Impact of Developmental Games on Motor Skill Coordination and Agility Enhancement of School Children Aged 10-12 Years

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ABSTRACT

This study investigated the impacts of selected traditional developmental games on motor skill coordination and agility in school children aged 10-12 in Cape Coast, Ghana. A quasi-experimental design was used, involving 30 participants (15 boys and 15 girls). The children took part in a 12-week motor skills intervention, with coordination and agility levels measured at four intervals: baseline (pre-test), four weeks (post-test 1), eight weeks (post-test 2), and 12 weeks (post-test 3) using the BOT-2 battery test. Two hypotheses were tested using repeated measures ANOVA, with significant results for agility, $F(3) = 117.25$, $p = .001$, $\eta 2p = .54$. Bonferroni multiple comparison tests revealed significant improvements in agility from pre-test to post-test 2 and post-test 3. However, no significant changes were observed between pre-test and post-test 1 or between post-test 2 and post-test 3. For coordination, the results were also significant, $F(3) = 146.54$, $p = .001$, $\eta 2p = .84$, with marked improvements from pre-test to post-test 2 and post-test 3. These findings suggest that developmental games can effectively enhance agility and coordination in children aged 10-12 over a 12-week period. The study concluded that developmental games are effective in enhancing motor skills in children and could be valuable for physical education, improving sports performance in schools

Keywords: Developmental Games, Agility, Coordination, School Children, 12-week Practice

INTRODUCTION

Motor skill development is critical for both movement and sports performance, and acquisition of these skills at early life is most important. The motor skills refer to both fundamental movement and basic sports skills (Graham, 2007). Motor skills are deliberate and controlled movements requiring both muscle development and maturation of the central nervous system. Also, the skeletal system needs to be strong enough to maintain the movement and weight involved in any new activity and once these conditions are met, children are able to learn new physical skills by practicing them until each skill is mastered (Faure and Richardson, 2011). The development of motor skills is important for daily living, and is a process that involves both inherent abilities and considerable practice during childhood and adolescence. Self-selected, unplanned play and structured movement instruction are important for acquiring motor skill abilities. Without this formalized learning, movement performance and improvement are left to chance. However, Smith and O'Keefe (2001) observed that even some professional educators assume that such essential skills will emerge automatically. Accordingly, motor skills development demands that young children learn and practice these skills until they can proficiently participate in games and sports. Evidence shows that when teaching interventions are applied for the learning of fundamental motor skills, children four to six years achieve full proficiency (Smith and O'Keefe, 2001).

The development and refinement of motor skills are regarded as extremely important as they determine the level of motor control and integration within each child. These aspects later affect each individual's ability to concentrate, delay gratification, plan and complete tasks (De Jager, 2009), leading to the future learning and development of new skills. The role that motor ability plays in the total development of children has been considered very imperative by previous researchers that many of them have developed and designed programmes to improve the motor ability of children. These programmes arguably; enhance the learning experience and subsequently development of children. Some researchers (e.g. Derbyshire, 2001), therefore, assumed that a child's motor ability forms the foundation for all types of learning encountered in life.

Coordination is the ability to use both arms and/or both legs together in a coordinated manner, and is also known as bilateral integration (Le Roux, 2011; Pienaar, 2012). It is vital to development as it lays the foundation for the establishment of hand dominance and is used in various daily tasks in the school and home environments. These daily tasks may include using eating utensils, tying shoelaces, washing dishes, ball skills, or cutting with scissors. Bilateral coordination skills begin to emerge during the early baby years and consist of symmetrical and asymmetrical movements (Le Roux, 2011). Symmetrical movements occur when both arms and legs are moved together. Examples include jumping, clapping hands, rolling out dough or pastry with a rolling pin, or pushing a large object such as a piece of furniture (Pienaar, 2012). Crawling helps a baby to learn how to use each side of his or her body in a rhythmical manner, one side at a time. This is also known as reciprocal movement. Crawling is, therefore, critical in the development of a child as it provides the opportunity to develop sufficient bilateral coordination and thus, the foundation for establishing hand and/or foot dominance.

