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# Development of Magnetic Numbers Book Media to Introduce the Concept of Numbers to Children Aged 5-6 Years

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**Abstract.** The purpose of this study is to validate the validity and usefulness of the Magnetic Numbers Book, a learning tool for teaching number concepts to children ages 5 to 6. This study uses Tessmer's formative assessment in conjunction with the ADDIE paradigm (Analyze, Design, Development, Implementation, Evaluation) as part of the Research and Development (R&D) approach. Techniques for gathering data include observations and walkthroughs. The instrument used includes an observation sheet based on indicators such as number recognition, number-symbol matching, grouping, and classification. These indicators are derived from the cognitive development standards for children aged 5–6 years. The collected data were analyzed quantitatively by calculating the percentage scores from expert validations and observational assessments during one-to-one and small group evaluations. During the expert review phase, the average validation score was 93% (highly valid), with media experts scoring 97% (very valid) and material experts scoring 89% (highly valid). In the one-to-one evaluation stage involving three children, the observation results indicated a practicality score of 93% (highly practical), whereas in the small group evaluation stage with nine children, the observation score reached 97% (highly practical). Based on the research findings, the Magnetic Numbers Book is deemed highly valid and highly practical, making it suitable for use in the learning process for children aged 5–6 years.

***Keywords:*** Learning Media, Magnetic Numbers Book, Number Concept, Children Aged 5-6 Years, ADDIE

## Introduction

Early Childhood Education (PAUD) is a fundamental foundation in shaping children's character and development. According to Law Number 20 of 2003, PAUD is intended for children aged 0-6 years to provide educational stimulation that supports their physical and mental growth before entering the next level of education. This period is known as the golden age, during which children receive and respond to stimuli optimally, influencing their cognitive, socio-emotional, and motor development.

Cognitive development, which includes learning via contact with the environment and parental and educational stimulation, is one of the most important facets of early childhood development (Harmi et al., 2022). The Standard Achievement Level of Cognitive Development states that children between the ages of five and six are in the symbolic thinking stage, during which they start to grasp ideas with the use of tangible objects. According to Ministry of Education and Culture Regulation Number 146 of 2014, one of the benchmarks for children in the 5–6 age range is the ability to recognize numbers using number symbols. This ability serves as a foundation for understanding more complex mathematical concepts in the future, making it essential to implement effective and age-appropriate number recognition strategies.

Learning media plays a crucial role in helping children understand number concepts more engagingly and interactively. According to Selian (2021), the media acts as an intermediary in delivering knowledge, making it easier for children to comprehend. The use of appropriate media can stimulate children's thinking and create meaningful learning experiences. However, observations in three kindergartens in Ogan Ilir Regency—TK IT Adzkia, TK Hubbullah, and PAUD

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Permata Kasih—revealed that the media used for number recognition remains limited, including number posters, notebooks, and teacher-made cardboard materials. These media have several drawbacks, such as being unattractive, non-durable, and unsuitable for repeated use. Interviews with teachers from these kindergartens also highlighted the absence of engaging, durable media that could encourage active and enjoyable learning.

Previous research has shown that innovative media can enhance children's understanding of number concepts. Nuriyah (2023) emphasized the importance of considering children's characteristics when introducing numbers, such as using treasure map-based learning games. Ningrum (2023) found that the number of suitcase media was effective due to its interactive and engaging nature. Meanwhile, Mukharamah et al. (2021) developed "Karpet Engklek" media to introduce number symbols more enjoyably. These studies reinforce the importance of using engaging and developmentally appropriate media in teaching number concepts.

Although various media have been developed, no research has specifically explored the use of a magnetic numbers book as a learning aid for children aged 5-6 years. This book is designed to be more interactive by incorporating magnetic elements, allowing children to arrange and match numbers enjoyably. The magnetic element in the magnetic numbers book can increase children's engagement and help them understand the relationship between numbers and object quantities more concretely.

