10(1)(2021)



# Indonesian Journal of Early Childhood Education Studies



http://journal.unnes.ac.id/sju/index.php/ijeces

Modification of Sunda Manda Games Based on Theme to Improve Early Mathematic Abilitien in TK Aisyiyah Kindergarten Jenang Village Kecamatan Majenang Cilacap District

Widayat Saputro<sup>™</sup>, Yuli Kurniawati Sugiyo Pranoto, Yuli Utanto

DOI: http://dx.doi.org/10.15294/ijeces.v10i1.45374

Universitas Negeri Seamarang, Semarang, Indonesia

### **History Article**

Submitted 1 April 2021 Revised 12 May 2021 Accepted 25 June 2021

### **Keywords:**

modification; sundanese manda game; improve initial math

#### **Abstract**

Early childhood certainly does not know about mathematics, therefore the task of PAUD teachers or educators who introduce mathematics. Many teachers are not pleasant in learning or stressing on children, so children will get bored quickly in learning mathematics. Modification of Sundanese Games Manda will answer that, even though some of these traditional children's games are very foreign to the ears of children today. One alternative that can be used is to make a Sundanese Sundanese game modification made of banner material. Thus the modification of Sunda Sunda game is expected to later help improve the ability of early mathematics and is liked by students and the community.

The purpose of this study is to describe the implementation of early mathematics learning and describe the modification of the Sundanese Sundanese game based on themes to improve early math skills by classifying objects based on color, shape, type, and size in group B children.

The research design used is a qualitative approach. This research is about a case study regarding the modification of Sunda Sunda game based on themes to improve early mathematical abilities. The population of this research is kindergarten children class B (ages 5-6 years) in kindergarten Aisyiyah, Jenang Village. The selected sample is 21 children.

The steps in analyzing the data that have been carried out in this study, namely the data in the form of interviews through several questions submitted to the Head of Kindergarten and the Teachers as research informants. The instructors in instilling early mathematical habituation in children about thematic material. In preschoolers, mathematics is only experience and not mastery. Concepts that must be introduced to children by starting; one-to-one correspondence, patterns, sorting/sorting/classifying, numerating, the meaning of numbers and their recognition, shape, size, time and space.

Conclusions that can be taken based on the results and discussion stated that 1) Sunda Sundanese game modification based on themes can improve early math skills in group B children in kindergarten Aisyiyah Jenang Village 2) the implementation of early mathematics learning learning with the concept of doing Sundanese Sundanese games based on themes can be understood by early childhood.

### How to cite

Saputro, W., Pranoto, Y. K. S., & Utanto, Y. (2021). Modification of Sunda Manda Games Based on Theme to Improve Early Mathematic Abilitien in TK Aisyiyah Kindergarten Jenang Village Kecamatan Majenang Cilacap District. *Indonesian Journal of Early Childhood Education Studies*, 10(1).

E-mail: widayatsaputro@gmail.com

### **INTRODUCTION**

Indonesian children have a wide variety of traditional children's games, both games related to patience, agility, emotionality, skill and accuracy as well as intelligence. Children's games have their own peculiarities in each region. Some of the traditional games that were popular in the past from children's games owned in this country and children's games in almost every region have different names such as hide-and-seek/jethungan/yangoyango/jilumpet/no-umpet games, ingkling/crank/dampu/sondah-mandah (sundamanda), jling-jlong, game of dragon snake/sl Procedure/eyebrow/oray-orayan, gobagsodor/ salty gaff game, arrogant or dakon game, stilts/ long legs, clash rerebonan, game of nekeran/ marbles/marbles, patil catfish/pakle/benthic games, patil catfish/pakle/benthic games, gangsing games, bekelan games, skipping rope games, and others, or some are just singing dolanan songs such as: jamuran games, cublak-cublak suweng, wak-wak gung games and others (Faruq, 2009: 44).

The age from birth to entering basic life is a golden age and is a critical period in the life stages that will determine the next child's development. This period is the right time to lay the foundations for the development of physical abilities, language, socio-emotional, self-concept, morals, and religious habituation. Efforts to develop all children's potential must be started at an early age so that children's growth and development can be achieved optimally (Mansur, 2011: 18).

