# The Development of Magic Geometry Game for Fine Fotor Skills with the Addie Model

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**Abstract**
The aim of this research is to develop an innovative Magic Geometry game for Group A Kindergarten students at Kemala Bhayangkari 75 Lamongan, with the purpose of enhancing children's fine motor skills as an alternative to conventional fine motor activities that have shown suboptimal results. The development of the Magic Geometry Game media involved an analysis of trial data to refine the game. Aspects such as appearance, usefulness, effectiveness, attractiveness, resilience, and student understanding were evaluated. This assessment was carried out by media experts, media design experts, content/material experts, and through trials conducted with peers, small, and large classes. The validation process conducted by media and material experts found the game media to be valid and very valid, with validation percentages of 89.0% and 92%, respectively. The due diligence by colleagues and tests in small and large classes indicated that the game media was feasible, with percentages of 92.8%, 84.3%, and 81.8%, respectively. It is recommended that educators utilize the Magic Geometry game media in their teaching practices. Furthermore, schools should offer training and coaching support to facilitate its effective implementation, aligning with the learning objectives and addressing the needs of both students and the school as a whole.

**Keywords**: Magical Geometry and Fine Motoric Games, Kindergarten students

## Introduction

Early childhood, according to Law Number 20 of 2003 concerning the National Education System are children from birth to the age of six. Various studies have concluded that the development obtained at an early age greatly influences the development of children in the next period. Psychologists refer to early childhood as the golden age or golden age. At this time is the most appropriate time to provide stimulation to provide stimulation to all aspects of child development (Loeziana, 2017).1

Through early childhood education, children are expected to be able to develop all their potential, including: moral, physical-motor, cognitive, language, social-emotional and artistic religious values, so that they become children who have straight faith in accordance with the teachings of their religion, have good behavior. expected behavior, master a number of basic knowledge and skills in accordance with their needs and level of development, and have motivation and a positive learning attitude (Ariyanti, 2018).2

According to Sujarwo and Widi (2015), the development of physical motor skills in

[1] Loeziana, U. 2017. The Golden Age: Masa Efektif Merancang Kualitas Anak. *Core Journal : Pusat Jurnal UIN Ar-Rainiry*

[2] Ariyanti, A. 2018. Pentingnya Pendidikan Anak Usia Dini Bagi Tumbuh Kembang Anak. *CORE Journal : Universitas Muhammadiyah Purwokerto.*

kindergarten is divided into two, namely, gross motor and fine motor. Gross motor skills are abilities that require the coordination of most of the child's body that require energy because they are carried out by large muscles. Examples of activities are jumping, climbing, running, and riding a bicycle. Fine motor is movement that only involves body parts and is carried out by small muscles but requires careful eye and hand coordination. Examples of activities are cutting, coloring, drawing and sewing.3

Education for children can be organized through Kindergartens. Educational services provided in the form of fun activities. This is intended as a form of stimulation of growth and development. It is hoped that this form of learning while playing can stimulate all development optimally. Children's motor skills can be realized through activities that develop motor skills. According to Santrok (2007), children aged 0-7 years learn through motor sensory and in the pre-operational phase. In the early development period around the age of 0-2 years it is still internal and the child's abilities are still very limited. Children's sensorimotor intelligence develops through interaction with the environment. This is a continuous process so that in the end the motor sensory interactions and experiences become meaningful. As we get older, the nervous system in individuals will become more complex and develop into reflective actions to self-awareness in capturing an object.

Stimulus that is given continuously to children will grow the child's ability to use fine motor skills more and more. If the child's fine motor skills are continuously trained according to the stages, the nerves and muscles will become stronger. Activities that develop fine motor skills include squeezing, drawing, squeezing, cutting and other similar activities. This ability should always be honed and trained continuously because this will affect coordinated movement skills such as combing hair, practicing folding your own clothes, playing handball and so on. This movement will involve coordinating motion between body parts and smooth muscles in the fingers (Sujarwo and Widi, 2015).