Although several previous studies have developed various learning media for number recognition in early childhood, such as treasure map games, number suitcase media, and hopscotch carpets, there has been no study that specifically explores the use of magnetic number books for children aged 5–6 years. The absence of research on this media creates a knowledge gap regarding the effectiveness and appeal of magnetic media in improving understanding of number concepts in a concrete and interactive way. The novelty in this study lies in the development and utilization of magnetic number books as learning media that integrate magnetic elements to support interactive and fun learning activities. This media is specifically designed for ages 5–6 years by considering the child's symbolic development stage, and aims to overcome the limitations of existing media such as durability, engagement, and visual appeal.

Based on these issues, this study aims to develop a magnetic numbers book as an alternative medium for introducing number concepts. It is expected that this media will enhance children's understanding and serve as a more engaging and effective learning tool for early childhood education in Ogan Ilir Regency.

## Materials and Methods

To create a Magnetic Numbers Book that would help children aged 5 to 6 understand number concepts, this study used the Research and Development (R&D) approach with the ADDIE paradigm, which includes Analysis, Design, Development, Implementation, and Evaluation stages. Conducted in February 2025 at TK IT Adzkia, Ogan Ilir, the study involved three children in the one-on-one evaluation and nine children in the small-group evaluation. Data were collected through interviews with teachers (secondary data) and expert reviews and child assessments (primary data), using walkthroughs, observations, interviews, and documentation. The analysis phase assessed children’s learning needs, while the design stage focused on creating a 14-page magnetic book featuring numbers 1–10 and interactive exercises. In the development phase, materials were selected based on safety, durability, and suitability to children’s characteristics. The implementation and evaluation phases involved trials with children and the application of Tessmer’s formative evaluation (self-evaluation, expert review, one-on-one, and small group evaluations). The instrument used in this study was an observation sheet developed based on indicators of cognitive abilities of children aged 5-6 years according to Permendikbud Number 146 of 2014. Indicators in the instrument include: (1) stating numbers 1-10, (2) recognizing number symbols, (3) matching numbers with the number of objects, (4) grouping objects based on number, and (5) ordering numbers sequentially. The validation sheet was also used by

material experts and media experts to assess the suitability of content, technical aspects, aesthetics, and media integration with the characteristics of child development. Data were analyzed quantitatively by calculating average scores from expert and observational assessments, which were then converted into percentages and categorized (e.g., ≥85% as very valid/practical). The study concluded at the small group stage, emphasizing the product's high validity and practicality in engaging children and enhancing their understanding of number concepts.

## Results and Discussion

## Results

### Magnetic Numbers

#### *Child Needs and Development Analysis*

In the needs analysis, researchers conducted observations and interviews aimed at analyzing the needs of children aged 5-6 years. The needs analysis was conducted by researchers on 3 teachers from different schools, namely IT Adzkia Kindergarten teachers, Hubbullah Kindergarten teachers, and Permata Kasih PAUD teachers related to cognitive aspects, especially on the material of recognizing the concept of numbers in children aged 5-6 years. From the results of observations conducted in three kindergartens, the media often used to introduce the concept of numbers are notebooks, number posters, puzzles, blocks, and media made of cardboard, where, when children learn the concept of numbers, they often feel bored because they use incomplete media.

The results of the interviews that were also conducted in three kindergartens showed that there were still many children who had problems in recognizing the concept of numbers, for example, children could not distinguish between the symbols of the numbers 6 and 9, then children also did not understand the concept of numbers and number symbols which was indicated by children only being able to mention 1-10 but not yet recognizing how the symbols of the numbers mentioned were and children also did not understand if the amount of a number was shown with the right symbol. Therefore, the researcher intended to develop a medium in the form of a magnetic numbers book to introduce the concept of numbers to children aged 5-6 years. This magnetic numbers book presents symbols of numbers and numbers, so that children can not only mention 1-10, but children can also understand numbers, number symbols, and the amount of numbers if shown objects or pictures.

#### *Design Phase Results*

1. **Developing an idea or Concept**

   Entering the design stage, at this stage the researcher develops ideas or concepts for the media to be produced. The first stage carried out by the researcher is to consider the characteristics of children aged 5-6 years related to the material of recognizing the concept of numbers, where the researcher includes material taken from the indicators, namely mentioning, connecting, grouping, and classifying, into the media to be presented. This media is designed using numbers and objects with magnetic technology that can be removed and moved according to the theme of the activity on each media page. In addition to the design aspect, researchers also develop the content of the material presented in the media, for example, each page has a different activity theme, then some pictures attract children's attention and the theme in the media also includes interesting visual elements, such as bright colors and illustrations that are appropriate to the child's environment so that children can integrate the concept of numbers in a real way.