According to the school of empiricism initiated by John Locke, it is said that when humans are born they are actually in an empty state like "tabularasa", namely a candle-covered table that does not have any writing on it. Someone who is born looks like or is like a clean white paper that is still blank, so that education has a very important role and can even determine the existence of a child (Munib, 2009: 91). There is a pearl word (mahfudhot) which says that learning as a child is like carving on stone and learning as an adult is like carving on water. Early mathematics also explains that "you need knowledge from the cradle to the grave. The above statement suggests that we as parents are obliged to provide care, love, educate and teach children as early as possible.

Based on the results of observations and interviews with Group B teachers for children aged 5-6 years, it was found that several things lead to a lack of introduction to early math concepts in children. The learning media used, the lack of use of media in the classroom, and the

lack of teachers using traditional game media as supporting media in the learning process or activities at Aisyiyah Kindergarten, Jenang Village, Majenang District, Cilacap Regency. This study aims to develop a game media that can develop the balance ability of children aged 5-6 years, as well as to determine the effectiveness of the media.

Early math concepts in children are not maximally accepted by children. So that the introduction of the concept of counting children is still low. There are still many children who have not memorized the numbers 1-20, distinguishing the concept of big and small, light weight, short length, low height, color, size, type, etc. This can be seen because, of the number of students in Group B aged 5-6 years, totaling 21 children, there are 17 children who have very little understanding of the initial mathematical concepts, and some are still missing. Based on the description above, the problem formulations of this study are as follows: a. How to modify the theme-based Sundanese Manda game to improve early math skills in group B children in Kindergarten Aisyiyah Desa Jenang? b. How is the implementation of early mathematics learning with theme-based Sundanese Manda game modifications for group B children in Aisyiyah Kindergarten, Jenang Village.

The research aims to develop games as an alternative to playing and introduce traditional games to early childhood. This research is a development research of the Sunda Manda game. The Sunda Manda game is a traditional game that has benefits for developing physical motor skills that can be improve early math skills. The result of the research is a Sunda Manda game that can be used as an alternative game to develop early mathematical abilities

### **RESEARCH METHODS**

The type of research used is a qualitative approach. This research is about a case study in Aisyiyah Kindergarten, Jenang Village, Majenang District, Cilacap Regency regarding the modification of the theme-based Sunda Manda game to improve early math skills in Aisyiyah Kindergarten Jenang Village, Majenang District, Cilacap Regency. This qualitative research, cannot measure using numbers, but the data is assessed using a measure of the quality of data collected from research results either through interviews, observation, and documentation.

Qualitative research methods are research that emphasizes the object under study into observations or observations and focuses more on the quality of data collected from the research results. The form of this research is qualitative research. Qualitative research is research by taking problems by focusing the meaning and quality of existing data or current phenomena by describing the objects that are the subject of the problem by collecting, compiling, classifying, analyzing, and interpreting based on existing object descriptions. Collect and classified data of students in Group B aged 5-6 years, totaling 21 children, there are 17 children who have little understanding of the initial mathematical concepts, and some are still missing.

Scientific research requires a data source in order to obtain the completeness of information and the accuracy of the data collected from the research results and can be accounted for based on data collected from accurate data sources. Sutopo (2000) explains, "The data sources in qualitative research are sources (informants), places/ locations, objects, various pictures, recordings, documents and archives". Sources of data used in the research of informants. Informants are individuals who can provide information and data and information for research purposes. A study will obtain representative data if a method is able to reveal the required data. In data collection, researchers used several methods, namely interviews, documentation, and observation.

### **RESULTS AND DISCUSSION**

### Overview of Jenang Village and TK Aisyiyah in Jenang Village

### a. Geographical Conditions

Jenang Village is administratively included in the Majenang Subdistrict, which is the border between Majenang Subdistrict and Cimanggu District, which are still within the same Regency, namely Cilacap Regency. Jenang Village is located across Jl. Diponegoro at the same time serves as the western village boundary with Cibeunying Village, Majenang District. In the north it is bordered by Sindangsari Village, in the south it is bordered by Mulyasari Village, Majenang District, and in the east it is bordered by Padangjaya Village. Many people call this Jenang Village the Heart of Majenang District.