Students in group A Kindergarten Kemala Bhayangkari 75 Lamongan in implementing fine motor activities so far by giving assignments, for example, coloring, cutting, squeezing, squeezing the results of which are not optimal, therefore a variety of activities is needed. So the researchers chose an alternative using magic geometry activities to develop students' fine motor skills.

Play activities are in great demand by every early childhood and this can be seen from most of the time children spend playing and this indirectly has a significant influence on children's development. This is in accordance with the theory put forward by Montolalu that the effect of play on children's development can affect physical development, encouragement of communication, distribution of pent-up emotional energy, distribution of needs and desires, learning resources, stimulation for creativity, development of self-knowledge, social learning, moral standards. , learning to play according to gender roles, developing desired personality traits (Hayati, 2021)4

Playing is a means for children to learn about the environment and is the most important and basic need for children, especially for early childhood, through playing children can fulfill all aspects of cognitive, affective, social, emotional, motor and language development needs (Hayati and Putro, 2021 ). Playing has an important value for the physical, cognitive, language and social development of children, playing is also useful for triggering creativity, educating the brain, overcoming conflict, training empathy, sharpening the five senses, therapy and making discoveries. Game is something used for play or (a toy) which is generally used for entertainment

[3] Sujarwo., Widi, C. P. 2015. Kemampuan Motorik Kasar dan Halus. *Jurnal Pendidikan Jasmani Indonesia. Vol.11 No.02*

[4] Hayati, S. N., Putro, K., Z. 2021. Bermain dan Permainan Anak Usia Dini. Generasi Emas. *Jurnal Pendidikan Islam Anak Usia Dinii. Vol. 4 No.1.*

and sometimes as an educational tool.

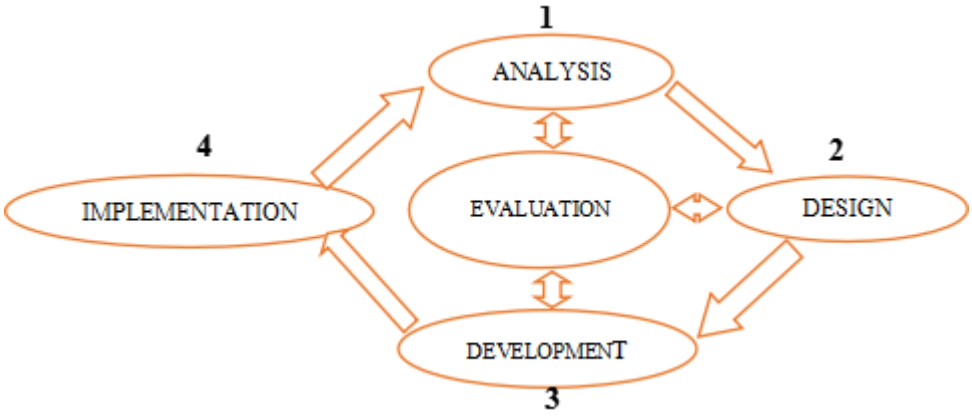
Play media is a tool that can be used by children to increase the effectiveness of a game. Therefore, a game media is needed that is able to improve the fine motor skills of group A kindergarten students. With this media, students are expected to be able to develop their fine motor skills. This development research is about the idea of how to develop magic geometry games to improve students' fine motor skills in a direct way in their learning experiences.

## Method

### *Product Development*

In this study the authors used Research and Development (R&D) research. According to Sugiyono (2009:407) the R&D method is a research method used to produce certain products, and test the effectiveness of these products. These products are not always in the form of objects or hardware, such as books, stationery, and other learning tools. However, it can also be in the form of software (software).5

The development model used in this research is the development of learning media with the ADDIE model. ADDIE stands for Analysis, Design, Development or Production, Implementation or Delivery and Evaluations developed by Dick and Carry. This model can be used for various forms of product development such as models, learning strategies, learning methods, media and teaching materials. (Mulyatiningsih, 2013:199-200).6




### *Product Stages*

ADDIE is a model that is often referred to as an approach or approach. The ADDIE learning system design model is seen as a generic model because it consists of components that are widely used in many learning system design models. The steps for implementing the ADDIE learning design model are as follows:

Analysis phase, which is a process of defining what students will learn. So to find out or determine what to learn, we must carry out several activities, including conducting a need assessment (needs analysis), identifying problems (needs), and conducting task analysis (task analysis). Therefore the resulting output is in the form of profiles or characteristics of prospective students, identification of gaps, identification of needs, and detailed task analysis based on needs. After being analyzed, it is necessary to analyze the feasibility of developing the learning media. The analysis process, for example, is carried out by answering the following

[5] Sugiyono. 2009. *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta

[6] Mulyatiningsih, E. 2013. *Metode Penelitian Terapan Bidang Pendidikan*. Bandung: Alfabeta.

questions: What competencies should students have. At this stage it is necessary to score several points, including: 1) Predetermined learning objectives; and 2) Learning achievement. Thus this stage can be used as a reference for developing material.

1. Stages of Design (Design), namely stages that include several plans for the development of materials, including the following:
   a. Preparation of material in contextual learning by examining core competencies and basic competencies to determine learning materials based on concepts, facts, and learning time allocation procedures, indicators and student assessment instruments;
   b. Designing learning scenarios or teaching and learning activities with a learning approach;
   c. Selection of material competence;
   d. Initial planning of learning devices based on subject competencies; And
   e. Designing learning materials and learning evaluation tools with a learning approach.
2. Stages of Development (Development), this stage includes the preparation of material in products in the field of education, including learning materials for students, learning media to facilitate the teaching and learning process.
3. Implementation stage (Implemantation), which is the step to implement the learning system that has been made. This means that at this stage everything that has been developed is arranged in such a way according to its role or function so that it can be implemented in learning. For example, if you need certain media, it must be designed in such a way. Only then is it implemented according to the initial scenario or design. The main objective of the implementation stage is to guide students to achieve learning objectives, to produce competency outputs in the form of knowledge, skills and attitudes.
4. Evaluation Phase, is a process to see whether the learning system being built is successful, according to initial expectations or not. Actually this evaluation stage can occur in the four stages above. The evaluation that occurs at each of the above stages is called formative evaluation, because the purpose is for revision. For example, at the design stage, it may require some form of formative evaluation, for example expert comments to provide input on designs that have already been made. At the development stage, it may be necessary to try out the product being developed or may need a small group evaluation.

***Product Test***

1. Test Plan

a. The resulting product is tested in full including the following stages:
b. Review content/subject matter experts to obtain data in the form of assessments of opinions and suggestions on product content;
c. The review of learning media design experts aims to obtain data in the form of an assessment of the feasibility of the product being developed;
d. Peer trials aim to find out the benefits of using products in learning at school for revision or improvement of media products; And
e. Small group and large group trials on students aim to find out if students understand the product and as an assessment of whether the teaching materials or media need to be revised or not to achieve the perfection of the media.

2. Test Subjects

a. The test subjects in the development of this teaching material consist of:
b. Subject experts consisting of material content experts, media design experts, learning who have competence in their fields;
c. Peer trials consisting of several colleagues (teachers) preferably experienced in their fields;

d. Small group trials were conducted on some students in group A1 TK Kemala Bhayangkari 75 Lamongan, totaling 15 people; And
e. The large group trial was conducted on students in groups A1 and A2 of Kindergarten Kemala Bhayangkari 75 Lamongan, totaling 30 people.

***Types of Data and Instruments***

a. Data Type

The type of data in this development uses data that includes:

1) The accuracy of the contents of the learning material contained in the magic geometry game media is determined from the review and responses of content/material experts;
2) The accuracy and beauty of the design on the magic geometry game media is determined from the reviews and responses of learning media design experts;
3) The attractiveness of the magic geometry game media to attract students' learning interest in learning obtained from the results of trials on the target group; And
4) Technology and design of magic geometry game media messages to achieve learning objectives.

b. Data Collection Instruments

To obtain the expected data so that product development can be said to be ideal, instruments are used in the form of:

1) Documentation

Documentation in the form of data obtained from the results of the development of the magic geometry game media was carried out when the respondents/students carried out learning activities using the media, where this data aims to determine the effectiveness and attractiveness of the product development of the magic geometry game media.