2. **Determining the Software Used**

   In producing a product, of course, a design or illustration of how the design will be produced later is needed. In the magnetic numbers book media, software is used in the form of the Canva application. The Canva application is used to create designs and find the elements needed on each page of the book to be developed.

**3. Determining Book Materials**

The materials to be utilized in the creation of the Magnetic Numbers Book are now decided by the researcher. The choice of these resources plays a significant role in bolstering the efficacy of media as a teaching tool for kids between the ages of five and six. When choosing the book materials, the researcher takes into account a number of variables, including durability, safety, and fit for the users' characteristics—in this case, youngsters.

a. Material Safety

Considering that the users of the Magnetic Numbers Book are young children, material safety is a top priority. Researchers chose materials that are harmless and child-friendly, such as thick cardboard laminated with waterproof plastic. This lamination aims to make the material more durable, easy to clean, and not easily torn or damaged when used by children. In addition, the corners of the book are designed to be blunt to avoid potential injury when children hold or move the book.

b. Material Durability

This book is expected to be used repeatedly by children and teachers, so the selection of materials with high durability is very necessary. Researchers use quality magnets that are strong enough to attach numbers to the board, but still easy for children to remove. In addition, the numbers used are also made of thick plastic that is durable and not easily damaged when played with. The strength of this material will support long-term use in the school environment or at home.

c. Suitability to Child Characteristics

In the process of determining this material, researchers also conducted a trial by giving samples of the Magnetic Numbers Book to several children aged 5-6 years. Feedback from this trial was used to ensure that the materials used were not only safe and durable, but also

In the process of determining this material, researchers also conducted a trial by giving samples of the Magnetic Numbers Book to several children aged 5-6 years. Feedback from this trial was used to ensure that the materials used were not only safe and durable but also provided a fun and interactive learning experience for children.

***Development Phase Results***

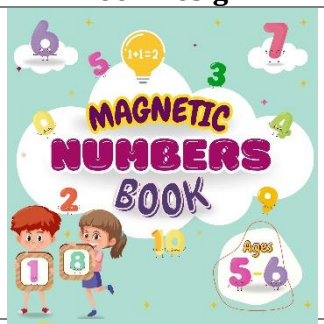
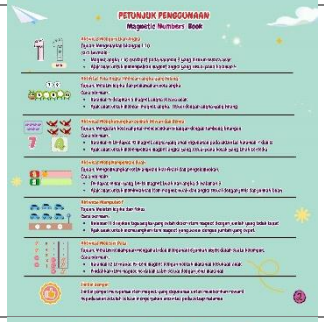
**1. Making Magnetic Numbers Book Media Material**

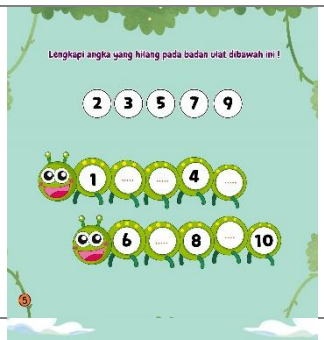
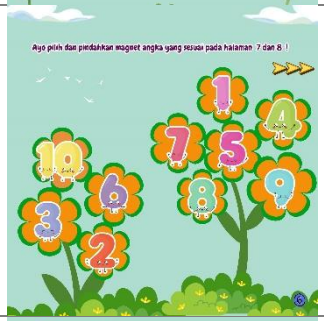
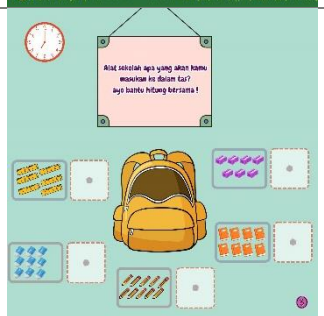
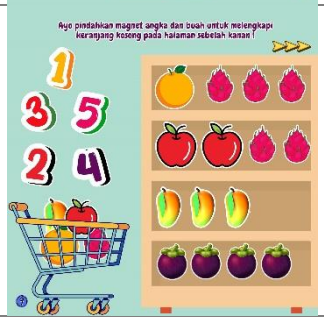
The Magnetic Numbers Book is designed according to the 2013 Early Childhood Education Curriculum for children aged 5-6 years, as stated in the Decree of the Minister of Education and Culture Number 146. Children at this age begin to recognize the concept of numbers, group objects based on quantity, and mention numbers 1-10 in sequence. The development stage begins with determining the number recognition material using the Magnetic Numbers Book, which focuses on the cognitive aspects of children. Activities include recognizing numbers, matching numbers with the number of objects, and grouping numbers according to everyday life. The material is arranged based on content and construct validation; content validation ensures compliance with the curriculum, while construct validation adjusts the design to the characteristics of early childhood. The design is made attractive, interactive, and easy to use without confusing children. Researchers ensure that this media provides a fun learning experience and supports children's cognitive development in recognizing numbers.