Most of the Majenang area is mountainous (almost 60%) and the rest is plains, ranging from an altitude of about 100 meters to 1200 meters above sea level. Almost all of the land is fertile, both in the form of mountains and plains. Rainfall is very high, in the rainy season it rains almost every day. There are 3 rivers that are qui-

te fast, namely: Cijalu River, Cilopadang River, and Cileumeuh River. On either side of the rivers there are rice fields and fields that are fertile and beautiful.

The forest is still very dense in the form of a jungle with native forest trees. The hills are mostly steep with a slope of 25 degrees to 75 degrees. Springs are almost everywhere, even in the dry season there is never a shortage of water.

Forest products in the form of wood and fruit and vegetable gardens are abundant. Rice fields are spread from the plains to gentle hills so that you can say that it is a surplus of rice.

The nature is filled with beautiful panoramas, so that there are many places that can be used as natural tourist objects of Mount Cijalu River with Parma, from green hills to cool waterfalls. Flooding and drought are problems that are experienced every year.

Di perut buminya ada beberapa jenis tambang: Tambang emas di desa Sadahayu (belum di eksplor), Tambang batu alam di desa Cibeunying (gunung Cungakan), Tambang pasir dan batu kali ada di sepanjang sungai Cijalu.

### **Sociological Conditions**

### 1. Total Population of Majenang Subdistrict

Majenang is a Sundanese-Javanese "transitional" area in the sense that in this region the mother tongue they use consists of Sundanese and Javanese, however Sundanese and Javanese are arguably somewhat harsh compared to Sundanese in West Java or Javanese in eastern Central Java.

### 2. Profession and Livelihood

Jenang is a village in the sub-district of Majenang, Cilacap, Central Java, Indonesia. In this village there is a company, namely PT Jokam Sembilan - Sembilan.

Based on the business field, the agricultural sector is the sector that absorbs the most labor, namely 32,864 or 55.65 percent, followed by the Service sector with 9,930 or 15.85 percent, then Trade in Restaurants and Accommodations for 7,645 or 12.71 percent, the Manufacturing Industry occupies in fourth place with the number 2,791 or 4.51 percent, the next order is the transportation and communication sector amounting to 1,975 or 3.01 percent and for the construction or building sector by 1,648 or 2.36 percent and the rest for other sectors which are still below 10 percent.

The professional data and livelihoods of the Jenang community are as follows:

**Table 1.** Profession / livelihood

No	Type of profession / live-lihood	amount
1	Fish farmers	125 people
2	Rice farmer	306 people
3	Traders	89 people
4	Entrepreneur	77 people
5	Factory workers	148 people
6	Civil servants	36 people
7	Retired	26 people

From the table, the authors conclude that there are several reasons why many Jenang villagers work as rice farmers, because the rice fields in Jenang village are quite extensive, supported by irrigating rice fields that are easily pursued both in the dry season let alone the rainy season, but not a few are works as a fishpond farmer, because in the west and east of Jenang village is the BBI (Fish Seed Center) which is very suitable for aquaculture, both catfish farming and milkfish, shrimp, crab cultivation.

# 3. A brief history of the establishment of TK Aisyiyah Desa Jenang

In order to know the history of Aisyiyah Kindergarten, Jenang Village, the researchers conducted interviews with several resource persons including Hj. Umu Prihatin he is the Chairperson of the Dikdasmen Council which oversees TK Aisyiyah Desa Jenang. He said:

"In the 1960s, we opened the TPQ Aisyiyah education level. In order to oversee the TPQ Aisyiyah educational institution, we established an institution called TK Aisyiyah which was registered at the regional head of Central Java on August 13, 1963. (interview with Hj. Umu Prihatin on July 10, 2018).

During the same interview, Mrs. Omah as the head of TK Aisyiyah's kindergarten stood up to say:

"I am always close to the leaders of Aisyiyah and Muhammadiyah and do not get bored of continuing to try to dialogue with several religious figures, as well as gather the community to invite us to discuss the development of the TK Aisyiyah institution. Alhamdulillah, finally the community is very supportive "(interview with Bu Omah on August 13 2018).