Various reciprocal skills such as walking, running and climbing emerge during the development of a child. During these activities, both sides of the body are the same task, one side at a time. Examples of reciprocal bilateral coordination skills include pulling a rope (hands) and riding a bicycle (legs). Once reciprocal bilateral coordination has developed sufficiently, asymmetrical movements emerge. Both sides of the body work together but perform entirely different yet complementary tasks. Cutting with scissors is a good example of asymmetrical bilateral coordination (Le Roux, 2011). The child's one hand leads/cuts while the other only supports or assists/holds the paper during the activity. Other examples include drawing, threading beads, kicking a ball jumping on one foot and even the tennis serve (Pienaar, 2012). Alternating movements occur when one limb relieves the duty of another limb, using the same movement in a rhythmic and coordinated manner. Examples include running, crawling and climbing stairs. coordination involves tasks that require total body control as well as simultaneous and sequential coordination of the upper and lower limbs. Bilateral coordination has also been found to play an important role in the participation of various sports and recreational games (Bruininks & Bruininks, 2005).

Agility is defined as ''a rapid whole-body movement with change of velocity or direction in response to a stimulus'' (Sheppard & Young, 2006:184). It deals with the changes in direction and has been reported to be influenced by explosive strength, balance, muscular coordination, and flexibility, also with the ability to effectively couple eccentric and concentric actions in ballistic movements (Sahin, 2014). This implies that agility has relationships with trainable physical qualities such as strength, power and technique. Cognitive components such as visual scanning techniques, visual scanning speed and anticipation are also part of agility. Therefore, agility testing is generally confined to tests of physical components such as change of direction speed, or cognitive components such as anticipation and pattern recognition (Sheppard & Young). These factors have been elaborated in the Illinois Agility Test, which is a challenging 15-20 seconds test that requires the participant to run fast, stop quickly, change directions, and move the body from a laying position to a running stride as quickly as possible.

Several reasons including unavailability of equipment and materials have been mentioned by teachers as factors for actively teaching of PE at the lower levels of education. Evidence (Pate et al., 2000) confirmed that it might be impossible to achieve satisfactory results from teaching students with training facilities and equipment that are inadequate or substandard. Furthermore, Bunker (2001) noted that the lack of instructional materials for participation is a significant problem in the education system especially at the basic level. This calls critical motor skill interventions. Fortunately, research indicates that motor skill interventions are found to be effective in the improvement of motor skills in children. Thus, a call is made, (Logan et al., 2011), for a need for research to understand the effectiveness of motor skill interventions, more specifically to determine the overall effect of motor skill intervention programs on the improvement of motor skill competence in children. This is a challenge to PE teachers in countries such as Ghana, who are confronted with the problem of inadequate resources to teach children. Altinkök (2016) emphasized that it is when original materials are not available for use in teaching and learning that other types and forms of instructions can be applied. Unfortunately, PE teachers in Ghana, especially at the basic school level, are faced with the challenge of limited equipment, facilities and materials in teaching the subject. Fortunately, evidence from countries like Israel, Nigeria, Kenya, and South Africa, with similar challenges, indicated that they have adopted locally designed appropriate motor skill developmental programs which require minimal equipment or materials to augment their inadequate resources (De Jager, 2009;

Altinkök, 2016). Accordingly, these countries used their very local childhood games to teach and help improve upon the various fundamental motor skills.

Research findings appear to suggest that the development of a motor skill is on the decline due to several factors including decline in accidental play among children, increase in television watching and extra classes (Ogah, 2010). Recent findings by Bortsie et al. (2018), further attest that the attitude of parents not encouraging their children to engage in meaningful physical activities towards motor development compared with television viewing is on the ascendancy in Ghana. The trend, if not checked, might be detrimental to the holistic development of children in the country. Frimpong (2016), contends that the lack of well programmed routine physical exercises by individuals in the country is contributing to an upsurge of preventable diseases among Ghanaians including children. The purpose of this study therefore was to examine the impact of some selected developmental games on the development of coordination and agility as a motor skill among male and female basic school children aged between the ages of 10 and 12 years in the Cape Coast Metropolis of the Central Region, Ghana. We assumed that the children between 10 to 12 years will significantly improve in their coordination and agility abilities after participating in selected developmental games for 12 weeks, and that there will be significant improvement of coordination and agility skill levels among school children 10 to 12 years after participating in the selected developmental games for 12 weeks.

METHOD

This study adopted a quasi-experimental approach. The pre-test, post-tests control group design was used for the study. A quasi-experiment is an empirical study used to estimate the causal impact of an intervention on its target population without random assignment. It shares similarities with the traditional experimental design or randomized controlled trial, but it specifically lacks the element of random assignment to either the treatment or control group.