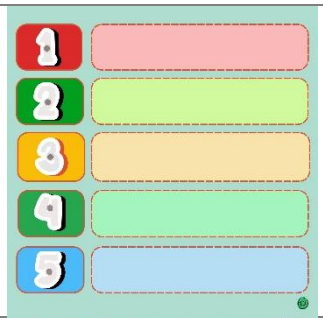
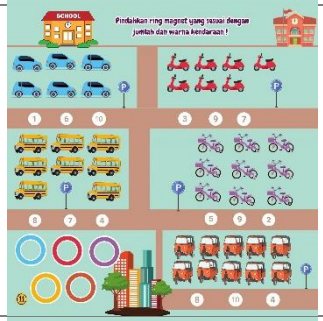
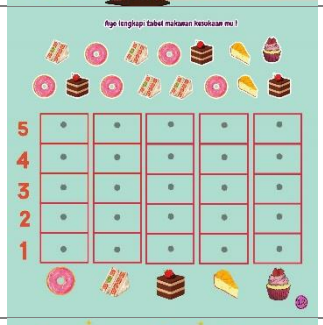
## 2. Magnetic Numbers Book Media Design

**Table 1.**

Developed Book Design

| No | Book Design | Information |
|---|---|---|
| 1 |  | The cover of the magnetic numbers book media is presented with the title of the media, the child's age, and an illustration of the numbers in the media. |
| 2 |  | On the first page, there is a table of contents of the magnetic book, which contains all the activities in the media. |
| 3 |  | On the second page, there is a method for using the magnetic numbers book media, which can be used by parents and teachers. |
| 4 |  | Next, on page 3, there is a sheet that is made to place magnetic items that will be used in activities on page 4. The numbers presented are arranged randomly so that children can be stimulated by the concept of numbers. |
| 5 |  | Page 4 on the side is the first activity sheet, namely sorting numbers 1-10, where children move the magnetic items available on page 3. |

| | | |
|---|---|---|
| **6** |  | The sheet next to it is the second activity sheet, which contains random magnetic number items that will be used to fill in the activity of finding the missing number in the caterpillar body picture. |
| **7** |  | The picture of the number tree on the side is a sheet on page 6, which is made as a place for magnetic items that will be used as activities on pages 7 and 8. |
| **8** |  | Page 7 is the third activity, namely the connecting activity. The activity on this sheet presents several animal pictures that children will later connect according to the number of animals (with the number of animals 1-5) |
| **9** |  | Page 8 is an activity that continues from page 7, namely connecting magnetic number items according to the number of objects (6-10) |
| **10** |  | The next sheet presents magnetic number items and magnetic fruit items that can be removed, and then the child will classify them on the activity sheet on page 10. |

| | | |
|---|---|---|
| **11** |  | On this page is an activity sheet for classifying activities, where children will move magnetic items according to the numbers, number of numbers, color, and type of fruit that match. |
| **12** |  | Page 11 on the side is a classification activity which continues from page 10, but with a different activity theme, where in this activity, children are asked to move the magnetic ring according to the number and color of the vehicles. |
| **13** |  | The sheet on the side is the last activity in the media, where the food images are magnetic items that can be removed and attached for data-finding activities that children will do according to the type of food. |
| **14** |  | The last page is the back cover, which contains the media title, the media function, and the names of the author and the name of the supervising lecturer. |

