

A CASE STUDY OF FUN LEARNING WITH NUMERACY OF PRESCHOOLERS

Siti Rahaimah Binti Ali¹, Farah binti Mukhtar²,

siti.rahaimah@fpm.upsi.edu.my¹, farah@ipgm.edu.my²

Faculty of Human Development, Sultan Idris Education University, Tanjong Malim¹, IPG
Raja Melewar, Negeri Sembilan Malaysia²

ABSTRACT

Preschool education focuses on the efforts to provide fun and meaningful learning opportunities to children aged four to six years old. The main focus is the process of teaching and learning which is children-centered, emphasis on the findings inquiry concept, the use of integrated teaching and learning, thematic learning, learning through playing, contextual learning and project-based learning. This study was conducted to explore fun learning with numeracy using the Fun-Learning Kid's tool in the teaching of mathematics for the pre-school students in Kelantan. This study used the playing approach. Pre-school students from two schools have been used as a sample of the study, namely, private schools and government school. The data was collected using the test questions after the pre-school students were exposed to the concept of multiplication using the Fun-Learning Kid's tool. The findings show that pre-school students have the ability to solve simple multiplication problems regardless the type of schools they go to. This demonstrated that the playing and learning method using the Fun-Tastic Kid's affects the preschool students' cognitive development and also their counting skill.

Keywords: pre-school education, enquiry finding, fun-learning kids, playing method

INTRODUCTION

In Malaysia, a pre-school education program is an early educational program for children before they enter formal education in Year One primary school (Preschool Curriculum Guidelines, 1998). Preschool is an optional education for children before entering school. Preschool is part of the Malaysian education system. The Malaysia Ministry of Education provides pre-school education to enable children aged four to six years old to enter early schooling, especially children who come from the lower income background.

Pre-school education aims to nurture the potential of children in all aspects of development, master basic skills and foster positive attitudes in preparing them for primary school. The concept used is "Learning while Playing" by emphasizing the "Themed Learning". The learning methods include class activities, group activities and individual activities. The uniqueness of preschools organized by the Malaysia Ministry of Education is the group activities which can enhance the quality of emotional and intellectual control. The early exposure to this activity is to provide a solid foundation for the concept of smart schools (Malaysia Ministry of Education, 2003).

The concept of learning while playing, allows them to master (learn) the skills or the lesson in a fun situation. This atmosphere exists because the attitude to win is certainly innate in every child. The advantages of learning while playing are:

- fun
- students can learn without knowing that they are learning
- no pressure
- trying to win
- can memorize facts indirectly

According to Siti Ana Hamdan (2007), the mathematical mastery can be a prerequisite to the success of the advanced information-oriented developed country for her nation to achieve. Through the mathematical sciences of various other fields of knowledge can also be combined and translated for the benefit of all.

In the new primary school curriculum (KBSR), mathematics is a compulsory subject for every student to study until they are in the secondary level. The process of learning the subject which takes six years for primary education, students are guided to develop numerical skills through quantitative thinking in a logical manner (Nik Azis, 1992). This situation requires students to understand the basic concepts of mathematics such as the fundamental fact of multiplication and to survive in everyday life.

The mastery of the basic factual skills is an important priority in mathematical learning. Addition, counting and subtraction can usually be easily mastered by students. However, for multiplication and division has often become problem for students to understand it. Among the factors identified as the cause of this imbalance of understanding is the method, environment, and individual differences (Fernandez, 2004).

Teaching methods that focus on students, materials and activity-based have been the main focus of teaching and learning mathematics at primary and preschool levels. The teacher training curriculum at the Teacher Education Institution has been modified to train teachers who are not only acquire high content knowledge but also master the pedagogical skills in implementing teaching that focuses on materials, students and activities.

By the year 2025 all schools in our country will become transformational schools. Therefore, these schools will be equipped with variety of pupils and teaching aids that cover various teaching media. Therefore, teachers in these schools should master the skills of selecting and optimizing these materials so that they could successfully achieve the objectives that have been planned for the pupils. Teachers should be prepared to face the challenges and changes as expected in their classroom management practice, especially in mastering the skills of using teaching aids effectively and also changing their 'mindset' about the importance and the role of teaching materials in teaching and learning mathematics.

Learning through playing is an effective teaching and learning technique for children. Through this technique it will also create pleasure and satisfaction to the students in learning the lesson. By playing, the children will be able to master the development and physical skills, cognitive and mastering the language in terms of vocabulary and grammar rules.