The quasi-experimental design typically allows the researcher to control the assignment to the treatment condition, by using a criterion other than random assignment (Dinardo, 2008). Leedy and Ormrod (2010) also opined that in quasi-experimental research, the researcher manipulates the independent variable and examines its effects on another (i.e. the dependent variable). A quasi experimental design was accordingly used for the study given that the research population already belonged to existing groups (Baumgartner et al., 2002) in the form of Primary 5 classes. Of the five basic schools in the metropolis, three were classified as disadvantaged schools located in a low economic area. Therefore, we purposively selected the three and randomly sampled only one for the study.

Furthermore, we purposively sampled primary five pupils in the selected school. This class consisted of 42 children within the target age group of 10 -12 years (Baumgartner et al., 2002). We recruited children (N-30) between the ages of 10 and 12 years. They were assigned to the experimental group consisting of (15 girls and 15 boys). This number was determined because the children spend about seven hours in school which allowed for testing all the participants within a day, after every four weeks of intervention. Random sampling was used to select five boys and five girls from primary five for each of the age groups, 10, 11, and 12 years into strata. The researchers selected this sample size to meet the demands of the test battery Bruininks-Oseretsky Test of Motor Proficiency-2 [BOT-2] (Bruininks and Bruininks, 2005), which takes 15- 20 min to test each participant.

Intervention Activities

The selected children received a jump rope training programme (coordination) for twelve weeks during the 30 minutes section, twice in a week and squirrel in the forest (agility) also for the same duration. . The entire intervention programme involved 12 weeks starting from January to March. Prior to each day's training, participants went through warm-up section, involving general running exercises and dynamic stretching activities for 10 minutes.

Jump Rope/Skipping (Coordination); during the jump rope training, all the repetitions were guided by Metronome rate for 120 rotations per minutes to ensure equal exercise intensity among children. The jump rope

intervention consisted of five exercise performed with the following order: basic bounce step, double basic bounce step, alternate foot step, scissors step and double under. Each exercise was executed by all participants using a jump rope with identical features in terms of weight (i.e. 230g), length (i.e. shoulder measurement) and material (i.e. PVC Polyvinyl chloride).

The children also performed three basic types of rope jumping activities- lights, graceful leaps over a rope, turned by an individual or with a partner. Rope jumping which involves jumping over a long rope turned by two performers. Finally, ropes were jumped in a variety of ways to enhance improvement concepts and skills. This intervention was performed by participants within 30 minutes two times every week over four weeks.

Squirrels in the Forest (Agility); this is a game involving two groups with one being "trees" and the other "squirrels". The "trees" were asked to find their personal space in the playing area within a playing area of 20-by-10 meters. Meanwhile, the "squirrels" ran and dodged around the "trees" without being touched. Members of the "trees" group assumed stationary position and stretched both arms horizontally in search of the "squirrels". By the command "go", the members of "squirrel" group ran and dodge the "tree". However, the roles changed if a "squirrel" was touched by a "tree". The pupils went through this game four times for five minutes each with 2 minutes rest between each set.

Finally, regarding Foxes and Squirrels (Agility); three children were chosen to be foxes. All other children were arranged in groups of three. Numbers 1 and 2 of each group joined hands overhead to form a tree. Numbers 3 in each group were the squirrels and stood under the tree of the group. On signal from the teachers "go", the squirrels ran to find a new tree while foxes tried to tag a squirrel before they reached new trees. Only one squirrel was allowed under a tree. When a fox cached a squirrel, they changed position on the next turn. The game was repeated after all squirrel were tagged or under a new tree. This varying interventional activity was undertaken for 30 minutes twice a week for four weeks.

Data Collection Procedure

Ethical clearance was sought from University of Cape Coast, Ethical Review Board. With an Introductory letter from the Department of Health, Physical Education and Recreation, UCC, permission was also sought from the Metro Education Service and the Head of the school to conduct the study. Informed consent was sought from the Head and the parents. Pupils' levels of balance, coordination and agility were assessed with BOT battery test using one group pretest- posttest design.

The group participated in the 12-week motor skills development programme designed for this study. By comparing the pre-test to the post-test results of the group's motor skill performance, the effects of the motor skills development programme were observed (Torgerson & Torgerson, 2008).

Boys and girls between the ages of 10 and 12 years from the selected school were included in this study. Any child with an obvious disability or physical injury, who would not be able to participate in the motor proficiency test, was excluded from this study. The conduction of the motor proficiency test battery and the implementation of the self-designed motor skills development programme took place in the facilities provided by the school involved in this study.