***Evaluation Phase Results***

**1. Self-Evaluation Stage Results**

The purpose of the self-evaluation phase of the Magnetic Numbers Book's development is to determine whether the medium is appropriate for the needs of kids between the ages of five and six in terms of understanding the idea of numbers. The first evaluation was carried out on the number recognition material, which was initially designed to introduce numbers 1 to 10 at once. However, based on considerations of children's cognitive development, this approach was changed to a gradual introduction, with an initial focus on numbers 1 to 5 before moving on to numbers 6 to 10. In addition, the concept of interactive media was also evaluated. Initially, it only displayed numbers without supporting visuals, but after evaluation, images of real objects were added that matched the number, such as three apples for the number 3, to help children understand the relationship between numbers and quantities. The evaluation also included design and color, which initially used a variety of striking colors. To increase children's focus,

simpler and more contrasting colors were chosen so that numbers were easier to recognize without excessive visual distractions.

Further evaluation was conducted on the instructions for use, which were initially written in formal language. To make it easier for children and accompanying teachers to understand, the instructions were simplified into short, easy-to-understand sentences. Children's physical interaction with the Magnetic Numbers Book was also a concern. Initially, this media only relied on magnetic numbers attached to the board, but after evaluation, interactive game elements were added, such as matching numbers with the appropriate number of objects using magnets. This change aims to make the learning process more interesting and actively involve children. The results of this self-evaluation helped researchers refine the Magnetic Numbers Book to be more effective in introducing number concepts according to children's cognitive development, creating a fun learning experience, and supporting their understanding of numbers.

**2. Expert Review Stage Results**

The expert review stage was carried out to obtain strong approval from experienced experts in the media, in this case, the magnetic numbers book media, to introduce the concept of numbers to children aged 5-6 years. The purpose of this expert review is to determine the validity and practicality of the book developed by the researcher. Validation begins with the material stage before the media expert. The material validation process was carried out on February 7, 2025, by acting as a material expert for Mrs. Akmillah Ilhami, M.Pd. The results of the material validation are attached in the table below.

**Table 2.**
Material Validator Assessment

| No | Aspect | Indicator | Number of Statements | Score Recapitulation |
|---|---|---|---|---|
| **1** | Suitability of the media to the curriculum used | 1,2,3,4 | 4 | 14 |
| **2** | Suitability of Books to the Characteristics of Children Aged 5-6 Years) | 5,6,7 | 3 | 11 |
| **Total Score** | | | | **25** |
| **Score Result %** | | | | **89** |
| **Category** | | | | **Very Valid** |

Based on Table 2, the results of the media expert assessment instrument obtained a score of 97% based on the validity level category and were in the very valid category. With these results, the magnetic numbers book media is considered very valid and worthy.

**Tabel 3.**
Media Validator Assessment

| No | Aspect | Indicator | Number of Statements | Score Recapitulation |
|---|---|---|---|---|
| **1** | Educational Aspect | 1,2,3 | 3 | 12 |
| **2** | Technical Aspects | 4,5,6,7 | 4 | 15 |
| **3** | Aspek Estetika/Keindahan | 8,9,10 | 3 | 12 |
| **Total Score** | | | | **39** |
| **Score Result %** | | | | **97** |
| **Category** | | | | **Very Valid** |

Table 3 Results of the media expert assessment instrument obtained a score of 97% based on the validity level category and is in the very valid category. With these results, the magnetic numbers book media is considered very valid and worthy of field trials after revisions and suggestions from media experts. From the two stages of material and media validation, the following are the results of the recapitulation of the assessments of the two validators in Table 4.

**Table 4.**
Recapitulation of Validator Assessment Results

| No | Validation | Value Recapitulation |
|---|---|---|
| **1** | Material | 89% |
| **2** | Media | 97% |
| **Amount** | | **186** |
| **Average %** | | **93** |
| **Category** | | **Very Valid** |

The average overall evaluation of the expert review stage is % with a highly valid category, and the final results of the material validation and media validation received scores of 89% and 97%, respectively, according to the validity category table. Therefore, it is worthwhile to test the magnetic numbers book media to teach children ages 5 to 6 about numbers, with adjustments made following the recommendations of media and material specialists.