The results and excerpts of the interview,

the authors can conclude that intentions are based on purposefulness and sincerity, whatever the difficulties and obstacles, if followed up with effective action, namely by involving all elements of society to absorb aspirations, would have provided a glimmer of hope for the development of early childhood education in Jenang village. The existence of all units of the Aisyiyah foundation was established through careful planning by considering various aspects of its efficiency and effectiveness, so that the Aisyiyah foundation can develop and be able and make a very large contribution in its role in advancing education that focuses on children so that early childhood education is served optimally.

#### 4. Location of the School

In order to know the history of the school, researchers conducted interviews, observations, and documentation. Based on the document that the researcher obtained from the head of the Basic Education and Culture, TK Aisyiyah, Jenang Village, stands on waqf land from Muhammadiyah and part of the Jenang village community and the operational permit for TK Aisyiyah Desa Jenang based on a Decree from the Education and Culture Office of Cilacap Regency.

### 5. Vision, Mission and School Goals

Vision "Making Sholih and Sholihah Children progress in achievement".

Mission; Improve early mathematics, devotion and improve the quality of education, Improve student achievement according to their talents, interests and creativity, Develop themselves in line with the development of science and technology and help students achieve achievements according to their potential, Improve, maintain, and equip facilities and infrastructure education as a form of improving educational services, Improving cooperative relations between schools, committees, parents and the community.

Objectives: Organizing education effectively and efficiently, Providing excellent service to students, The condition of teachers and students of TK Aisvivah Desa Jenang.

In order to find out the condition of the teachers and students of Aisyiyah Kindergarten in Jenang Village, researchers have obtained data from the principal of Aisyiyah Kindergarten, Jenang Village, with the following details:

Table 2. Teacher data

No.	Description	Civil servants		Non-PNS	
		Male	Wom- en	Male	Wom- en
1.	Total Number of Educators (includ- ing Heads)				19
2.	Number of Educators Already Certified				10
3.	Number of Outstanding Teachers at Provincial Level			1	1
4.	Number of Education Personnel			2	1

Table 3. Student Data

No.	Student Description & Class			Group B		Without Groups	
		Male	Wom- en	Male	Wom- en	Male	Wom- en
1.	New Students at the Beginning of TP	18	33	45	75		
2.	Up from the Previous Group						
3.	Repeating Student						
4.	Students Moved In						
5.	Students Move Out						
6.	Drop-out Students Leave						
7.	Drop-out Students Return		1				
8.	Total Stu- dents in Even Se- mester	18	32	45	75		
9.	Number of Classes		2		6		
	Total Number of Students			160			

### 6. Facilities and Infrastructure

In order to know the school infrastructure for Aisyiyah Kindergarten, Jenang Village, the researchers conducted interviews, observations, and documentation. The observation results are as follows:

**Table 4.**Condition of Infrastructure Kindergarten Aisyiyah Desa Jenang

Jenang Majenang Cilacap Academic Year 20015/2018

No	Jenis Prasarana	Jumlah	Kondisi
1.	Ruang kelas	8 Ruang	Baik
2.	Ruang kantor	1 Ruang	Baik
3.	Ruang computer dan TU dan Guru	1 Ruang	Baik
4.	Ruang perpus dan UKS	1 Ruang	Baik
5.	MCK Siswa	8	Baik
6.	MCK Guru	2	Baik
7.	Gudang	1	Baik
8.	Alat Seni Rebana	1 Set	Baik
9.	Drum Band	1 Set	Baik
10.	Mobil Sekolah	1	Baik
11.	Musholla	1	Baik

In order to complete the data on facilities and infrastructure, the researcher also conducted interviews with the Facilities and Infrastructure section (Ms. Samilah).

Researcher: What is the completeness of the existing facilities and infrastructure in TK Aisyiyah Desa Jenang?

Mrs. Samilah said that:

"In my opinion, the completeness of the sarpras is quite good, the foundation has a complete set of drumband tools, a shuttle car, a prayer room, a library, outdor toys for children, and quite a lot of tables and chairs, but the learning media is lacking. In addition, we also made free for children who went to Aisyiyah Kindergarten and provided 3 pairs of uniforms, shoes, bags, books, pencils and erasers, interviews were held on July 17 2018".

In line with interviews conducted by researchers with class B teachers regarding the existing facilities and infrastructure at TK Aisyiyah Desa Jenang, he said that:

"For sarpras completeness, in my opinion, it is good, there is a complete drumband, masjd, pickup car, library, UKS, outdoor toys for children, and enough tables and chairs. The interview was conducted on 18 May 2018."

