

Developing Fundamental Movement Skills of Elementary School Students through Traditional Games

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Keywords: Galah asin traditional game, bébénténgan traditional game, boy-boyan traditional game, fundamental movement skills, physical education games, test gross motor development-2.

Abstract: The purpose of this study was to find out the effect of galah asin, bébénténgan, and boy-boyan traditional games on elementary school students' fundamental movement skills. To achieve this purpose, a true experiment with pretest-posttest control group design with more than one experimental group was carried out. The samples were 40 students; each group consisted of 10 students. The instrument used in this study was the Test Gross Motor Development-2 (Ulrich, 2000). The data analysis was conducted by means of SPSS 16 using the significance level of 0.05. Based on the results of a paired sample *t*-Test, it was concluded that: (1) the galah asin traditional game significantly influenced the development of students' fundamental movement skills, (2) the bébénténgan traditional game significantly influenced the development of students' fundamental movement skills, (3) The boy-boyan traditional game significantly influenced the development of students' fundamental movement skills, and (4) physical education games significantly influenced the development of students' fundamental movement skills.

1 INTRODUCTION

Motor development takes place in an exact sequence, and age norms are often used to measure the development progress (Bayle, 2012). This shows that along with the age, the motor development that one possesses will be more complex and different than the previous one. However, the previous motor skills are the foundation of the following motor skills (JD, Crowe, and Ward, 2003). In other words, the motor of kindergarten, elementary and junior high school students are different from each other, and the motor in the kindergarten age is the foundation for the motor development in Elementary School age, and the same thing goes for the motor in Elementary School age is the foundation for the motor development in Junior High School age. For Elementary School aged kids, the ability to move in sequence faces an improvement from simple moves to more complex and coordinated moves (Wang, 2004). Therefore, basically, the series of motor development up to coordinated moves really rely on the maturity and integration of nerves as well as muscular skeletal system factors. This motor skill is the one that will be the foundation to the following skill (Goodway and Branta, 2003). This is really

needed to provide a strong support for the formation of movement quality that is proportional to their age (Fisher et al., 2005). To perform a good movement task, a good fundamental movement skill is certainly required. The basic movement skill is a motion pattern that becomes the basic for a more complex movement agility (Goodway and Branta, 2003). By mastering that particular skill, it is expected that the children will participate in physical activities, such as sports so an active lifestyle can be achieved in order to improve the kids' quality of life (Bakhtiari, Shafinia, and Ziaee, 2011) (Williams et al., 2008). The fundamental movement skills are generally divided into three movements, the locomotor movements, the non locomotor movements and the manipulative movements (Stodden et al., 2012). This fundamental movement skill is the one needed by the kids, particularly those who are in Elementary School to support the kids' next movement skills (Fisher et al., 2005). If the basic motor skills are not as good, then he will be less able to compete in his adult age (Božanić, Ana (Faculty of Kinesiology, University of Split and Bešlija, Tea (Karate Club "OBI", Split, 2010). The movement skills are formed not only from the result of practice, but also because of the heredity

factor (genetic). Although this biological aspect affects the ability in the movement skills, but to be able to further develop to a more perfect direction depends on the environment. As stated (Venetsanou and Kambas, 2009) that “Environment Factors such as (Mother, siblings, parents social and economic status), school, socio-cultural and movement program provision become the factors that affect the kids’ movement skills. “In the socio-cultural factor or the parenting patterns (Victora, Victora, and Barros, 1990) stated that “The emphasis of Brazilians parenting pattern is more spontaneous, informal, fun, and physically active in activities such as running and jumping.” Further, (Iivonen and Sääkslahti, 2014) stated that “Kids playground is also a factor that affects the kids’ motor skills.”

In Indonesia, the parents’ knowledge on the movement skills are is still lacking so it is possible that kids in Elementary School age have poor movement skills. Not to mention the learning programs that the students get fail to facilitate the kids to move with a good intensity (Gao, Zhang, and Podlog, 2014). Realizing the above-mentioned condition, the curriculum of physical education in Indonesia proposed an inclusion of local contents that contains subject extension that can be used as teaching materials for the students, including traditional games. There are at least two goals from the inclusion of the local contents into the curriculum, the first one is to introduce the local culture heritage to the next generation (Piech and Linski, 2007). The second one is to revive both the interest and the development of the traditional games in protecting the local cultural traditions to the nation’s next generation that if we dig deeper, will improve the students’ fundamental movement skills (Akbari et al., 2009). The suggestion is triggered by the fact that lots of Elementary and Junior High Schools students who are not familiar with and interested in the traditional sport games.