According to Caplan (2003), playing can be an important determinant for the development of personality strength, creativity, and emotional stability, social and intellectual development as well as to develop the physical strength, coordination and agility of a student. Playing games can also provide one's experience of fairness, rules and equality and strengthen one's thinking ability in various ways. The common games that were played in the classroom were puzzle, crosswords, number cards, picture cards, and chess and so on.

In addition, playing is one form of children's art. It is a channel for children's to express their feelings and main source for their excitement and happiness. Almy and Fagen (2004) stated that children play with their own direction regardless of the purpose of playing. During playing, they are free from any rules. Through games, children acquire new behaviors. Children will actively participate in the games. Almy & Fagen (2004) shared the same views of Rubin, Fein, and Vendenberg (2003).

Jerome Singer (2007) considers "imaginative play" as a child's effort in using his physical and mental abilities in organizing experiences. He also thinks that in the game, a child was exploring his nature which can make him capable of facing his surrounding problems and can also make him become creative. In short, through playing can enhance language development. In the play-free context, children can practice newly-mastered languages, diversify vocabulary and correct language errors and mistakes. In addition, the different kind of playing whether social playing or cognitive playing will also stimulate certain aspects of language development.

The purpose of playing while learning is to bring fun and entertainment while stimulating for children to learn in an informal way. This method assists in physical, social and emotional development where they can also enhance their strengths and dexterity, interact and learn positive social values such as tolerance, thoughtfulness and so on. The impact of enjoying the playing activities can accelerate their learning process in which feedback is given about right or wrong will also reinforce the conceptualization (Barwell & Clarkson, 2009)

Statement of the Problem

During the training of teachers at the Malaysian Teacher Education Institute, mathematics teacher trainees have been exposed to various teaching methods that focus on pupils, teaching resources and how to use teaching aids effectively. These methods are expected to be explored and used when they serve as math teachers in schools. A teacher should also be able to identify, decide on choosing the most effective teaching aid and to optimize resources in order to achieve their planned teaching objectives.

Herlinda (2008) stated that the use of teaching materials can enhance students' understanding as well as to stimulate their interests and attitudes to be more positive. However, there are still many mathematical teachers teaching using the 'chalk and talk' approach (Nooriza, 2001). This situation causes the student to become bored and the teaching became less satisfactory.

The quality of the pupils depends on the effectiveness of the teachers in choosing and using the appropriate teaching aids. A school with a well-equipped teaching resource center cannot help the pupil in learning if the teacher is not competent to use the material effectively.

Preschoolers are already familiar with the multiplication operations in their daily lives without them knowing or realizing. They often use multiplication concepts in their daily life in buying and selling business. Therefore an easy concept of multiplication needs to be exposed to pre-school students is the Fun-Learning Kid's tool without them being aware of it. By using this tool it is hoped that it can help students to solve their daily problems.

Purpose of the Study

This study aims to examine the use of teaching aids in teaching and learning mathematics by preschool teachers in primary schools. The study focused on:

- i. understanding the students' feelings before and after using Fun-Leraning Kid's as a teaching aid to solve easy multiplication problems
- ii. understanding the students' ability to solve the multiplication problem using the Fun-Learning Kid's tool at different locations;
- iii. comparing the students' achievement level in problems solving at different types of schools
- iv. finding out if there is a gender differences in multiplication skills using Fun-Learning Kid's

Research Questions

This study attempts to answer the following questions:

- i. What are the students' feelings before and after using Fun-Learning Kid's as a teaching aid to solve easy multiplication problems?
- ii. Are the students able to solve problems using Fun-Learning Kid's tool?
- iii. What is the students' achievement level in problems solving at different types of schools?
- iv. Is there a differences in multiplication skills using Fun-Learning Kid's based on gender?

Limitation of the Study

This study only involves pre-school students in three schools, preschools in national schools and private preschools around Kota Bharu. The focus of the study is on the use of the Fun-Learning Kid's tools that were supplied to students. The researcher only made an exposure on this method within an hour of teaching session throughout the study in each school.

Significant of the Study

The findings of this study could help educators, school administrators and teachers on the use of Fun-Learning Kid's at preschools to become interested in learning math. The Fun-Learning kid is also perceived to be helping preschool students in solving simple multiplication problems without the need of memorizing the multiplication table.

Research Methodology and Sample of the Study

The method used in this study is experimental method. This study used pencil and paper test for the test questions. The analysis of the data was done descriptively. The samples of the study were selected from pre-school students at SK Sri Bemban and Excellent Light Child Center in Kota Bharu (PKKE Light), Kelantan. Forty students were selected as samples where 23 students were girls and 17 students were boys. The selection of the pupils was determined by the school management.

