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Efforts to Improve Students' Gross Motor Skills Using The Low Impact Outbound Games at Sekolah Alam Bogor Kindergarten

Nova Roslinawati[1] 0009-0000-9926-5743
George Wilson[2] 0000-0002-1246-6313

[1]*Educational Technology, Universitas Ibn Khaldun Bogor, Indonesia*
[2]*Tech University, Germany*

ABSTRACT

This study aims to improve gross motor skills through low-impact outbound play activities at the Bogor Nature School Kindergarten, North Bogor. The subjects were 15 children in the playgroup at the Bogor Nature School Kindergarten, consisting of 7 boys and 8 girls. This research is a classroom action research using the Kemmis and McTaggart research design. This research was conducted in two cycles with the theme of Self-Identity. The research period was in the first semester. The data collected were descriptive qualitative and quantitative data. Descriptive qualitative data is a report of research results presented in the form of descriptions or learning processes. Meanwhile, quantitative data is learning outcomes presented in the form of tables or diagrams. The data obtained was then compared with success criteria to determine gross motor skills through low-impact outbound games. Based on the research results, it can be seen that 20% of children were able to carry out low-impact outbound game activities independently, namely from 66.6% in cycle 1 to 86.6% in cycle 2.

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* Corresponding author: Nova Roslinawati novaroslinawati@gmail.com
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Introduction

National Association For The Education of Young Children states that early childhood is children in the age range of 0-8 years, which is included in educational programs in child care centers, family child care homes, private and public preschool education, kindergartens and elementary schools (NAEYC, 1992). Meanwhile, Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System in Article 1 paragraph 14 states that early childhood education is a development effort aimed at children from birth to the age of 6 years which is carried out through providing educational stimulation to help physical and spiritual growth and development so that children have readiness to enter further education (Ministry of National Education, 2003). Meanwhile, UNESCO with the approval of its member countries divides the levels of education into 7 levels called the International Standard Classification of Education (ISDEC). At the levels determined by UNESCO, early childhood education is included at level 0 or preschool level, which is for children aged 3-5 years. In its implementation in several countries, it was found that some started preschool education earlier, namely at the age of 2 years, and some other countries ended it at the age of 6 years. Even some other countries included basic education in the early childhood education level (Siskandar, 2003). In the Kindergarten Curriculum Competency Standards, it is stated that the goal of education in Kindergarten is to help develop various potentials of children, both psychological and physical, which include moral and religious values, social emotional, cognitive, language, physical/motor, independence and art to enter primary education. The process of growth and development of children's gross motor skills is related to the process of growth and development of children's motor skills. The development of children's motor skills will be clearly visible through the various movements and games they can do. Therefore, the improvement of children's physical skills is also closely related to play activities, which are the main activities of kindergarten-aged children. The stronger and more skilled a child's movements, the more children enjoy playing and tirelessly move all parts of their body while playing. The movement of children's limbs while playing has many benefits for the growth of other aspects of children's abilities, such as aspects of cognitive development and aspects of children's social emotional development. In addition, increasing children's motor and physical skills will play an important role in maintaining children's physical health.

Bogor Nature School Kindergarten is located at Jalan Pangeran Ash Shogiri No. 150, Tanah Baru Village, North Bogor District, Bogor City, West Java Province. Bogor Nature School Kindergarten has six learning groups, consisting of two playgroup classes, two kindergarten classes, and two kindergarten classes. Bogor Nature School Kindergarten is under the auspices of the Progress Insani Foundation.

The most common problem encountered is that children have not yet reached their developmental milestones in gross motor skills, especially when engaging in activities at heights such as climbing, jumping, climbing stairs, and walking on planks. This issue needs to be addressed because gross motor development will impact other aspects of development, such as self-confidence and cognitive abilities. The cause of this problem is a lack of maturity in gross motor activities involving heights, which is caused by a lack of stimulation provided by teachers.