2) Questionnaire or Questionnaire

The form of the questionnaire is designed to obtain the result data which is used to obtain information from the respondents. The trial implementation using a questionnaire was carried out to determine the accuracy, clarity of workmanship and the communicativeness of the language used and not to forget the beauty of the design, the accuracy of the contents of the learning materials, as well as the accuracy of the design of the media message from the product being developed. Collection instruments are useful for obtaining the data needed according to research objectives. The research instrument was in the form of suggestions and comments and questionnaires. Questionnaires are a number of written questions that are used to obtain information from respondents in the sense of reports about themselves or about things that are known (Arikunto, 2016: 151).

The contents of the questionnaire include the assessment form for experts and also the assessment form used for students.

The following describes the feasibility score of the magic geometry game media instrument using the Likert scale

Likert Scale Instrument Score

| Skor | Information |
|---|---|
| 1 | Very less |
| 2 | Not enough |
| 3 | Enough |
| 4 | Good |
| 5 | Very good |

**Data analysis technique**

With a Likert scale, the variables to be measured are translated into variable indicators which are used as a starting point for compiling instrument items. The answer to each instrument item is given a score. The highest score for each question is 5 and the lowest is 1 (very good = 5; good = 4; sufficient = 3; poor = 2; and very poor = 1).

The formula used to calculate the percentage of each subject is:

$$\text{Percentage} = \frac{\sum (\text{answer} \times \text{weight of each choice}) \times 100\%}{n \times \text{highest weight}}$$

Information:

$\sum$ = amount

n = the total number of questionnaire items

To be able to provide meaning and make decisions whether or not revisions to product development are necessary, the following provisions are used:

Convert Level of Achievement to Scale

| Level of Achievement | Qualification | Description |
|---|---|---|
| 90% - 100% | Very good | No need for revision |
| 75% - 89% | Good | No need to revise |
| 65% - 74% | Enough | Revised |
| 55% - 64% | Not enough | Revised |
| 0% - 54% | Very less | Revised |

(Sujoko, 2010:72)

**Result and Discussion**

The product made in this study is magic geometry learning media, namely media that can be used: 1) to provide educational stimulation that helps the growth and development of early childhood, especially fine motor skills. 2). To help children to innovate so that all abilities they have can be actualized. 3). Can encourage children to have a desire to learn without any coercion so that children feel learning while playing and playing while learning.

**Procedure Results**

The development of Magic Geometry Learning Media refers to the ADDIE development model. The following is the result of the development procedure using the ADDIE model. With various stages:

1. Media Expert

Media Expert Questionnaire Assessment Results

| | **Material Attraction Components** | **Score** | | | | |
|---|---|---|---|---|---|---|
| | Interesting Material for Games | 1 | | | | |
| | The attractiveness of the Display of Media Auxiliary Tools | 1 | | | | |
| | The Interests of Doll Display | 1 | | | | |
| | The attractiveness of the color combination of game media supporting material | 1 | | | | |
| | The attractiveness of the geometric appearance is in accordance with the material | 1 | | | | |
| | The attractiveness of geometric colors matches the material | 1 | | | | |
| | Placement of illustrations, pictures, and colors | 1 | | | | |
| | Appearance and use of fonts and their sizes are appropriate | 1 | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | and attractive so as to generate interest | | | | | |
| | Interesting Material for Games | 1 | | | | |
| 0 | The attractiveness of the Display of Media Auxiliary Tools | 1 | | | | |
| | **Game Material Utilization Components** | **Score** | | | | |
| | The material for the Magic Geometry game can be used as a group | 1 | | | | |
| | The material for the Magic Geometry game is relevant to the development of kindergarten children, especially group A | 1 | | | | |
| | The Magic Geometry game is in accordance with the demands of the curriculum | 1 | | | | |
| | The material is clear and fit for purpose and the Benefits of Magic Geometry Games are clear | 1 | | | | |
| | The material referred to in Magic Geometry Game is easy to understand | 1 | | | | |
| | **Material Conformity Components and Games** | **Score** | | | | |
| | The material in the game can be according to existing needs | 1 | | | | |
| | Game material can be adapted to existing conditions | 1 | | | | |
| | Game material supports games that can be done outdoors | 1 | | | | |
| | Game materials support the game can be done indoors | 1 | | | | |
| | The game material supports the durability of game media products | 1 | | | | |

