Physical activities, resources, and challenges in the implementation of physical education program in public primary schools in Kampala, Uganda: A cross-sectional survey

Ismail Asiimwe [a,1], J.F.Babalola [b,2], Shallon Atuhaire [c,d,3*]

[a] Department of Sport Science, Faculty of Science, Gulu University, Gulu, Uganda.
[b] Pan African Institute of Life and Earth Sciences, University of Ibadan, Ibadan, Nigeria.
[c] Cavendish University, Kampala, Uganda.
[d] Directorate of Education Standards, Kampala, Uganda.
[1] asiimweismail@gmail.com; [2] babsonfun@gmail.com; [3] atuhaireshina@yahoo.com*

* Corresponding author

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ABSTRACT

Physical activities among young people provide an opportunity to develop the values, and skills for an active lifestyle and high self-esteem. Physical Education as one of the subjects in schools covers this essential role, although its' provision mostly in the developing world has declined in many countries. This study assessed the physical activities, resources, and challenges in the implementation of Physical Education program among public primary schools in Kampala, Uganda. It was a descriptive survey design employing a semi-structured questionnaire to collect data among teachers and headteachers. Data were analyzed using frequencies, and Pearson product-moment correlation was determined at 0.05 level of significance. Findings reveal availability of facilities (r=0.374), trained personnel (r=0.654), equipment (r=0.529) and school enrolment (r=0.622) having a significant relationship with implementation of PE program. Traditional games, athletics, and ball games were the main activities. Insufficient resources and less value attached to these activities remain the major challenges. Resource allocation and sensitization on the value of physical education could enhance the implementation of the physical education program in public schools.

1. Introduction

Despite the essential role of Physical Education (PE) in pupils' lives, its' provision in schools mostly in the developing world has declined in many countries. An international survey conducted in some African countries revealed that the status of PE was low, and the subject was in danger of being sidelined [1]. Physical Education (PE) is defined as an educational process that uses physical activities to help individuals acquire skills, fitness, knowledge, and attitude that contribute to their optimal development and well-being. It is a broad term referring to all bodily movements that use energy [2]. According to WHO (2010), these activities include indoor and outdoor play, work-related activity, outdoor and adventurous activities, active travel for example walking, cycling, rollerblading, scooting and routine habitual activities such as using the stairs, doing housework and gardening.

Access to and regular participation in PE activities is a fundamental human right being an essential component of a healthy lifestyle. This is in line with the United Nations Charter on PE and Sports which supports its inclusion in the curriculum [3], [4]. It is undeniably of paramount importance to social and physical development generally. To the learners, it has an additional benefit to their

wholesome educational achievement. In this regard, research findings show that PE contributes greatly to the development of the pupils' personality, social and physical development. It provides young people with opportunities to develop the values, knowledge, self-esteem, and skills they need to lead physically active lives [5]. Hence, programmes that prepare children for a lifelong physical activity must be formally organized, well designed, and professionally led.

To appreciate the role of PE, the WHO encourages school and community engagement in the promotion of physical activities among children and adolescents with the view to eliminate the risk factors for chronic diseases such as coronary heart diseases, type one and two diabetes, obesity, and malignancies that are related with adult morbidity and mortality [6], [7]. The global physical activity guidelines by WHO recommend that children and youth of five to seventeen years of age should accumulate an average of at least 60 minutes of daily moderate-to-vigorous physical activities to improve or maintain a healthy cardio-respiratory fitness and body composition profile [2]. Implementation of PE in African schools has a lot of setbacks including pressure for good academic performance, inadequate time allocation, the inadequate and poor state of learning facilities and equipment, lack of adequately trained teachers and poor attitudes from teachers, learners and parents towards PE [8], [9]. For example, in Kenya, PE is marginalized because it is not an examinable subject and since there is no strong policy on its implementation from the Ministry of Education, Science and Technology (MoEST), most schools use PE class time as a time to take a break from serious classwork [10]. The situation is not any different from that of Uganda.

The Government of Uganda through the Ministry of Education and Sports (MoES) highly values the role of PE in pupils' lives. For that reason, various interventions through policy and curriculum have been put in place to facilitate and improve the teaching of PE in schools across the country. The National Physical Education and Sports (NPES) policy [11] and the Basic Requirements and Minimum Standards Indicators (BRMSI) for education institutions [12] affirm that PE is a compulsory subject for all learners in basic education and therefore it ought to be taught to all learners' regardless of their learning abilities. However, despite the generally shared appreciation for the value of PE, there is the insufficient implementation of the PE programme in several primary schools across the country. It is against this background that this study set out to assess physical activities, resources, and challenges in the implementation of the PE programme among public primary schools in Kampala, Uganda. The results of this study are expected to contribute to the advancement of knowledge about PE facilities and equipment, their availability and utilization towards the implementation of sound PE programmes in urban schools.