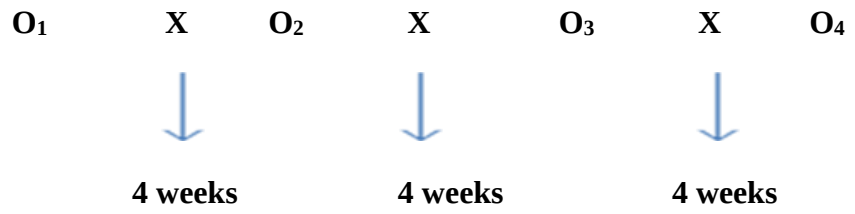

Figure 1. 12 weeks intervention design with four tests i.e. one pre- test and three post- tests (O_1 represents the pre-test and O_2, O_3 & O_4 represent post-tests. X represents the intervention).

RESULTS

1. School Children Aged Between 10 to 12 Years, in the Cape Coast Metropolis, Would Significantly Improve in their Coordination Abilities after Participating in Selected Developmental Games for 12 Weeks

Repeated measure ANOVA was used to test the extent of improvement in coordination among children aged between 10 to 12 years after they had undergone an intervention of 12 weeks of developmental games. There was a violation of Mauchly's Test of Sphericity (χ^2 (5) = 12.51, p = .028), and that the variance in the four tests are not equal, hence Huyhn-Feldt, which shows a significant result was used, F (3) = 146.54, p = .001, η^2_p= .84. Running the multiple comparison, Bonferroni test revealed a significant increase in coordination from Pre-Test (M = 2.50, SD = .51) to Post-Test 2 (M = 4.37, SD = .61), to Post-Test 3 (M = 4.60, SD = .56), and from Post-Test 1 (M = 2.78, SD = .50) to Post-Test 2 (M = 4.37, SD = .61) to Post-Test 3 (M = 4.60, SD = .56). The differences are large in magnitude (effect size). However, no such difference exists between Pre-Test and Post-Test 1, and between Post-Test 2 and Post-Test 3 (refer to Table 1 for data). Therefore, developmental games can be effective tools to improving coordination ability in children aged between 10-12 years.

Table 1: Repeated ANOVA Test of Coordination among Children 10-12 Years

Variables	***N***	***M***	***SD***	***F***	χ^2	***df***	***Sig.***	η^2_p
Mauchly's Test					12.51	5	.028	
HuyhnFeldt				146.54		3	.001	.84
Pre-Test	30	2.50***@**	.51					
Post-Test 1	30	2.78**^$**	.50					
Post-Test 2	30	4.37***^**	.61					
Post-Test 3	30	4.60**@$**	.56					

N = 30, df = 3, 26

2. School Children Aged between 10 to 12 Years, in the Cape Coast Metropolis, Would Significantly Improve in their Agility after Participating in Selected Developmental Games for 12 Weeks

The object of this analysis was to test whether the children (10-12 years) improved in their agility skills after going through 12 weeks developmental games. Using repeated measure ANOVA, the result indicates that Mauchly's Test of Sphericity was not assumed χ^2 (5) = 36.67, p = .001, and that the variance in the four tests are not equal. However, when a corrected test, Huyhn-Feldt Sphericity, was used, the result became significant, F (3) = 117.25, p = .001, η^2_p= .54. When Bonferroni multiple comparison test was applied, the results showed a marked improvement in the children's agility at Pre-Test (M = 3.43, SD = .50) and Post-Test 2 (M = 4.30, SD = .47) and 3 (M = 4.30, SD = .47). In addition, the children gained significant agility from Post-Test 1 (M = 3.42, SD = .50) and Post-Test 2 (M = 4.50 SD = .47) and Post-Test 3 (M = 4.30, SD = .47), but not between Pre-Test and Post-Test 1 nor between Post-Test 2 and 3 (refer to Table 2 for data), though effects size was medium. Therefore, children aged 10-12 years can be helped to improve their level of agility with developmental games.

The finding revealed that children aged 10-12 years would improve markedly in their level of agility when taken through appropriately designed developmental games for 12 weeks. The result is not surprising since the developmental games in this study were all physical activity-oriented games.