Recap of the Media Expert Assessment Results

| **o** | **Assessment Indicator** | **Score** |
|---|---|---|
| . | Game Material Appearance Component Appearance | |
| | Interesting material for games for children | 5 |
| | The attractiveness of the Display of Media Auxiliary Tools | 5 |
| | The Interests of Doll Display | 5 |
| | The attractiveness of the color combination of game media supporting material | 3 |
| | The attractiveness of the geometric appearance is in accordance with the material | 4 |
| | The attractiveness of geometric colors matches the material | 5 |
| | Placement of illustrations, pictures, and colors | 5 |
| | Appearance and use of fonts and their sizes are appropriate and attractive so as to generate interest | 5 |
| | Interesting Material for Games | 4 |
| 0 | The attractiveness of the Display of Media Auxiliary Tools | 5 |
| | Total Component A | 46 |
| . | Game Material Utilization Components | |
| | The material for the Magic Geometry game can be used as a group | 5 |
| | The material for the Magic Geometry game is relevant to the development of | 5 |

| | | |
|---|---|---|
| | kindergarten children, especially group A | |
| | The Magic Geometry game is in accordance with the demands of the curriculum | 5 |
| | The material is clear and fit for purpose and the Benefits of Magic Geometry Games are clear | 4 |
| | The material referred to in Magic Geometry Game is easy to understand | 4 |
| | Total Component B | 23 |
| . | Components of Material Compatibility with Playability | |
| | The material in the game can be according to existing needs | 4 |
| | Game material can be adapted to existing conditions | 4 |
| | Game material supports games that can be done outdoors | 4 |
| | Game materials support the game can be done indoors | 4 |
| | The game material supports the durability of game media products | 4 |
| | Total Component C | 20 |
| | Total Components A + B + C | **89** |

Based on the results of the assessment given by the content/learning material expert above, it was found that the average score or score obtained for the components of the assessment for the development of magic geometry learning media was 89%. This figure is obtained from the calculation:

$$P = \frac{F}{n} \times 100\%$$

$$P = \frac{89}{100} \times 100\%$$

$$P = 89\%$$

2. Design Expert

Components Assessed by Instructional Media Design Experts

| **o.** | **Indicator** | **Criteria** |
|---|---|---|
| | View Components | Design media according to motor development<br>Media design in accordance with early childhood development in kindergarten<br>Media design is attractive to look at and do<br>Media design presents a fun game<br>Media design presents a variety of works |
| | Game Usefulness Components | The scope of matter is drawn in the magic geometry game<br>The sequence of the magic geometry game is clear and easy to follow<br>The goals and benefits of the magic geometry game are clear<br>This game is to improve fine motor skills |
| | Game Endurance Components | Display media is attractive and easy to carry/movable<br>Design learning media with different colors and shapes<br>Learning media can be done in outdoor or indoor |

| | | |
|---|---|---|
| | | Media games are able to arouse students<br>Learning media can improve children's motor skills |

Results of the Expert Questionnaire Assessment of Learning Media Design

| | **Display Component** | **Score** | | | | |
|---|---|---|---|---|---|---|
| | Media design in accordance with motor development | 1 | | 3 | 4 | √ |
| | Media design in accordance with early childhood development in kindergarten | 1 | | 3 | 4 | √ |
| | Media design is interesting to see and do | 1 | | 3 | √ | 5 |
| | Media design in accordance with motor development | 1 | | 3 | √ | 5 |
| | Media design in accordance with early childhood development in kindergarten | 1 | | √ | 4 | 5 |
| | **Game Usefulness Components** | **Score** | | | | |
| | The scope of matter is drawn in the magic geometry game | 1 | | 3 | √ | 5 |
| | The game sequence of magic geometry is clear and easy to follow | 1 | | 3 | √ | 5 |
| | The goals and benefits of the magic geometry game are clear | 1 | | 3 | √ | 5 |
| | The scope of matter is drawn in the magic geometry game | 1 | | 3 | √ | 5 |
| | **Game Endurance Components** | **Score** | | | | |
| | The media display is attractive and easy to carry/move | 1 | | 3 | √ | 5 |
| | Design learning media with different colors and shapes | 1 | | 3 | √ | 5 |
| | Learning media can be done outdoors or indoors | 1 | | 3 | 4 | √ |
| | Media games are able to arouse students | 1 | | 3 | √ | 5 |
| | Learning media can improve children's motor skills | 1 | | 3 | 4 | √ |