Researchers not only interviewed teachers but also interviewed the head of the Aisyiyah Foundation for Primary Education to obtain valid information about the foundation's participation in providing convenience and assistance to students:

"In order for the community to be enthusiastic about sending their children to school, the foundation in collaboration with the principal provides facilities and facilities for students who want to attend Aisyiyah Kindergarten, including free of charge, then free school uniforms complete with four sets (batik uniform, white uniform), scout uniforms, and sports uniforms), shoes, school bags complete with contents (notebooks, pencils, and erasers), and for poor students and orphans will be fully borne by the foundation "interview conducted on May 20 2018.

The explanation of the interview results above, the researcher can conclude, that the ease and assistance provided to students and the completeness of good facilities and infrastructure are one of Aisyiyah's charities and efforts to ease the burden on parents, providing proper educational services, namely humanizing humans, giving their rights , to get the widest possible opportunity for children to go to school, which in essence aims at school-age children to be able to go to school as they should.

### Discussion

## Early math introduction to children 5-6 years at Aisyiyah Kindergarten, Jenang Village

Data analysis steps that have been carried out in this study, namely data in the form of interviews through several questions submitted to the Kindergarten Principal and the teachers as research informants (Alfatiah: 2018). That the cultivation of early math habituation in children aged 5-6 years in Aisyiyah Kindergarten, Jenang Village, aims to make children who are devout and sholihah progress in achievement. In the future, children are expected to have a view of life and behave in an Islamic manner and their actions are based on righteous deeds according to the characteristics of Aisyiyah Kindergarten. In connection with the cultivation of early mathematics habituation, from the results of observations and interviews with informants, that there is a very prominent role of teaching staff in cultivating initial mathematical habituation. Effective mathematics teaching re-quires understanding of what students know and need to learn and then challenging and supporting them to learn it well (NAEYC: 2021). As for the introduction of early mathematics teaching that is highlighted are; recognition of shape, color, type, size and introduction to early mathematics.

Early Mathematics Teaching

The teaching staff in instilling early math habituation in children regarding thematic material at Aisyiyah Kindergarten, Jenang Village, As stated by the principal as follows:

"Learning activities are provided by the teacher in an effort to instill early mathematics in terms of familiarizing the recognition of shapes, colors, types, sizes and introduction to early mathematics. The interview was conducted on 17 May 2018."

The principal's statement was quite clear that the introduction of early math habituation in children, especially material regarding the introduction of shapes, colors, types, sizes and early math recognition in children, will start to be embedded from an early age. The class B teacher also said the same thing about the importance of cultivating the habit of introducing early mathematics:

"One of the ways to instill the concept of numbers in children is to invite children to play in the modification of the game, where the teacher provides reinforcement in the form of questions, how many, what color, what form, and other questions that lead to the introduction of early mathematics. ." The interview was conducted on 18 May 2018.

In line with what was expressed by the class B teacher, the researcher asked about the early mathematics teaching:

"How to instill early math habits in our children is usually using the method of playing with color patterns and shape patterns. Apart from that, we also teach children 1 to 20 and their tasks through songs; One plus one." The interview was conducted on 20 May 2018.

The information given by the Principal of Kindergarten Aisyiyah and the Class B teacher is clear that the cultivation of early math habits in children aged 5-6 years at Aisyiyah Kindergarten, Jenang Village is quite good. Early mathematics introduction to early mathematics teaching by memorizing numbers 1 to 20, along with tasks through songs, tells about recognizing numbers, colors, types, sizes in easy to understand language. Playing Sundanese Manda games based on themes can also be a program where learning is not possible in the classroom and of course children are happy because learning is not only done in the classroom. This is done by the teachers of Aisyiyah Desa Jenang Kindergarten so that the child will have a sense of pleasure in early mathematics from an early age by using learning materials that are light and easy to understand by children.

### Early Mathematics Teaching

The method used by the teachers in instilling early mathematics, especially regarding the teaching of early mathematics in children, uses the theme-based play method of the modified Sundanese Manda game, the storytelling method, the singing method, the lecture method, and the assignment method. The media used in learning the introduction of early mathematics are modification of the Sundanese Manda game, story books, animals, and natural materials or the natural environment.