Gross motor activities or stimulation conducted in the classroom are considered insufficient because they are only done once a week. Gross motor activities are considered important because they influence a child's physical, cognitive, and social-emotional development, as well as fostering leadership skills. Gallahue (1993) states that preschool age is the most optimal time for a child's motor development. This period is considered the most potential period in a child's life span for developing their physical and bodily abilities, as well as their motor skills. This research aims to improving the gross motor skills of children in the playgroup at the Bogor Nature School Kindergarten; and to find out to what extent the low impact outbound game method can improve the gross motor skills of children in the playgroup at the Bogor Nature School Kindergarten.

This improvement is expected to benefit the following: 1) Teachers, to increase insight into the right stimulus to stimulate and improve children's abilities in gross motor skills and encourage them to be more creative in creating varied gross motor play activities according to the situation and needs; 2) Kindergarten children, in order to provide new experiences and insights to children in improving gross motor skills in playgroup children through low impact outbound play activities; 3) Parents, so that they can increase their insight on how to facilitate and stimulate their children's gross motor skills by inviting them to play low-impact outbound games; and 4) Schools, to add information/input for Kindergarten teachers at Bogor Nature School in implementing low-impact outbound play activities, as well as to stimulate teachers' creativity so that they are able to produce higher quality resources.

In the book Physical Development Methods of the Open University it is stated that gross motor skills are the ability to move the body using large muscles, most or all of the body's limbs. Children's gross motor development develops before fine motor skills, for example, children will first grasp large objects rather than smaller ones. This is because children are not yet able to control the movement of their fingers for fine motor skills such as stringing, cutting, and others. Gross motor movements involve the activity of the muscles in the hands, feet, and the whole body of the child. These movements rely on maturity in coordination. The various gross motor movements that children achieve are certainly very useful for their future life. According to SAyuti Sahara (2003), as quoted in the book Physical Development Methods of the Open University, page 4.6, locomotor movements are basic movements that form the foundation to be learned and introduced to kindergarten-aged children. These basic movements include walk, run, jump and land, and climb.

The following is a table listing gross motor development in kindergarten children aged 3-4 years, quoted from the book Physical Development Methods of the Open University.

Table 1. Gross Motor Development

No	Motoric
1	Catch a big ball with straight hands in front of the body
2	Stand on one leg for 5 seconds
3	Riding a tricycle through a wide bend
4	Jump 1 meter or more from the starting standing position
5	Pick up small objects on the tray without dropping them
6	Using the shoulder and elbow when throwing the ball up to 3 meters
7	Walk along the board by placing one foot in front of the other.
8	Jumping on 1 leg
9	Stand with your heels together, hands at your sides without losing your balance.

In the book "Play and Children's Games" by Universitas Terbuka, it is stated that experts often say that a child's world is a world of play. Play is expressed in various forms when children are active. They play when singing, digging in the dirt, building with colorful blocks, or imitating something they see. Play can take the form of movement, such as running, throwing a ball, climbing, or thinking activities such as putting together a puzzle or remembering the words to a song. Creative play can also be done using crayons, plasticine, or clay. The stages of play in children are manipulative stage, symbolic stage, exploration stage, experimental stage.

In this book, it is also mentioned that in addition to the stages of play development above, which are a general classification of play stages, which are often used by kindergarten teachers in observing children's play behavior and assessments, play development will also be described in relation to cognitive development according to Jena Piaget and Mildred Parten's theory which links children's play development with their social development. Jean Piaget put forward the stages of play development in line with children's cognitive development as follows: 1) Sensory motorplay begins at birth and continues through age 1.5 to 2 years. Children learn through their five senses; 2) Symbolic play, in children aged 2-7 years; 3) Social play games with rules are games that involve social behavior. This stage is played by children aged 8-11 years.

According to Parten, who researches play as a means of socialization for children, there are six stages of play development that can be observed and observed when children engage in play. He also revealed that play activities progress from simple to advanced levels. These stages of play development reflect a child's level of social development, as shown in the table below.

