (Fina Faizah et al., 2022). So, children can dismantle and reassemble the number of pins and carrots provided. Counting Bunny Board Mathematics media is also equipped with a game instruction board so teachers can easily use it. After the development, the next stage was to test the feasibility of the media by expert validators. The revision researchers got from media experts was to replace soft materials with hard ones so that media elements are not easily damaged. Following the findings from this stage, input from expert validators in their fields explained that the materials used in making the media must be sturdy so that the media is not easily damaged, and this is important to improve the quality and durability of the media when used. (Liyana & Kurniawan, 2019). Figure 3 is a display of the Counting Bunny Board media that has been developed.

Figure 3. Results of Counting Bunny Board Mathematics Media Development

After the development has been done, the next step is to conduct a feasibility test of the media that has been developed. The feasibility test was carried out by two validators, experts in their fields,


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

namely media and material experts. Each expert's validation instrument was used. The validation results can be seen in Table 9.

Table 9. Results of Validation by Material Experts and Media Experts

| No | Expert Validation | Rata-rata | Persentase | Kategori |
|---|---|---|---|---|
| 1 | Material | 4 | 100% | Very Worth It |
| 2 | Media | 3,9 | 97,5% | Very Worth It |

From the results of the total score of Table 9, then calculated using the formula listed above, the percentage for the validation value of the suitability of the material on the media developed is 100% with a category based on Table 8, then categorized as Very Eligible to be tested, and for the validation value of the feasibility of the media on the media developed is 97.5% with a category based on Table 8, then categorized as Very Eligible to be tested. In addition to material and media experts, teacher response tests were also carried out on the development of media carried out by researchers and determining the feasibility of the media provided by the preparation center teacher as the implementer of learning using the Counting Bunny Board Mathematics media, the percentage results obtained according to the calculation formula above, then a percentage value of 95.4% was obtained with a very feasible category, the following Table 10 is the result of the teacher's response.

Table 10. Teacher Response Validation Results

| No | Expert Validation | Average | Percentage | Category |
|---|---|---|---|---|
| 1 | Guru TK/PAUD | 3,8 | 95,4% | Very Worth It |

The validation results from the teacher show that the developed learning media is classified as very feasible to be used in learning. This assessment shows that the media is by the learning needs of children and is assessed positively in terms of content quality, media appearance, and ease of use in class (Ilmiya et al., 2025).

*Implementation Stage*

In the implementation stage, the Counting Bunny Board Mathematics media product developed will be used by researchers to carry out learning in improving early Mathematics skills in children aged 5-6 years. The implementation stage will help to determine the effectiveness of the product developed by seeing the improvements that occur after using the media and indicating that the media is suitable for use and can help children understand the material. (Azhima et al., 2021). The validation results by teachers, with a percentage of 95.4% in the very feasible category in Table 10, indicate that this media is effective. In addition, the effectiveness of the counting bundle board mathematics media can also be seen from the results of the pre-test-post-test given to group B Sentra Persiapan students, which can be seen in Table 11.

Table 11. Pre Test-Post Test Results

| No. | Results | Average | Category |
|---|---|---|---|
| 1 | *Pre Test* | 18.23 | BSH |
| 2 | *Post Test* | 19.52 | BSB |

Based on the results of *the Pre Test-Post Test* above , then For knowing the improvements that occurred from the results of *the Pre-test- Post-test* from the data above counted with using the following formula

$$\text{Increase } \% = \frac{\bar{x}Post\ test - \bar{x}Pre\ test}{\bar{x}\ Pre\ test} \times 100\%$$

$$\text{Increase } \% = \frac{19{,}52 - 18{,}23}{18{,}23} \times 100\%$$

$$\text{Increase } \% = 7{,}08\%$$


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Information :
x̄ *Pre test :* *Pre test* average
x̄ *Post test :* *Post test* average

The conclusion is that the *Counting Bunny Board Mathematics media* effectively improves children's early Mathematics abilities, as proven by an increase of 7.08% from the results of *the Pre-Test-Post Test* above. with the BSH category.

Figure 3. Use of *Counting Bunny Board Mathematics Media*

*Evaluation Stage*

This stage contains input and suggestions from 2 validators, namely Material Experts and Media Experts, as well as teachers from the Nurul Ilmi Kindergarten Preparation Center regarding improvements and shortcomings in the development of *the Counting Bunny Board Mathematics media,* which is the evaluation material, by researcher In the future. In accordance with the findings of this stage, input from validators who are experts in their fields explains that the materials used in making media must be strong so that the media is not easily damaged, and this is important to improve the quality and durability of the media when used (Liyana & Kurniawan, 2019). The evaluation stage shows that the developed media is feasible and effective for use, based on input from expert media and material validators and trial results that show the achievement of learning objectives(Amiran, 2016).