Traditional game is one of the folklore types in the form of game that spreads orally amidst a certain culture, in traditional forms, has rules that contains noble values, performed through interactions and inherited from generation to generation (Misbach, 2010). The folk games played in the ancient times are a part of the local culture identity (Chepyator-Thomson, 1990). The traditional games are also folk games where the games are a part of an image or character of the society (Society, Journal, and Folklore, 2011). The traditional games are played by the kids at a certain area that have been inherited from one generation to the next ones. The kids in the past, in their spare times, tend to spend their time to explore

the activities outside the house that make use of the surrounding nature (Sutton-Smith, 1953). Today, it is really possible that those games are no longer played by the kids. In this globalization era where the identity of a nation or a local culture are very important, the traditional games can be one of the most interesting and important factors that can help protect and express the identity of an area (Agh, 2014). Games that are human’s creation in the past have actually triggered the kids to have fun and had a very meaningful impact on the kids’ individual development.

Other than containing high cultural value, traditional games are beneficial in improving the psychomotor, cognitive and social skills (Ajila and Olowu, 1992) (Gundani, Makaza, Amusa and Banda, 2011). In the psychomotor aspect, traditional games can train the sensorimotor, flexibility, endurance, gross motor, and fine motor skills. Besides, traditional games are also more effective than daily activities in improving kids’ fundamental movement skills (Akbari et al., 2009). Furthermore, the cognitive benefits are that traditional games can develop the imagination, creativity, problem solving, strategy, anticipation, and contextual understanding (Chepyator-Thomson, 1990). While the social benefits of traditional games can improve teamwork, relation building and social maturity training with the peers (Norgaard, 2009).

Traditional games have the characters that are able to raise happiness as well as the participation of the kids and to improve fundamental movement skills since it has an element of play. Playing is the kids’ world (Mahendra, 2015). They play while they learn. Playing is a spontaneous activity without any burden and binding rules. While playing, the kids explore and find the things that makes them proud. This becomes a good facility for the kids to develop themselves, whether in their emotional, social, physical or their intellectual development. For the kids, playing is the main target where they play about their body and motor skills (Gallahue, 1996). Besides, playing can also be beneficial for the kids’ cognition, body and emotion (Stork, Sanders, Stork, and Sanders, 2015).

In applying a playing activity or game in a learning context, a teacher shall make a learning plan formulation so that the goal in the learning process can be achieved. The learning program are particularly based on the types of game, the traditional games, for example. To perform a native tradition such as the traditional games is a good opportunity to make sport learning program more modern and interesting (Cieśliński and Chaliburda, 2016). One thing that needs to be highlighted that

when the traditional game is included in the teaching materials of physical education, the said traditional games shall have the same characteristics with the DAP principles, because one of the high quality physical education program characteristics is marked with the Development Appropriate Practice (DAP), namely a physical activity program given based on the students movement skill and can accommodate each movement quality characteristic differences of the students (Carta, Schwartz, Atwater, and McConnell, 1991).

2 METHODS

2.1 Participants

The population in this research is the 3rd grade students of Taruna Bakti Elementary School Bandung with 130 students in total. The sampling technique that the writer used is simple random sampling. The researcher took samples by shuffling them and took each 10 students from four classes. Thus, the total samples in this research is 40 people for four groups. After the samples are obtained then the preliminary test is performed to divide the control groups and the experiment groups, the researcher classified the experiment and control groups by “ordinal pairing” technique or sorting the level from the highest to the lowest.

2.2 Design

This research is conducted at Taruna Bakti Elementary School Bandung. The method used in this research is the True Experimental Design research method. The design used in this research is Pretest-Posttest Control Group Design with More Than One Experimental Group, the description of the design is as follows:

Table 1: Pretest-posttest control group with more than one experimental group Johnson dan Christensen.