**3. One-to-one Evaluation Stage Results**

One-to-One Evaluation is the following step, which seeks information on prototype 1's viability once it has been verified by media and material specialists. Three young children, ages five to six, are involved in this stage, and prototype 1 is used to carry out learning concurrently. This step's objective is to evaluate students' number concept skills following their instruction with prototype 1. Table 5 presents information derived from the evaluation and observation of children.

**Table 5.**
Observation Results of One-to-One Evaluation Stage

| No | Name | Indicator | | | | | | | | | Mark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | |
| | | **Score** | | | | | | | | | |
| **1** | ARS | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | **89** |
| **2** | EKI | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | **97** |
| **3** | FER | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | **92** |
| **Total** | | | | | | | | | | | **278** |
| **Average Amount %** | | | | | | | | | | | **93** |
| **Category** | | | | | | | | | | | **Very Practical** |

The average score was 93% with details, according to the table of assessment results and observations of the One-to-One Evaluation stage of the learning process used to introduce the concept of numbers to children aged 5-6 years. (1) ARS received a score of 89; (2) EKI received a score of 97; and (3) FER received a score of 92. Based on these findings, it can be said that the magnetic numbers book media is Very Practical. Prototype 1 then turns into Prototype 2, and a small group review is the following step.

**4. Small Group Evaluation Stage Results**

At this stage, the prototype 2 media have been revised from the expert review stage and the one-to-one evaluation stage. This stage was tested on 9 children who met the criteria (5-6) years old simultaneously. In the implementation of this stage, the

children will be accompanied by the learning process using magnetic number book media, besides the researcher will also evaluate observation and assessment to see the development of the children. The data from this stage can be seen in the table below:

**Table 6.**
Observation Results of the Small Group Evaluation Stage

| No | Nama | Indicator | | | | | | | | | Nilai |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| | | Score | | | | | | | | | |
| **1** | ARS | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | **92** |
| **2** | EKI | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **100** |
| **3** | FER | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **92** |
| **4** | KEY | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **100** |
| **5** | ARA | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **100** |
| **6** | FAT | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | **91** |
| **7** | MIE | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | **94** |
| **8** | ADI | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **100** |
| **9** | GWE | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **100** |
| **Total** | | | | | | | | | | | **869** |
| **Average Amount %** | | | | | | | | | | | **97** |
| **Category** | | | | | | | | | | | **Sangat Praktis** |

The application of magnetic numbers book media to introduce the concept of numbers to children aged 5–6 years obtained an average value of 97% based on the observation results at the Small Group Evaluation stage, and can be classified as Very Practical. As a result, the learning process using magnetic numbers book media to introduce the concept of numbers to children aged 5–6 years is a product that is categorized as good to apply in developing the ability to introduce the concept of numbers to children aged 5–6 years. Table 7 presents the findings from the summary of the assessment stages for small groups and one-on-one interactions.

**Table 7.**
Recapitulation of the Results of the One-To-One Evaluation Stage and the Small Group Evaluation Stage

| No | Stages | Recapitulation |
|---|---|---|
| **1** | *One-To-One Evaluation* | 93 |
| **2** | *Small Group Evaluation* | 97 |
| **Total Score** | | **190** |
| **Score Result%** | | **95** |
| **Category** | | **Very Practical** |

The practicality category table shows that the value falls into the Very Practical category, with an average score of 95% derived from the data recapitulation of the one-to-one assessment stage and the small group evaluation stage, with nine indications.

## Discussion

The development of the Magnetic Numbers Book aligns with contemporary theories on early childhood learning, particularly in relation to cognitive development, learning media, and interactive instructional strategies. Jean Piaget's theory of cognitive development remains

foundational in understanding how children acquire knowledge through active engagement with their environment. Children aged 5–6 are in the preoperational stage, characterized by symbolic thinking and the need for concrete experiences. The use of magnetic and visual elements in the book supports this developmental need by enabling symbolic learning through tactile and visual engagement. Recent studies have reinforced the importance of interactive media in early childhood education. For instance, research by Purnamasari (2023) emphasizes that interactive learning media significantly enhance early childhood literacy by providing engaging and sensory-rich experiences. Similarly, a study published in the Wen (2021) found that interactive media applications effectively support children's cognitive development by facilitating active learning and engagement.