Table 2: Repeated ANOVA Test of Agility among Children Aged Between 10-12 Years

Variables	***N***	***M***	***SD***	***F***	χ^2	***df***	***Sig.***	η^2_p
Mauchly's Test					36.67	5	.001	
Greenhouse Geisser				33.49		3	.001	.536
Pre-Test	30	3.43*@	.50					
Post-Test 1	30	3.50^&	.63					
Post-Test 2	30	4.30*^	.47					
Post-Test 3	30	4.30@&	.47					

N = 30, df = 3, 26

DISCUSSIONS

The finding showed developmental games are effective tools that can be utilized to improve the coordination ability in children aged between 10-12 years, especially if the children are given about three months training. Based on the findings of this study, it can be said, that the group significantly improved in their coordination ability, which confirms the assertion that when children are taken through designed physical activity programmes that are familiar to them, they could improve their coordination (Šimonek, 2014; Altinkök, 2016). The observed enhancement in coordination among children aged 10 to 12, following a three-month regimen of developmental games, could be attributed to several reasons. Engaging in structured physical activities could promotes neuroplasticity, enabling the brain to form new neural connections that are essential for motor skill development. This neural adaptation facilitates improved motor planning and execution, leading to better coordination. Additionally, the repetitive nature of these activities reinforces muscle memory, allowing movements to become more fluid and controlled over time.

Furthermore, incorporating familiar games into the training program could enhances children's motivation and active participation. When children engage in activities they recognize and enjoy, they are more likely to invest effort and persist in practice, which is crucial for skill acquisition. This familiarity reduces cognitive load, enabling children to focus on refining their motor skills rather than learning new rules or structures. Consequently, the combination of neuroplastic changes and the motivational boost from engaging in enjoyable, familiar activities could contributes significantly to the observed improvements in coordination.

In support of this, Thies and Travers (2006) also indicated that motor games and activities in the form of games are effective programmes in enhancing the coordination ability of children. Furthermore, the findings of this study supports similar study conducted by Altinkök (2016) who investigated the effect of 12-weeks training programme on skill development (coordination) of preschool children. Altinkök had two groups: control and experimental groups. The experimental group recorded a statistically significant improvement on the post-test tasks. Altinkök's findings revealed that preschool children who had undergone coordination focused exercise programmes had significant improvement in their fundamental motor movements. Though the current study used only an experimental group, it collected four-time data points (pre-test, post-test 1, 2, and 3), where the post-tests checked as the controls on the earlier once.

In another study consistent with the current one, Au et al. (2014) compared a task-oriented motor training with a core stability programme in improving motor proficiency in children and found significant improvements in motor skill proficiency such as coordination in both groups as a result of the task oriented programme. This indicates that task-oriented intervention programmes are effective in developing coordination skill in the children as was found in this study. Similarly, Offor, Williamson and Caçola (2016) examined the effectiveness of an intervention programme for children with developmental coordination disorder. Similar to the present study, Offor et al. found that the intervention programme was effective in enhancing the coordination ability of the children. The similarity in results can be explained from the point of view that both intervention programmes entailed physical activities which develop the muscles for coordination. Moreover, these are children at their formative stages in life where development in motor skill ability becomes vital if further improvement and mastering in motor proficiency are to be achieved (Yanci et al., 2015).

The post-hoc results of this study indicated that there were consistently higher levels of coordination among the participants. This was noticed as the children showed remarkable improvement in coordination over the 12 weeks period. This consistent change might be due to repeated or prolonged performance of the games or as a result of maturation. Evidence shows that the first two years of schooling for children (usually between 10-12 years) is the stage characterised by the fastest coordination skill development (Čillík & Willwéber, 2018). This suggests that it is possible that even without an intervention programme, there would have been a significant improvement in coordination enhancement among children. Unfortunately, this study did not establish this view because there was no control group but the multiple post-test measures negate the limitation of the effect of non-comparable groups. Moreover, other fundamental motor skills such as balance and agility, which do not necessarily improve as a result of maturation, also got improved among the children after the 12-week programme.

Development of appropriate coordination skills in children would be essential to the prevention of injuries as a result of falls and other activities. In addition, teaching and learning of activity subjects and improvement in other advance motor skills become easier and better for both the children and their teachers. Besides, improvement in coordination may help in unearthing sports talents since many advanced skill and performance rely on it.

Several studies have unraveled the significance of physical activity participation in the development and improvement in the skill of agility (Burgi et al., 2011; Stodden et al., 2008; Vandorpe et al., 2012). For example, this finding is consistent with that of Yanci et al. (2015) who examined the effect of contextual interference training on the agility development of school children. According to Yanci and his colleagues, a statistically significant improvement in agility skill was found among the children after taking them through the intervention programme. Although similar results were found, there was a difference in participants' age in both studies. While Yanci et al.'s study involved children around the age of 6, whereas this study included children between 10-12 years. Thus, the age difference in the children, where the current study utilized older children, could be the result of the significant improvement in the agility capacity of the children. Meanwhile, the intervention for the current study lasted for 12 weeks, but Yanci et al.'s was only 4 weeks. However, the similarities in the results confirm the claims in literature that contextual interference training and developmental games are agility training programmes for children (Holmberg, 2009).