	Pretest	Treatment	Posttest
Control group	O1	XC	O2
Experimental group 1	O1	XT1	O2
Experimental group 2	O1	XT2	O2
Experimental group 3	O1	XT3	O2

Note:

O1 : Pretest test TGMD 2nd (Test Gross Motor Development)

O2 : Posttest test TGMD 2nd (Test Gross Motor Development)

XC : Treatment of sports learning (football, atletik, basketball)

XT1 : Treatment of *galah asin* game

X T2 : Treatment of *boy-boyan* game

X T3 : Treatment *bebentengan* game

2.3 Instruments

The instruments used for collecting the research data is the Test Gross Motor Development – Second Edition (Wong and Ying Cheung, 2010). The test covers 12 motor tests categorized into two sub variables, the locomotor (run, gallop, hop, leap, horizontal jump, slide) and object control (striking a stationary ball, stationary dribble, catch, kick, overhand throw and underhand roll).

3 RESULTS

The result data of this research is analyzed by paired sample t-test with the help of SPSS 16. The following on Table 2 is the research result:

Table 2: Count result of paired sample t test.

No	Group	t _{count}	t _{table}	Sig. (2-tailed)
1	Posttest – Pretest Galah Asin	2,982	2,262	.002
2	Posttest – Pretest Boy-boyan	2,740	2,262	.002
3	Posttest – Pretest Bebentengan	2,868	2,262	.002
4	Posttest – Pretest Learning Games in Penjas	2,662	2,262	.001

Table 2 above shows that:

- *Galah asin* traditional game affects kids’ fundamental movement development significantly. Based on the above table, it is found out that the t count (2,982) > t table (2,262) then H0 is rejected or there is a significant influence from *galah asin* traditional game toward the kids’ fundamental movement development.
- *Bebentengan* traditional game affects kids’ fundamental movement development significantly.

Based on the table above, it is found out that t count (2,740) > t table (2,262) then H_0 is rejected or there is a significant influence from *bebentengan* traditional game toward the kids' fundamental movement development.

- *Boy-boyan* traditional game affects kids' basic movement development. Based on the table above, it is found out that t count (2,868) > t table (2,262) then H_0 is rejected or there is a significant influence from *boy-boyan* traditional game toward the kids' fundamental movement development.
- Physical education game affects the kids' fundamental movement development significantly. Based on the table above, it is found out that t count (2,662) > t table (2,262) then H_0 is rejected and there is a significant influence from *physical education* traditional game toward the kids' fundamental movement development.

4 DISCUSSION

In *galah asin* game, the writer found out that *galah asin* traditional game affects the kids' fundamental movement development significantly. As explained by Dian (2012) that the benefits that can be taken from *galah asin* other than teaches togetherness, discipline and hard work, it also has important benefits for the development of fundamental movement, social and cognitive skills. (1) fundamental movement skills: this game can develop run and reaction fundamental movements. This game emphasizes on the kids' necessity to run (locomotor movement skill) and react (locomotor movement skill). The result of the research in the field is also strengthened by the theory stated by Misbach (2010, page 7) that the traditional games in this nation can stimulate and increase many aspects of kids development, namely: (1) motor aspect: trains endurance, flexibility, sensorimotor, gross motor, fine motor; (2) cognitive aspect: develop imagination, creativity, problem solving, strategy, anticipative, contextual understanding; (3) social aspect: builds relationships, cooperation, trains social maturity with the peers and create a foundation to train socialization skills and role training with older people/society.

Further, in *bebentengan* game, the writer found out that the *bebentengan* traditional game affects the kids' fundamental movement development significantly. As explained in the research of Nanda and Sugito (2015) that *bebentengan* traditional game is one of original games of people of Indonesia that

needs to be nurtured and preserved, considering the game contains positive elements in the form of fundamental movement such as run (locomotor), walk (locomotor), twisting motion (non locomotor).

Other physical elements also can train speed and agility in running as well as strength endurance since in this game, the players are required to keep running.