RESEARCH FINDINGS

Respondent Profile

Overall, this study involved 40 respondents as shown in table 1. 23 respondents (57.5%) consisted of girls and 17 were boys (42.5%). The respondents consist of 4 students aged 5 years and 36 students aged 6 years. The 5 years old student came from the PKKE Light school.

Table 1: Respondent Profile

	Frequency	Percentage (%)
Gender		
Boys	17	42.5
Girls	23	57.5
Schools		
SK Sri Bemban	24	60.0
PKKE Cahaya	16	40.0
Age		
5 Years Old	4	10.0
6 Years Old	36	90.0

i. What are the students' feelings before and after using Fun-Learning Kid's as a teaching aid to solve easy multiplication problems?

The findings of the 40 students found that at the beginning they did not know what the multiplication operations were and how to solve them. They were very interested in playing with the Fun-Learning Kid's tool. After being introduced to this tool, they found that the Fun-Learning Kid's too was fun to play and at the same time they were also solving simple

multiplication problems. They expressed their feeling that they were happy and were having fun to be able to play and complete the multiplication using the Fun-Learning Kid's tool.

ii. Are students able to solve problems using Fun-Learning Kid's tool?

The students were exposed on how to use the Fun-Learning Kid's. They are taught to solve problems in their daily lives involving multiple operations. They can solve the problem without having to memorize the multiplication table. They managed to solve the multiplication problems just by playing using the Fun-Learning Kid's tool. It showed that 100% of the students can answer exactly 6 questions that are presented to them. The Fun-Learning Kid's tool can stimulate their cognition to think apart from they were having fun playing it.

iii. What is the students' achievement level in problems solving at different types of schools?

The pre-school students involved in this study had never been exposed to multiple operations. It can be concluded that their cognitive level that is related to multiplication is at the same level. This study found that after getting some exposure on multiplication using the Fun-Learning Kid's, all of the students were able to answer questions related to easy multiplication operations accurately. This shows that 100% of students were able to master the multiplying skills through the method of playing without having to memorize the multiplication table. It was found that the types of schools and the students' age do not affect the skills of using the Fun-Learning Kid's tool. Table 2 shows the level of achievement of the students.

Table 2: The Achievement Level of the Students

Schools	Number of Students	Age	Marks
SK Sri Bemban	24	6 Years Old	100%
PKKE Cahaya	4	5 Years Old	100%
	12	6 Years Old	100%

iv. Is there a differences in multiplication skills using Fun-Learning Kid's based on gender?

The findings showed that there was no difference among students based on gender and age in mastering multiplication skills using Fun-Learning Kid's. This is because all students can answer the six questions that were presented to them correctly.

CONCLUSIONS

The Fun-Learning Kid's is a helpful teaching tool that can attract and help preschool students to solve problems involving simple multiplication operations that apply to their daily lives. This study found that by using the Fun-Learning Kid's tool can increase the interest of pre-school students to love math. By using this tool also, the students can successfully complete

the multiplier operation. It gives them an impression that mathematics is easy rather than a difficult subject. This can motivate them to love and learn Math.