## CONCLUSION

*The Counting Bunny Board Mathematics* media was carried out through 5 *ADDIE stages*, namely the analysis, design, development, implementation, and evaluation stages. The *Counting Bunny Board Mathematics media* is very suitable to be used as a learning media, as proven by the results of the media feasibility validation test by expert material and media experts with a percentage of 100% and 97.5%. This media is also very effective in helping to improve children's early Mathematics skills, as seen from the percentage of *Pre Test-Post Test results* of 7.08%. The results of the reflection of this observation can be a reference for further research, especially to see how *Counting Bunny Board Mathematics* can be used for other children's abilities. For teachers, these results can also help identify things that support the successful use of *Counting Bunny Board mathematics* in various learning situations. In general, this study is expected to help understand children's early Mathematics skills and encourage children's development so that they can reach their potential.

## ACKNOWLEDGEMENT

Researchers would like to thank Dr. Ahmad Syukri Sitorus, M.Pd, for his guidance in the development of *the Counting Bunny Board Mathematics* media and the preparation of final project articles. Don't forget to Mother Nurlaili, M.Pd, and Idzni Azhima, M.Pd, on willingness to become a material expert and media expert validator.


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

## REFERENCE

Amiran, S. (2016). Efektifitas Penggunaan Metode Bermain Di Paud Nazareth Oesapa. *Jurnal Pendidikan Anak*, *5*(1). https://doi.org/10.21831/jpa.v5i1.12367

Ariyanti, T. (2007). Pentingnya Pendidikan Anak Usia Dini Bagi Tumbuh Kembang Anak, *7*(3), 213–221.

Azhima, I., Meilanie, R. S. M., & Purwanto, A. (2021). Penggunaan Media Flashcard untuk Mengenalkan Matematika Permulaan Pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *5*(2), 2008–2016. https://doi.org/10.31004/obsesi.v5i2.1091

Azizah, S. M., Wahyuni, F., & Khasanah, N. L. (2023). Penggunaan Media Pohon Pintar Angka untuk Mengembangkan Kemampuan Membilang bagi Anak Usia Dini. *Journal Of Psychology And Child Development*, *3*(1), 21–34. https://doi.org/10.37680/absorbent

Barkatussalsabila, S., Jazariyah, & Purnamasari, Y. M. (2024). Meningkatkan Kemampuan Matematika Anak Usia Dini Melalui Media Interaktif. *Jurnal Riset Dan Pendidikan*, *2*(2), 83–92.

Basri, H. (2018). Cognitive Ability In Improving The Effectiveness Of Social Learning For Elementary School Students. *Jurnal Penelitian Pendidikan*, *18*(1), 1–9. https://ejournal.upi.edu/index.php/JER/article/view/11054

Cahyono, A. (2013). Meningkatkan Kemampuan Berhitung Menggunakan Media Belajar Ular Tangga Di Taman Kanak – Kanak Dharma Wanita 2 Jragan Tembarak Temanggung. *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699.

Carl, E. &. (2018). *Organization , Regulations , And Courses 2020 -21*. *September*, 1–866.

Clements, D. H., & Sarama, J. (2018). Myths of early math. *Education Sciences*, *8*(2), 1–8. https://doi.org/10.3390/educsci8020071

Fahma, M. A., & Purwaningrum, J. P. (2021). Teori Piaget dalam Pembelajaran Matematika. *MUST: Journal of Mathematics Education, Science and Technology*, *6*(1), 31. https://doi.org/10.30651/must.v6i1.6966

Farihah, H. (2017). Mengembangkan Kemampuan Berhitung Anak Usia Dini Melalui Kegiatan Bermain Stick Angka. *Seling Jurnal Program Studi PGRA*, *3*(5), 24–39.

Fina Faizah, Yuliana, I. F., & Rosyidah Syafaatur Rohmah. (2022). Pengembangan Instrumen Objektif Disertai Alasan Berbasis HOTS Ditinjau Dari Validasi Ahli Untuk Mengukur Keterampilan Berpikir Kritis Siswa. *Chemistry Education Practice*, *5*(2), 157–162. https://doi.org/10.29303/cep.v5i2.3518

Hamzah, & D. (2016). Pengantar Statistik. *AURA*.

Hidayat, F., & Nizar, M. (2021). Model Addie (Analysis, Design, Development, Implementation and Evaluation) Dalam Pembelajaran Pendidikan Agama Islam Addie (Analysis, Design, Development, Implementation and Evaluation) Model in Islamic Education Learning. *Jurnal UIN*, *1*(1), 28–37.

Ilmiya, F., Nazifah, A. H., Mahbuba, W., & Kharisma, M. (2025). *Pengembangan Media Labyrin Worship Exploration Untuk Mengenalkan Tempat Ibadah*. *8*(1), 170–181.

Kemendiknas. (2014). Permendikbud No 146 Tahun 2014. *Permendikbud Repblik Indonesia*, *8*(33), 37.

Khadijah. (2015). *Media Pembelajaran Anak Usia Dini*. Perdana Publishing.