Table 2. Child's Level of Social Development

Unoccupied	Observing other people's activities. Playing with their bodies, going up and down stairs, walking aimlessly when there's nothing else to catch their attention.
Unlookers (behaving like spectators/ observers)	Observe, ask questions and talk to other children but do not participate in playing. Stand at a distance to watch and listen to other children playing or chatting.
Playing solitaire (playing alone)	Playing alone and not interacting with other children. Playing with their own toys is the goal.
Parallel play	Plays side by side or near other children using tools, but plays alone. Does not share tools, only side by side with other children, not playing with them.
Associative play	Playing with other children in the same type of games. Conversations and questions and sharing of play equipment are involved, but there is no collaborative activity, such as cutting out pictures.
Cooperative play (group play)	Playing together is doing a project together, for example in drama games, constructive games building a city with blocks or playing games together that have a win-lose element, playing in the sandpit or playing simple football, playing hide and seek.

Ancok explains the definition of outbound comes from the words out of boundaries, meaning going beyond the limits. It is a term in the maritime field, according to the term outbound is the process of seeking experience through the

open air. This activity has been started since ancient Greek times. Meanwhile, in the form of formal education, it began in 1821, marked by the establishment of Round Hill School in England. However, systematically this activity was only popularized in England in 1941. The outbound education institution was built by a German educator named Kurt Hahn in collaboration with a British trader named Lewrence Holt. These two people built education based on adventure (adventure-based education).

Method

The research method used in this study is Action Research (AR), a research methodology oriented towards practice and social change. Unlike conventional research, which aims to test theories in isolation, AR aims to solve practical problems directly encountered in the field by those involved (teachers in classrooms, managers in organizations, or communities). AR involves a systematic process of self-reflection, in which researchers (and practitioners) collaboratively identify problems, develop interventions (actions), and measure the impact of those interventions. At the heart of AR is the strong interweaving of action and reflection, making the research process itself a means of learning and improving the quality of professional practice. The key distinguishing characteristic of Action Research is its participatory and cyclical nature. This research always involves collaboration between researchers and research subjects (clients or teachers) at every stage. This cyclical (spiral) nature means that this process does not end after one action, but continues to rotate and repeat (iterative). After one action is evaluated, the results are used to formulate subsequent corrective actions. Furthermore, AR demands a high degree of contextualization; the resulting solutions are highly specific to a particular problem and environment. For example, a solution that successfully addresses literacy issues in class A may not be effective in class B without modification and adaptation. The structure of Action Research always follows a systematic cycle model, which generally consists of four mandatory phases: Planning, Acting, Observing, and Reflecting. The cycle begins with Planning, where researchers and practitioners collaborate to analyze the root cause of the problem and design appropriate interventions. This is followed by Action, which is the implementation of the intervention in the field. During the action, close observation is conducted (through observation, interviews, or testing) to collect data on the impact of the action. Finally, Reflection is conducted to analyze the data, determine whether the action was successful, and decide the next step—whether to continue the cycle with revised plans, or to end the research because the problem has been resolved.

In the educational context, action research plays a vital role, particularly in the classroom context known as Classroom Action Research (CAR). CAR enables teachers to become researchers in their own classrooms. For example, a teacher can use AR to address students' low motivation in a particular subject. The teacher plans an action (e.g., implementing gamification methods), carries it out, observes changes in student behavior, and reflects on whether gamification actually increases motivation. This method empowers teachers, enabling them to develop professional practices that are evidence-based (data-driven) rather than intuition-based.

Figure 1. Action Research Procedure
(Kemmis & MC Taggart, 1994) Arikunto (2019)

The subjects of this study were 15 playgroup students at the Bogor Nature School Kindergarten, consisting of 7 boys and 8 girls with varying levels of ability. Data collection methods used were observation, interviews, and documentation.

Planning and implementation

The implementation of improvements was carried out in two cycles, namely cycle I on 21, 22, 23 and 25 August 2017 and cycle II on 29, 30 and 31 August 2017 with the following themes.