Researcher: How is the learning method applied by TK Aisyiyah Desa Jenang in teaching material about early mathematics?

Here is the principal's statement that:

"The methods we often use in learning the introduction of early mathematics are the lecture method, the assignment method, and the singing and playing method of the modified Sundanese game of Manda." The interview was conducted on 17 May 2018.

Pada kesempatan wawancara yang sama kepala sekolah mengatakan:

"The planting of early math habits, one example by teaching numbers 1 to 20 by giving numbers to shoe holders, places of work, bookshelves, and even ceramics is also drawn using the number method." The interview was conducted on 17 May 2018.

In line with what the principal said, the teachers also used the same method in teaching children about the introduction of early mathematics, especially teaching early mathematics.

The following is the result of an interview with the TK B teacher, he said that:

"One of the methods used is the Sundanese Manda playing method based on a theme made of a banner that has been modified in such a way that it is interesting for children, because children can learn some early math concepts; recognize shape, color, child, type and size ". The interview was conducted on 20 May 2018.

Exposure to the data above regarding learning methods and media researchers concludes that the use of learning methods in TK Aisyiyah Desa Jenang is good. The method used is varied, namely the lecture method, the method of giving assignments, and the method of singing and playing the modified Sundanese Manda game. Selection of the right learning method is intended to make it easier for children to receive learning material, especially material on early math cultivation. Learning media is a form of process, method and action of sending learning messages from the message sender (communicator) to the message

recipient (communican). It can be concluded that the learning media used in Aisyiyah Kindergarten, Jenang Village, are less varied, limited to story books and natural materials.

# Encouraging and Inhibiting Factors for Early Mathematics Introduction to Children aged 5-6 years at Aisyiyah Kindergarten, Jenang Village a. Driving Factors

The results obtained from observations and interviews with teachers show that the main driving factor in the cultivation of early mathematics habituation is the motivation of children to enjoy playing the traditional Sundanese Manda game. The following are the results of the interview with the principal of the school:

"In my opinion, the driving factor is the motivation of the children themselves, when they are given the teaching of their own satisfaction when the child understands and practices them. The second driving factor is parents because children spend more time with them, the problem is whether the learning that children receive at school is reviewed at home or not, the third factor that supports the success of getting used to doing early math learning in children is society because in the community children will socialize. The good and bad behavior of children is also influenced by environmental factors." The interview was conducted on 17 May 2018.

Motivation is an important element in learning. The role of the teacher here is very vital because it is the teacher who can motivate children. Motivation is a spirit for children that can arouse children's enthusiasm for learning. So that children don't get bored quickly, the teachers must be as smart as possible in making varied activities. The driving factor for the introduction of early mathematics in the second child is family. The following is the statement of the class B teacher that:

"The driving factor is the child and the second driving factor is the parents of the children themselves because children spend more time with their parents than their teachers. It would be better if parents review what the children learned from school by communicating well, but parents still rarely have such awareness." The interview was conducted on 20 May 2018.

In connection with this, parents who have good character are likely to give birth to children who have good character as well. Educate and accustom children to good character and live according to the teachings of early mathematics, the child will automatically imitate.

The third driving factor is education in

schools. School is the second home for children, therefore parents must be selective and observant in determining which school to choose because it will determine the attitude and character of the next child. According to Jalaluddin (2010; 296-297) the function of schools is in relation to the formation of a religious spirit in children, including as a continuation of religious education in the family environment or forming a religious spirit in children who do not receive religious education in the family. In this context, teachers must be able to change the attitudes of their students in order to accept the moral and religious education that is given.

The fourth driving factor is that education in the community is the third educational field for children after the family environment and school. The period of care for education in schools is only temporary, but education in the community will last a lifetime. In addition, society is a place for children to socialize which will take place regularly and continuously. Therefore, the community environment will have an impact on the formation and growth of children's religious spirit. If the physical growth stops when the child reaches adulthood, the psychological growth will last a lifetime.