In the context of instructional design, the ADDIE model used in this study is supported by the work of Hidayat and Nizar (2021), who argue that structured models like ADDIE enable the development of effective and evaluative instructional materials. Each stage in ADDIE Analysis, Design, Development, Implementation, and Evaluation ensures that the resulting educational media meets learner needs and adheres to developmental appropriateness. Furthermore, the formative evaluation approach based on Tessmer's model, which includes self-evaluation, expert review, one-to-one evaluation, and small group trials, aligns with Suparni et al. (2023), who highlight that iterative formative assessments are crucial in refining media to improve learning outcomes and usability among young learners. Tessmer's formative evaluation stages provide a systematic framework for assessing and enhancing educational tools during the development process, ensuring their effectiveness and relevance in real-world educational settings.

The initial needs analysis, which found that conventional materials such as posters and cardboard puzzles failed to engage students effectively, is consistent with findings by Hilman and Dewi (2021), who reported that traditional media in early childhood education often lack the sensory interaction necessary for optimal cognitive engagement. According to Setria (2016), learning media must be contextual, concrete, and attractive to promote meaningful learning, especially for preschool children. The Magnetic Numbers Book integrates these elements by including magnetically movable numbers and brightly colored visuals, thus promoting both sensory-motor and cognitive development.

From a practical standpoint, the high scores achieved during the validation process (media: 97%; material: 89%) affirm the effectiveness of interactive media in early childhood education. The indicators used number naming, number-symbol recognition, grouping, and classification are in line with the Ministry of Education Regulation No. 137 of 2014 and are supported by studies like Febrinita and Puspitasari (2021), who emphasize the importance of aligning media assessment with curriculum-based indicators. The practical success during both the one-to-one and small group evaluations reinforces Khoirunnisa's (2022) findings that interactive number-based media significantly improve children's comprehension and motivation.

Moreover, the appeal of the magnetic feature is grounded in constructivist learning theory, which posits that children learn best when they actively construct knowledge through exploration and manipulation. Pipit Muliyah et al. (2020) demonstrate that magnetic media not only aid in symbol recognition but also improve fine motor skills and encourage student autonomy. Similarly, Izzah et al. (2020) found that books incorporating manipulatives like flaps or magnetic components yield higher engagement and retention rates in early learners. These findings substantiate the use of magnetism as an engaging pedagogical feature, especially for kinesthetic and visual learners.

Technologically, the use of Canva software in designing the book illustrates how accessible design tools can contribute to professional-looking, effective educational media. As Khasanah and Pd (2024) explain, digital design tools empower educators to create customized content aligned with students' cultural and developmental contexts. The final product, the Magnetic Numbers Book, is not only valid and practical but also sustainable, reusable, and safe—attributes noted by Astuti and Novianti (2020) as key characteristics of effective early childhood learning tools.

In conclusion, the development and evaluation of the Magnetic Numbers Book demonstrate that integrating interactive, magnetic, and visually engaging media significantly enhances young children's understanding of number concepts. Supported by theories from cognitive psychology, constructivist learning, and instructional design, this study contributes to the growing field of early childhood media development. Future exploration could involve integrating digital components, like augmented reality, to further enrich the interactivity and adaptability of such learning tools.

## Conclusion

According to the study's findings, the Magnetic Numbers Book Media, which aims to teach children in Ogan Ilir Regency who are between the ages of five and six, has satisfied the requirements for both validity and usefulness. According to an expert analysis, the media's validity was 97%, and the material's validity was 89% on average, with a 93% total average in the highly valid category. One-on-one and small-group assessments of the media's practicality yielded average scores of 93% and 97%, respectively, meaning that, on average, it was deemed highly practical. It is advised that parents and educators utilize this media as an interactive tool to help youngsters learn about numbers based on the study's findings. It is anticipated that children would be able to better comprehend numbers and make connections between them and the quantity of items. The study's findings can be used as a guide for educational institutions to create creative early childhood learning materials. To promote more efficient learning for children ages 5 to 6, other researchers are also encouraged to create more interactive learning materials, such as technology-based or magnetic book-based.

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