A significant aspect of this study is the use of primary school children as participants. It must be acknowledged that there appears to be little studies conducted among primary school children between the ages of 10 to 12 which evaluates agility after taking participants through diverse intervention programmes (Eliakim, Nemet, Balakirski, & Epstein, 2007). Most studies on agility were conducted using athletes of different sports and different ages (Donath et al., 2014; Yanci et al., 2015; Young et al., 2001). For instance, Meylan and Malatesta (2009) discovered significant improvements in agility after applying a plyometric training programme to young soccer players (13.3±0.6 years). Similarly, Oxyzoglou, Kanioglou and Ore (2009) recorded significant difference in performance in agility test after a 6-week training period between a group of children who performed a specific handball training programme and another group that was taken through physical education sessions. The two groups differed markedly, with the handball training group attaining higher improvements in agility after the training period. Even though these two above-mentioned studies were carried out on children, it is difficult to make comparisons with the findings of this study since there are significant discrepancies in the participants and their age, duration of the programme, differences in intervention programmes and the methods involved in these studies.

Results from descriptive studies on agility in children of similar ages to those who were involved in this study support the current finding. For instance, McKenzie et al., (2004) assessed the differences in agility at developmental ages between Anglo-American and Mexican-American adolescents. Similarly, Lam and Schiller (2001) evaluated the agility of young school children in Hong Kong through the shuttle run test. All these descriptive studies revealed that physical activity levels influenced the agility levels of the children. Nevertheless, none of these studies used a specific agility training programme in observing the influence of the programme in agility development. Therefore, it becomes difficult to understand and carry out an evaluation on the efficacy of a specific physical activity in improving the agility of children. Young, McDowell and Scarlett (2001) found no significant difference in numerous agility tests in a group that only participated in a training programme comprising a single task performance. However, their finding indicated improvements in agility performance following the exposure of the children to the 12-week developmental games. The difference in the findings between this study and that of Young et al. (2001) could be attributed to the differences in the ages of the participants. Young and colleagues studied adults while the current study focused on children between age 10 and 12. Moreover, in the current study, the children underwent multiple physical training using developmental games.

The findings of this study have implications on the growth and developments of the children. In Japan, injuries and accidents occurring from low agility abilities in children as a result of colliding with other children and not being capable of dodging a ball or use their hands for proper support when falling have been frequently reported (National Agency for the Advancement of Sports and Health [NAASH], 2010). Improvement in agility can help prevent everyday injuries and accidents among basic school students, thus leading to safer, healthier everyday

life. Besides, teaching, learning, development, and improvement in many other motor skill performances such as strength, speed, catching a ball and shooting, heading, goalkeeping could be explored to the promotion of PE and development of the sportsmen and women for the nation.

CONCLUSION

The aim of the study was to examine the impact of some selected developmental games on the development of coordination and agility as a motor skill among male and female basic school children between the ages of 10 and 12 years in the Cape Coast Metropolis of the Central Region, Ghana. We observed that children from less endowed schools would improve the motor skills like coordination and agility with appropriately designed developmental games.

Moreover, the games will improve the fundamental balance skill of the children if they are taken through for considerable number of weeks such as 12 weeks. In specific terms, the skill of coordination and agility will improve when these children are given about 12 weeks to practice these developmental games. However, the games need to be designed and children taken through if the skill of coordination and agility balance are to be acquired properly, and that, boys and girls will develop the skill of balance at the same rate if they go through 12 weeks of training using developmental games, thus, there would be need to for separate special gender designed programs for the children.

LIMITATIONS

Results cannot be entirely generalized to other schools' populations in the selected age bracket though both probability (random) and non-probability sampling technique (purposive sampling) was used.

RECOMMENDATIONS FOR FURTHER STUDIES

Looking at the present scope of the study, it is suggested that the same research be carried out in other schools of the regions. This might lead to the development of concepts in terms of the right theories to use in improving motor skills of school children in Ghana.

There are various developmental games. Using other forms of these developmental games for the same kind of research is suggested. This will also help test such games in promoting the development of motor skills in children.

Finally, a further study could be carried out using a large number of participants. Besides, other designs, instruments and statistical tools could be employed in conducting similar studies as a way of comparing their outcomes.

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