Jalaluddin (2010: 297), educators generally agree that the education fields that influence the development of students are the family, educational institutions, and the community. The harmony between the three educational fields will have a positive impact on children's development, including the formation of their religious spirit. For example, a community environment that has a strong religious tradition will have a positive effect on the development of a child's religious spirit. On the other hand, in societies that are more fluid or even more secular, such conditions are rare. The life of its citizens is looser, so it is thought that it also affects the religious life of its citizens.

### **b.** Inhibiting Factors

Based on observations and interviews with parents, in instilling early mathematics in children aged 5-6 years, several obstacles were found. Barriers that arise in this early introduction to mathematics include: the family environment. The following is strengthened by an interview statement with the principal that has been discussed with the parents, guardians of the students, that:

"Yes, it could be almost the same as the driving factor, the inhibiting factor is not much different. In my opinion, the inhibiting factors are family, school and community." Interview conducted 17 May 2018.

The family is the simplest social unit in human life. The members consist of father and mother and children. For children, family is the first social environment they are familiar with, thus family life becomes the initial socialization phase for the formation of the child's religious spirit.

Between family and education are terms that cannot be separated. Where there is a family there is education and where there are parents there are children which is a necessity in the family. When there are parents who want to educate their children, at the same time there are children who want education from their parents. From here comes the term family education which means education that takes place in the family which is carried out by parents as their duty and responsibility in educating children in the family (Bahri, 2004: 2).

The second inhibiting factor is the institutional environment, namely the school. Following are the results of interviews with the teacher regarding the inhibiting factors for the introduction of early mathematics, he said that:

"The inhibiting factors are family, school, and society. For example, schools also cannot guarantee that 100% of children can count 1 to 20 with their understanding, sometimes the numbers that have been memorized are not the same if the teacher shows a number and then the child says it can be different or can be mistakenly pronounced it." The interview was conducted on 20 May 2018.

School as a formal educational institution also influences the development of children's personalities. According to Singgih D. Gunarsa this influence can be divided into three groups, namely: curriculum and children, teacher-student relationships, and relationships between children. Judging from their relation to the development of the religious spirit, it seems that the three groups have had an influence. This is because, in principle, the development of the religious soul cannot be separated from efforts to form a noble personality. In the three groups, elements that support the formation are generally implied, such as persistence, discipline, honesty, sociability, tolerance, exemplary, patient, and justice. Treatment and habituation for the formation of such characteristics are generally part of educational programs in schools. Through the curriculum, which contains teaching materials, attitudes, and the examples of teachers as educators as well as interactions between friends at school in the habit of playing a role in instilling good habits. Good habits are part of moral formation which is closely related to the

development of one's religious spirit (Jalaluddin, 2010: 313).

### The concept of numeracy that must be introduced to children

In preschoolers, mathematics is only experience and not mastery. Concepts that should be introduced to children by starting:

a. One One Correspondence

First start with a very simple counting and leveling.

b. Pattern

Pattern is the ability to bring up an arrangement so that children are able to predict the next sequence after seeing the form of two to three consecutive patterns.

c. Sorting / sorting / classifying

Children learn material classification, grouping based on attributes, shapes, sizes, types, colors, and others.

d. Say

Memorizing numbers is the ability to repeat numbers that will help children understand the meaning of a number.

e. The meaning of numbers and their introduction

Each number has a meaning from objects or symbols. Figures from the following image are: \*\*\* = 3 stars.

f. Shape

Children are introduced to the same / different forms, big-small, long-short.

g. Size

Children need experience to measure weight, content, length by measuring directly so that the process of finding the number of an object.

h. Time and space

These two things are part of the process of everyday life.

The following is the result of an interview with the TK B teacher, he said that:

"The concept of numbers used is in accordance with the ability and as much as possible given by the teacher to the child. With the modified Sundanese game, the children make it easier to learn the concept of patterns, say something, recognize shapes, colors, children, types, and sizes". The interview was conducted on May 20, 2018. The data disclosure above regarding the numeracy concept method that must be introduced to children at TK Aisyiyah Desa Jenang is good.

### **CONCLUSION**

The results of the research after being ana-

lyzed and discussed according to the relevant theory, the following conclusions can be drawn:

1. Modification of the theme-based Sundanese Manda game can improve early math skills in group B children at Kindergarten Aisyiyah Desa Jenang, 2. Implementation of early mathematics introduction learning with the concept of doing the theme-based Sundanese Manda game can be understood by early childhood.