Recap of the Results of the Expert Questionnaire Assessment of Learning Media Design

| **o** | **Assessment Indicator** | **Score** |
|---|---|---|
| . | View Components | |
| | Media design in accordance with motor development | 5 |
| | Media design in accordance with early childhood development in kindergarten | 5 |
| | Media design is interesting to see and do | 4 |
| | Media design presents a fun game | 4 |
| | Media design presents a variety of works | 3 |
| | Total Component A | **21** |
| . | Game Usefulness Components | |
| | The scope of matter is drawn in the magic geometry game | 4 |
| | The game sequence of magic geometry is clear and easy to follow | 4 |

| | | |
|---|---|---|
| | The goals and benefits of the magic geometry game are clear | 4 |
| | This game is to improve fine motor skills | 4 |
| | Total Component B | **16** |
| . | Game Endurance Components | |
| | The media display is attractive and easy to carry/move | 4 |
| | Design learning media with different colors and shapes | 4 |
| | Learning media can be done outdoors or indoors | 5 |
| | Media games are able to awaken students | 4 |
| | Learning media can improve children's motor skills | 3 |
| | Total Component C | **22** |
| | Total Components A + B + C | **59** |

Based on the results of the assessment given by the learning design experts above, it was found that the results of the value or average score obtained for the components of the assessment for the development of magic geometry game media was 84%. This figure is obtained from the calculation:

$$P = \frac{F}{n} \times 100\ \%$$

$$P = \frac{59}{70} \times 100\ \%$$

$$P = 84\ \%$$

3. Peers trial

Assessment Results / Peer Questionnaire Responses

| | **View Components** | **Score** | | | | |
|---|---|---|---|---|---|---|
| | Media material titles are clear, concise, and describe the contents of the media | | | | | |
| | The media introduction provides a clear picture of the benefits to be gained by studying the material in the media | | | | | |
| | Suitability of the material with Learning Outcomes | | | | | |
| | Instructions for using the media are conveyed clearly and easily understood | | | | | |
| | Learning objectives and plans are explained concisely and easily understood | | | | | |
| | The attractiveness of the introductory material to arouse the interest and motivation of students | | | | | |
| | The material description is explained in detail following the flow | | | | | |
| | Interesting and fun material for students | | | | | |
| | Feedback is given clearly and can be used as a benchmark for achieving learning objectives | | | | | |
| 0 | Image conformity as supporting information | | | | | |
| | **Game Usefulness Components** | **Score** | | | | |
| | The Magic Geometry game can be used as a group | | | | | |
| | The Magic Geometry game is relevant to the development of kindergarten children, especially group A | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | The Magic Geometry game is in accordance with the demands of the curriculum | | | | | |
| | The aims and benefits of Magic Geometry are clear | | | | | |
| | The Magic Geometry game is easy to play | | | | | |
| | **Game Endurance Components** | **Score** | | | | |
| | Game Endurance Components | | | | | |
| | The game can be played repeatedly | | | | | |
| | The game is not vulnerable to damage | | | | | |
| | Games can be done in Outdoor | | | | | |
| | Games can be done indoors | | | | | |