Krismony, N. P. A., Parmiti, D. P., & Japa, I. G. N. (2020). Pengembangan Instrumen Penilaian Untuk Mengukur Motivasi Belajar Siswa SD. *Jurnal Ilmiah Pendidikan Profesi Guru*, *3*(2), 249. https://doi.org/10.23887/jippg.v3i2.28264

Lestari Pratiwi, G., & Akbar, B. (2022). Pengaruh Model Problem Based Learning Terhadap Keterampilan Computational Thinking Matematis Siswa Kelas Iv Sdn Kebon Bawang 03 Jakarta. *Didaktik : Jurnal Ilmiah PGSD STKIP Subang*, *8*(1), 375–385. https://doi.org/10.36989/didaktik.v8i1.302

Liyana, A., & Kurniawan, M. (2019). Speaking Pyramid sebagai Media Pembelajaran Kosa Kata Bahasa Inggris Anak Usia 5-6 Tahun. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *3*(1), 225. https://doi.org/10.31004/obsesi.v3i1.178

Mubarokah, M. (2021). Upaya Meningkatkan Kemampuan Berhitung Menggunakan Media Loose Parts pada Anak kelompok B TK. *Jurnal Educatio FKIP UNMA*, *7*(2), 535–540. https://doi.org/10.31949/educatio.v7i2.1124


ISSN 2302-6804 (print), ISSN 2579-4531 (online)

Mudtalifah, Mansur, & Farhurohman, O. (2016). *Pengaruh Media Counting Box Terhadap Kemampuan Berpikir Kritis Siswa Pada Mata Pelajaran Matematika*. *10*, 1–23.

Mulyati, R., Herminastiti, R., & Malik, H. A. (2021). Upaya meningkatkan kemampuan matematika permulaan melalui media papan literasi air. *Prosiding Seminar Nasional Pendidikan STKIP Kusuma Negara III SEMNARA 2021 E-ISSN*, *006*, 33–39.

Nanda syahputri, & Sit, M. (2023). Pengembangan Media Busy Book untuk Meningkatkan Kemampuan Aksara dan Angka pada Anak Usia 5-6 Tahun. *Aulad: Journal on Early Childhood*, *6*(2), 260–271. https://doi.org/10.31004/aulad.v6i2.512

Nuryati. (2020). *Alat permainan edukatif (ape)*.

Oktriyani, N. (2017). Peningkatan Kemampuan Berhitung Anak Usia Dini Melalui Permainan Lingkaran Angka Di Taman Kanak- Kanak Qatrinnada Kecamatan Koto Tangah Padang. *PAUD Lectura: Jurnal Pendidikan Anak Usia Dini*, *1*(1), 83–96. http://journal.unilak.ac.id/index.php/paud-lectura/article/view/510

Raudhatul, J. U. (2013). Teori Dienes Dalam Pembelajaran Matematika. *Interaksi: Jurnal Kependidikan*, *8*(2), 126–131. http://ejournal.unira.ac.id/index.php/jurnal_interaksi/article/view/324

Rinawati, E. (2016). *Ragam Media Pembelajaran*. Raga Pena.

Safira, A., & I, A. S. (2020). *Pembelajaran Sains dan Matematika Anak Usia Dini*. Caremedia Communication.

Sit, M. (2017). *Psikologi Perkembangan Anak Usia Dini*. Prenadamedia Group.

Sufa, F. F. (2017). *Konsep Matematika Untuk Anak Usia Dini*.

Sugiyono. (2017). *Metode Penelitian dan Pengembangan (Research and Development)*. Alfabeta.

Sugiyono. (2020). *Metode Penelitian Kuantitatif, kualitatif, dan R&D*. Alfabeta.

Sukiman. (2012). *Pengembangan Media Pembelajaran*. Prenadamedia Group.

Susi Maulida, & Umi Kaidaro. (2022). Peningkatan Kemampuan Berhitung 1-10 Melalui Video Animasi Pada Kelompok a Di Ra Ar Rohmah Pekukuhan Kecamatan Mojosari Kabupaten Mojokerto. *Abata : Jurnal Pendidikan Islam Anak Usia Dini*, *2*(2), 241–249. https://doi.org/10.32665/abata.v2i2.883

Suyitno, A., & Sugiharti, E. (2013). Meningkatkan Kemampuan Memecahkan Masalah Bagi Mahasiswa Pgmipabi Dalam Perkuliahan Melalui Penerapanmind Mapping Berciri Konservasi. *Jurnal Penelitian Pendidikan (Semarang)*, *30*(1), 11–16.

Tanjung, A. A. (2021). *Metode Penelitian* (Surabaya). Scopindo Media Pustaka.

Wahidah, I. A., & Jazariyah, Y. M. P. (2016). *Media House Counting untuk Meningkatkan Kemampuan Matematika Anak Usia Dini Ina*. *4*(2), 1–23.


ISSN 2302-6804 (print), ISSN 2579-4531 (online)