### **REFERENCES**

- Arief. Media Education 2006 (Definition, Development and Utilization). Jakarta: PT Grafindo Persada.
- Asrol Bin Hasan 2014 "Powerful Play: Using Educational Toys in the Iqra 'Learning Method for Preschoolers". Journal of Education and Learning kedah.uitm.edu.
- Augusta. 2012. "Definition of Early Childhood". Retrieved from http://infoini.com/ understanding of early childhood, accessed on 17 October 2016.
- Azhar Arsyad, 2007. *Learning Media*. Jakarta: Raja Grafindo Persada.
- Isjoni. 2014. Cooperative Learning Group Learning Effectiveness. Bandung: Alfabeta.
- Iris Soute, Panos Markopoulos, Remco Magielse. (2009). *Head Up Games: combining the bes to fboth worlds by merging traditional and digital play.* This article is published with open access at Springer link.com 14:435–444. DOI10.1007/s00779-009-0265-0
- Latif, Mukhtar, et al, 2013. "A New Orientation for Early Childhood Education", Jakarta: Kencana Prenadamedia Group.
- Lucht Martina, Heidig Steffi. (2013). Applying HOP-SCOTCH as an exer-learning game in English lessons: two explaratory Studies. Jurnal Springer Education Tech Research Dev 61:767-792. D01 10.1007/511423-9308-3
- Learning Media. Https://qoechil.wordpress.com/2012/05/06/teori-teori-media/downloaded on 15/03/2016.
- Learning Media. https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/ resources/position-statements/psmath.pdf
- Morrison, George s, 2012. "The Basics of Early Child-hood Education", Jakarta: Index.
- Munib, Achmad, et al. 2009. *Introduction to Education Science*. Semarang: UPT MKK UNNES.
- Niina Kolehmainen, etc. (2011). Participation in physical play and leisure: developing a theory-and evidence-based intervention for children with motor impairments. http://www.biomedcentral.com/1471-2431/11/100.
- Conscience, Yuliani. 2009. Basic Concepts of Early Child-hood Education. Jakarta: PT Index.
- Novotny. Chelsey J. 2012. "Treating Traumatized Children through Puppet Play Therapy. Journal Faculty of Adler Graduate School
- Priestess. 2012. "Increasing the ability of children to

- recognize letters through deciphering games in state kindergartens that build religion.
- Reidmiller M, Sandra. 2008. The Benefits of Puppet Use as a Strategy for Teaching Vocabulary at the Secondary School Level with Students Who Have Mixed Learning Disabilities.
- Rusman. 2014. Learning Models Developing Teacher Professionalism. Jakarta: Rajagrafindo Persada.
- Samani, Muchlas & Hariyanto. 2014. Concept and Character Education Model. Bandung: PT Remaja Rosdakarya.
- Santrock, JW. 2012. "Life Span Development". Jakarta: Erlangga.
- Saputra M, Yudha & Rudyanto. 2005. Cooperative Learning to Improve Skills of Kindergarten Children. Jakarta. Ministry of Education.
- \_\_\_\_\_Permendikbud 137 of 2014 Concerning National Standards for Early Childhood Education.
- Seniati, Liche. 2011. "Experimental Psychology". Jakarta: PT Index.

- Sugiyono. 2013. Educational Research Methods, quantitative and qualitative approaches, and R&D. Bandung: Alfabeta.
- Sugiyono. 2013. Statistics for Research. Bandung: Alfabeta.
- Sugiyono. 2008. "Qualitative and Quantitative Research Methods R & D". Bandung: Alfabeta.
- ----- 2014. "Educational Research Methods". Bandung: Alfabeta.
- Susanto, Ahmad. 2011. "The development of introductory early childhood in various aspects". Jakarta. Kencana Prenada Media Group.
- Susilana, Rudi. Riyana, Cepi. 2009. "Learning Media: Nature, Development, Utilization, and Habitan". Bandung: CV Wacana Prima.
- Suddjana, Nana. 2005. "Stastistic Method". Bandung: Sinar Baru. Sadjiman.
- Suharsimi A. 2006. "Research Procedures, A Practical Approach", Jakarta: Rineka Cipta.