REFERENCES

- Ahmad Zakiyon Ismail. (2009). *Konsep pengajaran dan pembelajaran awal kanak-kanak (Online)*. Diperoleh pada 1 September 2010 daripada World Wide Web zakiyon09.files.wordpress.com/.../awal-sains-dan-matematik-pbk.ppt
- Akta Pendidikan 1996 (Online). Diperoleh pada 1 September 2010 daripada World Wide Web: <http://jpt.mohe.gov.my/RUJUKAN/akta/akta%20pendidikan%201996.pdf>
- Ali Abdul Ghani. (2008). *Konvokesyen Nasional PIPP Kedua : Membangun Modal Insan. Bahagian Pembangunan Kurikulum(Online) : Kementerian Pelajaran Malaysia*. Diperoleh pada 2 September 2010 daripada World Wide Web : <http://sppk Kedah.blogspot.com/2009/10/membangun-modal-insan.html>
- Almy, M. (1984). *A child right to play*. In J.F. Brown (ED). *Administrating for young children*. Washington: NAEYC.
- Dorsey, A. G., & Sciarra, D. J.(1997). *A child care center*. Delmar Publishers. Washington.
- Atan Long. (1969/70). "Masalah Kelemahan Pelajaran Bacaan di Sekolah Kebangsaan dan Cadangan Mengatasinya". *Masalah Pendidikan*. Vol.2,(1). September 1969/70, 288-297
- Azizah Lebai Nordin. (1995). Pengajaran Pembelajaran Prasekolah. *Masalah Pendidikan* 19, 11-25
- Bernama. *Waktu Belajar di prasekolah ditambah jadi empat jam (Online)*. Diperoleh pada 3 September 2010 daripada World Wide Web: http://prasekolah-kpm.blogspot.com/com/2010_01_01_archive.html
- Bongtsson, A. (1970). *Environmental planning for children's play*. London: Crosby Lockwood & Son Ltd.
- Catron, C. E., & Allen, J. (1992). *Early Childhood Curriculum A Creative-Play Model*. Merrill. New Jersey, Columbus, Ohio.
- Rogers, C. S., & Sawyer, J. K., (1934). *Play in The Lives of Children, National Association for the Education of Young Children*. Connecticut Avenue, N. W. Washington.
- Fagen R.(1981). *Animal Play Behaviour*, Oxford University Press.
- Fatimah Salleh, Khadijah Zon dan Zurida Ismail.(1993). *Kurikulum Pendidikan Awal : Ke Arah Pendidikan Holistik*. *Pendidik dan Pendidikan* 12, 33-44
- Halimah Abdul Rahman. (1994). *Pengajaran Bertema di Pusat Prasekolah*. Kuala Lumpur. Fajar Bakti Sdn. Bhd.
- Barclay, K. H., & Brenheny, C.(1993). *Letting the Children Take Over More Of Their Own Learning: Collaborative Research in the Kindergarten Classroom*.
- Katz, L.C. (1987). *Early Education: What Should Young Children Be Doing?* In Kagan, S & Zigler, E. 1987. *Early Childhood: The National Debate*: Yale University Press.
- Kementerian Pelajaran Malaysia. (2003), *Huraian Kurikulum Prasekolah Kebangsaan (Online)*. Diperoleh pada 2 September 2010 daripada World Wide Web: <http://ms.wikipedia.org/wiki/Prasekolah>
- Kementerian Pelajaran Malaysia. (2009). *Kurikulum Standard Prasekolah Kebangsaan*:
- Kementerian Pelajaran Malaysia, Bahagian Pembangunan Kurikulum (Online). Diperoleh pada 1 September 2010 daripada World Wide Web: <http://praskseafield.blogspot.com/2009/12/kurikulum-standard/prasekolah.html>
- Kementerian Pendidikan Malaysia. (2003), *Kurikulum Bersepadu Sekolah Rendah: Huraian Sukatan Pelajaran Matematik Tahun 1* Kuala Lumpur, Pusat Perkembangan Kurikulum.
- Kementerian Pendidikan Malaysia. (2003). *Huraian Kurikulum Prasekolah Kebangsaan*. Dewan Bahasa dan Pustaka
- Katz, L. G. (1984). *The Professional Early Childhood Teacher*. Young Education.
- Margaret L.D., & Dopyera, J. (1993). *Becoming a teacher of young children*. Graw-Hill Book Co. New York.
- Ministry Of Education Malaysia. (1997). *Smart School Flagship Application : The Malaysian Smart School : A Conceptual Blueprint*.

- Mohd Rashidi Mat Jalil. (2008). Keberkesanan kaedah petak sifir dalam penguasaan fakta asas darab dan mencari hasil darab dan bahagi dalam matematik tahun 4: Satu kajian di SK Felda Tenggaroh 1, Mersing, Johor. *Tesis Sarjana Muda*. UTM Skudai: Fakulti Pendidikan
- Orton, A.(1992). *Learning mathematics : Issues, Theory And Classroom Practice (2nd ed.* London : Cassell.
- Nani Menon, Mohd. Sharani & Rohani Abdullah. (2003). Panduan kurikulum prasekolah. Cergas (M) Sdn. Bhd. Kuala Lumpur.
- NCTM. (2000). *Principles and Standard for school Mathematics*, Reston Va' Author
- Nik Azis Nik Pa. (1992). *Penghayatan Matematik KBSR dan KBSM*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Rohaty Mohd Majzub.(1989). *Beberapa dimensi pendidikan prasekolah menjelang abad ke-21 dan selepasnya'*. *Aliran dan awalan pendidikan menjelang abad ke-21*. Kuala Lumpur. Universiti Kebangsaan Malaysia.
- Siti Ana Hamdan. (2007). Penggunaan bahan bantu mengajar guru pelatih matematik. *Sarjana Muda*. UTM Skudai: Fakulti Pendidikan.
- Skemp, R.R. (1989). *Mathematics In Primary School*. London : Routledge.