Then in *boy-boyan* game, the writer found out that the *boy-boyan* traditional game affects the kids' fundamental movement development significantly. As explained by Nana (2017) that *boy-boyan* traditional game can give positive benefits to train movements since there are four fundamental movements included in *boy-boyan* game, namely run (locomotor), ball rolling (manipulative), catch (manipulative) and shoot at targets (manipulative). *Boy-boyan* game emphasizes on throwing skill and this can be the medium to train the kids' fundamental movement. Through this game, the training of fundamental movements is easier to be absorbed by the kids. The form of game activity that has contents of running, throwing and jumping movements is deemed more effective to increase kids' fundamental movement skills (Raudsepp and Päll, 2006). The findings in the field are strengthened by the result of class act research from Setiawan (2016) which revealed that there is an increase on gross motor skills, namely the running skills, the criteria of competent is 80%, the criteria of quite competent is 15%, the criteria of less competent is 5% and the criteria of not competent is 0%. On the throwing skill in the gross motor skill, the criteria of competent is 85%, the criteria of quite competent is 10%, the criteria of less competent is 5% and the criteria of not competent is 0%. While on the catching skill in the gross motor skill, the criteria of competent is 80%, the criteria of quite competent is 15%, the criteria of less competent is 5%, and the criteria of not competent is 0%. Other than the gross motor movement elements, this game can also train the cognitive and affective aspects.

Some of the discussion above shows that this research has certain relevance with the theories that strengthen that the integrated traditional games program inclusion through sport learning affects kids' fundamental movement development. Kids' fundamental movement skills is important since this skill is a foundation for kids to master other skills that are more complex. By mastering this skill, it is expected that the kids will involve in the physical activities such as sports for the realization of an active lifestyle in order to increase the kids' life quality and further increase the life quality of the nation in the

future (Lubans, Morgan, Cliff, Barnett, and Okely, 2010) (Bakhtiari et al., 2011).

5 CONCLUSIONS

From the results of the data analysis and findings discussion that have been explained in the previous part, it can be concluded that:

- The teachers need to enrich the contents or that the materials to be given to the students cannot depend on the curriculum only. But the development of the games such as *galah asin*, *bebentengan* and *boy-boyan* also needs to be applied more often or included in the physical education.
- The teachers need to add or combine the traditional game elements such as *galah asin*, *boy-boyan* and *bebentengan* traditional games to be the content of the physical education. Since the curriculum states that there is a formulation of local contents, not only to nurture and preserve the local culture to the next generation and be known well by the people through school but also because these traditional games have good effects.
- The teaching of the sport based aspects that the teachers often give to the students can imitate the traditional games characteristics where the learning gives many chances to repeat or perform the movement skills taught.
- Adding insights on the optimization of the traditional games in the physical education at Elementary School.
- Applying traditional games can improve teaching material collection for physical education teachers in Elementary School in order to develop the kids' fundamental movement skills.
- The traditional games are only supplementary/additional to expand the material collection or add the kids' movement experience, not solely to replace the physical education.