Table 3. Cycles

No		Day	Date	Theme
1	Cycle I	Monday	August 21, 2017	Personal identity
2		Tuesday	August 22, 2017	Personal identity
3		Wednesday	August 23, 2017	Personal identity
4		Friday	August 25, 2017	Personal identity
5	Cycle II	Tuesday	August 29, 2017	Personal identity
6		Wednesday	August 30, 2017	Personal identity
7		Thursday	August 31, 2017	Personal identity

Cycle I activity plan

Table 4. Cycle Iactivity Plan

Activity	Opening	Core	Closing
1	Exercise	Walking on a tire with a height of 30cm and a length of 2 meters	Squat then jump
2	Crawl	Jump from a height (2-3 podium steps)	Throwing a soccer ball
3	Crawling	Climb a vertical ladder to a height of 2 meters	Catching a soccer ball
4	Pencil in the glass running competition	Climbing the spider wall	Walk straight along the line

Results of Cycle I Implementation

Table 5. Cycle I Implementation

No	RPPH	Opening			Core			Closing		
		***	**	*	***	**	*	***	**	*
1	RPPH 1	12	2	1	3	4	8	6	2	7
2	RPPH 2	12	2	1	12	0	3	11	4	0
3	RPPH 3	7	6	2	15	0	0	7	4	4
4	RPPH 4	12	3	0	11	0	4	10	5	0
Amount		43	13	4	41	4	15	43	15	11
Average		10.75	3.25	1	10.25	1	3.75	8.5	3.75	2.75
		11	4	1	10	1	4	8	4	3
Presentation		73.3 %	20%	6.6 %	66.6 %	6.6 %	26.6 %	53.3 %	26.6 %	20%

Note:
*) : Need Guidance
**) : Develop
***) : Independent

Cycle II activity plan

Table 6. Cycle II Acitivity Plan

Activity	Opening	Core	Closing
1	Obstacle course (climb a vertical ladder then jump through a small ladder and down a slide)	Walk on a tire with a height of 50cm for a length of 2 meters while holding on to a friend in turns)	Walking in balance following the circle trail
2	Throwing the ball (putting it into the basket) from a distance of 1 meter	Climb the spiderwall then take the smile stick	Obstacle course (crawling and crawling while carrying a flag)
3	Jump from picture to picture on the floor (1-5)	Jump from a height (2-3 steps) on a flat surface	Tracking (walking variously around the school)

Results of Cycle II Implementation

Table 7. Cycle II Implementation

No	RPPH	Opening			Core			Closing		
		***	**	*	***	**	*	***	**	*
1	RPPH 1	15	0	0	11	3	1	11	4	0
2	RPPH 2	13	2	0	12	2	1	9	5	1
3	RPPH 3	11	4	0	14	1	0	15	0	0
Amount		39	6	0	37	6	2	35	9	1
Average		13	2	0	12.3	2	0.6	11.6	3	0.33
		13	2	0	12	2	1	12	3	0
Presentation		86.6 %	13.3 %	0%	80%	13. 3%	6.6 %	80%	20%	0%

Note:
*) : Need Guidance
**) : Develop
***) : Independent

Results of comparison of implementation of cycle I and cycle II

Table 7. Cycle I and Cycle II Comparison

Activity	**Cycle I**			**Cycle II**		
	*	**	***	*	**	***
Opening	1 (6.6%)	3 (20%)	11 (73.3%)	0%	2 (13.3%)	13 (86.6%)
Core	4 (26.6%)	1 (6.6%)	10 (66.6%)	1 (6.6%)	2 (13.3%)	12 (80%)
Closing	3 (20%)	4 (26.6%)	8 (53.3%)	0%	3 (20%)	12 (80%)
Average	2.3	2.6	9.6	0.3	2.3	12.3
	2	3	10	0	2	13