Game Usefulness Components

| **o** | **Assessment Indicator** | **Score** | | | | | **Score** |
|---|---|---|---|---|---|---|---|
| | | **S 1** | **S 2** | **S 3** | **S 4** | **S 5** | |
| . | Content Accuracy Components | | | | | | |
| | Media material titles are clear, concise, and describe the media content | | | | | | 24 |
| | The media introduction provides a clear picture of the benefits to be gained by studying the material in the media | | | | | | 24 |
| | Suitability of the material with Learning Outcomes | | | | | | 24 |
| | Instructions for using the media are conveyed clearly and easily understood | | | | | | 23 |
| | Learning objectives and plans are explained concisely and easily understood | | | | | | 25 |
| | The attractiveness of the introductory material to arouse the interest and motivation of students | | | | | | 22 |
| | The material description is explained in detail following the flow | | | | | | 24 |
| | Interesting and fun material for students | | | | | | 23 |
| | Feedback is given clearly and can be used as a benchmark for achieving learning objectives | | | | | | 24 |
| 0 | Image conformity as supporting information | | | | | | 24 |
| | Total Component A | **8** | **7** | **5** | **0** | **7** | |
| . | Components of Concept Truth in Games | | | | | | |
| | Media Purpose | | | | | | 22 |
| | The stages of the game are in accordance with the abilities of Group A Kindergarten students | | | | | | 22 |
| | The game is appropriate and appropriate | | | | | | 23 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | The game is in accordance with the latest material | | | | | | 25 |
| | Correct information on the game Magic geometry | | | | | | 24 |
| | The truth of the concept of matter in the Magic Geometry Game | | | | | | 23 |
| | The truth of the concept of geometric shapes in the Magic Geometry Game | | | | | | 21 |
| | The Magic Geometry Game improves students' Fine Motor skills | | | | | | 23 |
| | The material in the game according to the needs of students | | | | | | 23 |
| 0 | No Glitch in Magic Geometry game material | | | | | | 21 |
| | Total Component B | **4** | **5** | **8** | **5** | **5** | |
| | Total Component A + B | **22** | **22** | **33** | **5** | **2** | **464** |

Based on the results of the assessment given by colleagues, it was found that the results of the value or average score obtained for the components of the assessment for the development of the magic geometry game media were 92.8%, from the calculation:

$$P = \frac{F}{n} \times 100\%$$

$$P = \frac{464}{500} \times 100\%$$

P = 92,8 %

**Small group trials and large group trials**

Assessment Results/Responses to Small Group and Large Group Trials

| | **Effectiveness** | **Score** | | | | |
|---|---|---|---|---|---|---|
| | Facilitate students to understand learning | 1 | | | | |
| | Interesting media illustration | 1 | | | | |
| | The material presented is in accordance with everyday life | 1 | | | | |
| | Can be practiced directly | 1 | | | | |
| | Able to develop several aspects | 1 | | | | |
| | **Student Understanding** | **Score** | | | | |
| | Increase student learning interest | 1 | | | | |
| | Media illustrations are easy to understand | 1 | | | | |
| | scientific | 1 | | | | |
| | Media can make the child's concentration centered | 1 | | | | |
| | **Attractiveness** | **Score** | | | | |
| 1 | Interesting form of media | 1 | | | | |
| | Color can attract children's learning interest | 1 | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | | | | | | |
| 3 | Be an attraction to try directly | 1 | | | | |

Recap of Small Group Trial Data Collection Results

| o. | Responden | | | | | | | | | | 0 | 1 | 2 | 3 | Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PD 1 | | | | | | | | | | | | | | **54** |
| | PD 2 | | | | | | | | | | | | | | **46** |
| | PD 3 | | | | | | | | | | | | | | **52** |
| | PD 4 | | | | | | | | | | | | | | **65** |
| | PD 5 | | | | | | | | | | | | | | **48** |
| | PD 6 | | | | | | | | | | | | | | **49** |
| | PD 7 | | | | | | | | | | | | | | **54** |
| | PD 8 | | | | | | | | | | | | | | **59** |
| | PD 9 | | | | | | | | | | | | | | **65** |
| 0 | PD 10 | | | | | | | | | | | | | | **48** |
| | Total score | | | | | | | | | | | | | | **540 84,3%** |