REFERENCES

- Agh, S. H. 2014. Małgorzata Bronikowska *, Bartosz Prabucki Tafisa and UNESCO Joint Effort for Building Cultural Capital through Traditional Sports. *An Analysis Of The 5 Th World Sport For All Games*, 29–40.
- Ajila, C. O., Olowu, A. A. 1992. Games And Early Childhood In Nigeria: A Critical Focus on Yoruba Traditional Children's Games. *Early Child Development and Care*, 81(1), 137–147.
- Akbari, H., Abdoli, B., Shafizadeh, M., Khalaji, H., Hajihosseini, S., Ziaee, V. 2009. The Effect of Traditional Games in Fundamental Motor Skill Development in 7-9 Year - Old Boys. *Iran J Pediatr*, 19(2), 123–129.
- Bakhtiari, S., Shafinia, P., Ziaee, V. 2011. Effects of Selected Exercises on Elementary School Third Grade Girl Students' Motor Development. *Asian Journal of Sports Medicine*, 2(1), 51–56.
- Božanić, Ana (Faculty of Kinesiology, University Of Split, C., Bešlija, Tea (Karate Club "Obi", Split, C. 2010. Relations between Fundamental Motor Skills and Specific Karate Technique in 5-7 Year Old Beginners. *Sport Science*, 3, 79–83.
- Carta, J. J., Schwartz, I. S., Atwater, J. B., McConnell, S. R. 1991. Developmentally Appropriate Practice: Appraising Its Usefulness For Young Children With Disabilities. *Topics in Early Childhood Special Education*, 11(1), 1–20.
- Chepyator-Thomson, J. R. 1990. Traditional Games of Keiyo Children: A Comparison of Pre- and Post-Independent Periods in Kenya. *Interchange*, 21(2), 15–25.
- Cieśliński, I., Chaliburda, I. 2016. Possibilities of Implementing Traditional Polish Games and Play In The Process Of Physical Education According To Pe Teachers. *Pol. J. Sport Tourism*, 23, 35–39.
- Fisher, A., Reilly, J. J., Kelly, L. A., Montgomery, C., Williamson, A., Paton, J. Y., Grant, S. 2005. Fundamental Movement Skills and Habitual Physical Activity in Young Children. *Medicine and Science in Sports and Exercise*, 37(4), 684–688.
- Gao, Z., Zhang, P., Podlog, L. W. 2014. Examining Elementary School Children's Level of Enjoyment of Traditional Tag Games vs. Interactive Dance Games. *Psychology, Health and Medicine*, 19(5), 605–613.
- Goodway, J. D., Branta, C. F. 2003. Influence of a Motor Skill Intervention on Fundamental Motor Skill Development of Disadvantaged Preschool Children. *Research Quarterly For Exercise and Sport*, 74(1), 36–46.
- Iivonen, S., Sääkslahti, A. K. 2014. Preschool Children's Fundamental Motor Skills: A Review of Significant Determinants. *Early Child Development and Care*, 184(7), 1107–1126.
- Jd, G., Crowe, H., Ward, P. 2003. Effects of Motor Skill Instruction on Fundamental Motor Skill Development. *Adapted Physical Activity Quarterly*, 20(3), 298–314.
- Lubans, D., Morgan, P., Cliff, D., Barnett, L., Okely, A. 2010. Fundamental Movement Skills in Children and Adolescents: Review of Associated Health Benefits. *Sports Medicine*, 40(12), 1019–1035.
- NØRgaard, K. 2009. 9. Traditional Games as New Games: Towards an Educational Philosophy of Play. *Sport, Ethics and Philosophy*, 3(2), 253–273.
- Piech, K., Linski, I. C. I. E. Š. 2007. Traditional Games and Plays from Southern Podlasie, 14(2), 149–158.

- Raudsepp, L., Päll, P. 2006. The Relationship between Fundamental Motor Skills and Outside-School Physical Activity of Elementary School Children. *Pediatric Exercise Science*, 18(3), 426–435.
- Society, A. F., Journal, T., Folklore, A. 2011. Sixty in Years of Game Historical Preferences Change the Of American. *Society*, 74(291), 17–46.
- Stodden, D. F., Goodway, J. D., Stephen, J., Robertson, M. A., Rudisill, M. E., Garcia, C., Garcia, L. E. 2012. A Developmental Perspective on the Role of Motor Skill Competence in Physical Activity: An Emergent Relationship. *Motor Competence and Physical Activity*, 6297(February 2013), 37–41.
- Stork, S., Sanders, S. W., Stork, S., Sanders, S. W. 2015. Early Childhood, 108(3), 197–206.
- Sutton-Smith, B. 1953. Traditional Games of New Zealand Children. *Folklore*, 64(3), 411–423.
- Venetsanou, F., Kambas, A. 2004. How Can A Traditional Greek Dances Programme Affect The Motor Proficiency Of Pre-School Children? *Research in Dance Education*, 5(2), 127–138.
- Venetsanou, F., Kambas, A. 2009. Environmental Factors Affecting Preschoolers' Motor Development. *Early Childhood Education Journal*, 37(4), 319–327.
- Victora, M. D., Victora, C. G., Barros, F. C. 1990. Cross??Cultural Differences in Developmental Rates: A Comparison between British and Brazilian Children. *Child: Care, Health and Development*, 16(3), 151–164.
- Wang, J. H.-T. 2004. A Study on Gross Motor Skills of Preschool Children. *Journal of Research in Childhood Education*, 19(1), 32–43.
- Williams, H. G., Pfeiffer, K. A., O'neill, J. R., Dowda, M., Mciver, K. L., Brown, W. H., Pate, R. R. (2008). Motor Skill Performance and Physical Activity in Preschool Children. *Obesity*, 16(6), 1421–1426.
- Wong, K. Y. A., Yin Cheung, S. 2010. Confirmatory Factor Analysis of the Test of Gross Motor Development-2. *Measurement in Physical Education and Exercise Science*, 14(3), 202–209.