Note:
*) : Need Guidance
**) : Develop
***) : Independent

Percentage Comparison of implementation of cycle I and cycle II

Table 8. Percentage Comparison of Cycle I and Cycle II

Ability Development Results	Cycle I		Cycle II		There is an increase/decrease in learning outcomes
	Number of children	%	Number of children	%	
*** (Independent)	10	66.6%	13	86.6%	20%
** (Develop)	3	20%	2	13.3%	-6.6%
* (Need Guidance)	2	13.3%	0	0%	-13.3%

From the results of the learning improvement research carried out at the Bogor Nature School Kindergarten, there is comparative information on children's development in the opening activities, core activities and closing activities presented in the table. In the table it can be seen that children's gross motor skills are increasing, this can be seen from the percentage of children who received * (Need Guidance) in cycle I, namely 13.3% while in cycle II it decreased by 13.3%, namely only 0% of children. 20% of children received ** (Developing) results in cycle I and decreased by 6.6%, namely 13.3% of children. An increase in children's gross motor skills was seen in cycle II by 20%, 66.6% of children received *** (Independent) results in cycle I, while in cycle II there were 86.6% of children who received *** (Independent) results.

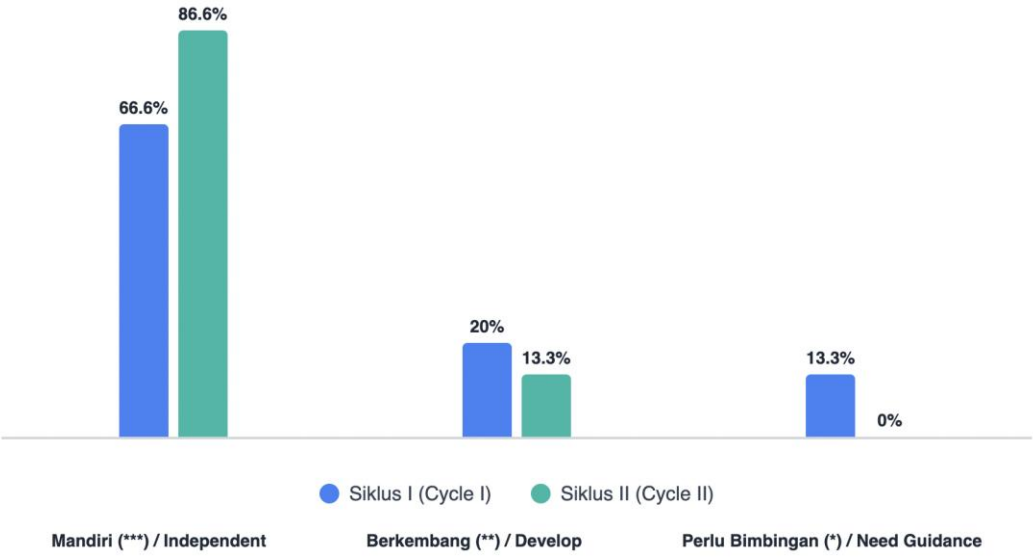

Figure 2. Comparison of Cycle I and Cycle II Results
Improvement in Student Competencies/Ability in Categories (***) to (*)

Based on the learning outcomes from these two cycles, the researchers decided not to continue with improvements in the next cycle because the learning improvements for the 15 students had already shown very good progress. The following graph can be drawn from the table above.

Conclusion

A seven-day (2 cycles) classroom action research has been conducted at the Bogor Nature School Kindergarten, in the playgroup aged 3-4 years. The learning outcomes in an effort to improve gross motor skills with the low impact outbound method, numbers and percentages can be seen in the graphs and tables that have been presented. In the first cycle, children who achieved (Independent) results reached 66.6% while with the increasing percentage in the second cycle, children who achieved (Independent) abilities were 86.6%. In other words, thirteen of the fifteen children in the Bogor Nature School Kindergarten playgroup aged 3-4 years, gross motor skills in the form of low impact outbound have developed and can do it independently.

Existing gross motor skills can develop more optimally and can be practiced daily, so a supportive environment is needed as well as the role of parents and teachers at home and at school to stimulate the development of students' gross motor skills.

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