Recapitulation of Large Group Trial Data Collection Results

| o. | Responden | | | | | | | | | | 0 | 1 | 2 | 3 | Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PD 1 | | | | | | | | | | | | | | **54** |
| | PD 2 | | | | | | | | | | | | | | **46** |
| | PD 3 | | | | | | | | | | | | | | **52** |
| | PD 4 | | | | | | | | | | | | | | **49** |
| | PD 5 | | | | | | | | | | | | | | **48** |
| | PD 6 | | | | | | | | | | | | | | **65** |
| | PD 7 | | | | | | | | | | | | | | **54** |
| | PD 8 | | | | | | | | | | | | | | **59** |
| | PD 9 | | | | | | | | | | | | | | **54** |
| 0 | PD 10 | | | | | | | | | | | | | | **48** |
| 1 | PD 11 | | | | | | | | | | | | | | **65** |
| | PD 12 | | | | | | | | | | | | | | **59** |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | | | | | | | | | | | | | | | |
| 3 | PD 13 | | | | | | | | | | | | | | **49** |
| 4 | PD 14 | | | | | | | | | | | | | | **54** |
| 5 | PD 15 | | | | | | | | | | | | | | **48** |
| 6 | PD 16 | | | | | | | | | | | | | | **54** |
| 7 | PD 17 | | | | | | | | | | | | | | **65** |
| 8 | PD 18 | | | | | | | | | | | | | | **52** |
| 9 | PD 19 | | | | | | | | | | | | | | **49** |
| 0 | PD 20 | | | | | | | | | | | | | | **48** |
| 1 | PD 21 | | | | | | | | | | | | | | **49** |
| 2 | PD 22 | | | | | | | | | | | | | | **48** |
| 3 | PD 23 | | | | | | | | | | | | | | **59** |
| 4 | PD 24 | | | | | | | | | | | | | | **54** |
| 5 | PD 25 | | | | | | | | | | | | | | **48** |
| 6 | PD 26 | | | | | | | | | | | | | | **54** |
| 7 | PD 27 | | | | | | | | | | | | | | **48** |
| 8 | PD 28 | | | | | | | | | | | | | | **54** |
| 9 | PD 29 | | | | | | | | | | | | | | **65** |
| 0 | PD 30 | | | | | | | | | | | | | | **46** |
| | Total score | | | | | | | | | | | | | | **1.596 81,8%** |

**Data Analysis**

The result data obtained from learning material experts, learning media design experts, and peer tests seen from the material content, technology and message design on the development of magic geometry game media are as follows:

1. Recapitulation of the assessment of content/learning material experts can obtain feasibility test data for the development of magic geometry game media by validating material experts meeting the expected criteria with a result of 89.0%, namely in the feasible/valid category. Many inputs were obtained from material experts regarding the content of the development of the magic geometry game media. This input has been followed up by the developer so that it becomes better and can be used for learning.
2. Recapitulation of the assessment of learning media design experts, the results show that the average value or score of the components of the media assessment of the magic geometry game with the validation of the learning media design expert meets the criteria of very feasible/valid with a percentage score of 92.0%. Input from design experts is also a consideration for the media for magic geometry games in the future, both for the developers themselves and for the school.
3. Recap of assessments from colleagues, data can be obtained from the components of the questions, which are included in the appropriate/valid category with a percentage of 92.8%. On average, my colleagues who filled out the instruments already understood the media content of the Magic Geometry game after receiving an explanation from the developer.
4. Recapitulation of small group test assessments. Data can be obtained from the assessment of the question components on the instrument, namely obtaining a result of 84.3%, namely in the appropriate/valid category. Students who are the sample for this small group test have received prior socialization before filling out the instrument.
5. Recapitulation of the assessment from the large group test can be obtained at 81.8%, namely the appropriate/valid category. On average, the students who were used as the sample for the large group trial already understood the media learning of the magic geometry game.
6. From all the data obtained, it can be concluded that the results of all validation tests can be said to be valid because they are in the category with a percentage of ≤ 92%.

**Conclusion**

The conclusions from the results of this product include:

Magic Geometry learning media can be integrated for fine motor skills of Kemala Bhayangkari 75 Group A Kindergarten children. This media has the name Magic Geometry Learning Media. This Magic Geometry learning media can be used for learning activities both indoors and outdoors.

This development product can be used anytime and anywhere by students and educators using the Edicative Teaching Aids (APE) that have been prepared

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