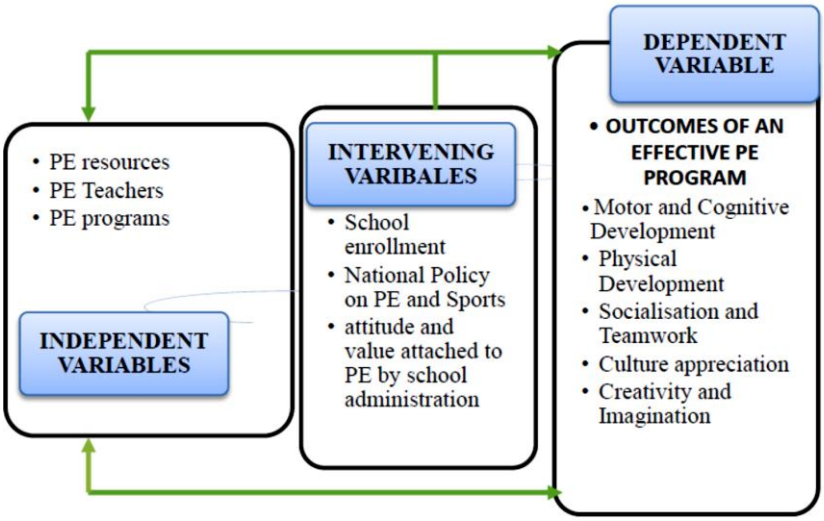

Fig. 1. Conceptual Framework; derived from the theory of MEA model

This study used the Management-oriented Evaluation Approach (MEA), which emphasizes that evaluation should be used proactively to help improve a programme as well as retroactively to judge its value. The MEA is an evaluation model based on decision-making and can be used in evaluation studies [13]. Developers of this approach relied on a systems approach to education in which decisions

are made based on inputs, process and outputs [14]. The conceptual framework is directly derived from the theory of MEA model, which explains that decision-makers rely on the systems' Context, Input, Process and Product (CIPP) to draw evaluation decisions concerning a particular educational project [15]. The interactions between context, input and process influence the project product (outcomes) as shown in Fig 1.

2. Method

A descriptive survey design was used to collect quantitative data from the participants. The population for the study was composed of all public primary schools in Kampala city, Uganda. There are 79 public primary schools spread across five divisions of the city (Kawempe, Rubaga, Kampala central, Nakawa, Makindye). Headteacher/deputy headteachers/directors of studies and PE teachers in these schools were all part of the study population. The sample size proposed was 63 public urban-based primary schools, determined using [16]; sample size determination table. The sample size as initially proposed represented 79% of the population, this is in line with the assertion that when drawing sample size, efforts should be made to ensure that it represents a larger size of the population because the larger the sample size, the higher it is likely to represent all the attributes of the population [17].

Table 1. Number of public primary schools in Kampala city's 5 divisions as of 2016

S/N	Divisions	Number of schools in each division	Proportionate of respondents selected from each division
1	Kawempe	12	P*q/y 12*63/79=**10**
2	Rubaga	18	18*63/79=**14**
3	Kampala Central	14	14*63/79=**11**
4	Makindye	17	17*63/79=**14**
5	Nakawa	18	18*63/79=**14**
	Total	79	63

Source. List of government primary schools 2016 retrieved from the Ministry of education and sport file 2016.

The proportionate sampling procedure was used to determine the number of schools to be selected from each of the five divisions of Kampala city. The formula P*Q/Y was used to determine the number of schools to be selected from each division. Simple random sampling procedure "fishbowl without replacement" was used to select schools from each division as in Table 1 and selected participants are indicated in Table 2. Purposive sampling procedure was used to select participants from each school due to its' suitability to enable collection of perspectives from the participants' point of view. PE teachers with at least 1-year experience in teaching the subject and either headteacher/deputy headteachers or directors of studies were included.

Table 2. Table of selected sample and target respondents

S/N	Divisions	No. of Selected schools per division	Number of targeted respondents	
			Number of headteachers per selected school	*Number of PE teachers per selected school*
1	Kawempe	10	10	10
2	Rubaga	14	14	14
3	Kampala central	11	11	11
4	Makindye	14	14	14
5	Nakawa	14	14	14
Total		63	63	63

The instrument for this study was a self-developed questionnaire designed in line with the research questions. Questionnaires are manageable and very economical in data collection [18]. The questionnaires were administered to respondents by 5 well-trained research assistants. The questionnaire was divided into sections: 1. general information about the PE teacher, 2. availability of facilities, materials, equipment, and 3. challenges of teaching and participating in PE. In addition, their perceptions regarding the values and learning outcomes of an effective PE programme were sought.

The researcher's academic supervisor validated the contents of the data collection tools and suggestions were incorporated in the final draft of the instrument.

To determine the reliability of the instrument, the validated version of sets of questionnaires were administered to twenty respondents from two schools: Makerere University Primary School and Kawempe Muslim Primary School in Kawempe division. These schools were not part of the study sample; but share the same characteristics with the population. The data collected were thereafter subjected to Cronbach alpha to determine the reliability coefficient. Questionnaire for teachers yielded a reliability value of 0.80, while the questionnaire for headteachers yielded a coefficient of 0.77. Data were analyzed using frequency counts and percentages, while inferential statistics of Pearson product moment correlation (PPMC) was used to test the hypotheses at 0.05 alpha level. An introductory letter provided by the Pan African University Institute of Life and Earth sciences (Including Health and Agriculture), University of Ibadan, Ibadan, Nigeria, was submitted to the Directorate of Education and Community Services (DECS) at Kampala Capital City Authority (KCCA). Participation in the study was voluntary and written consent was sought from each respondent.

3. Results and Discussion

1) Research Question 1*: What PE activities are mostly taught to pupils in Public Urban Primary Schools in Kampala City, as contained in the PE curriculum of Uganda?*

As indicated in Table 3, 55 (100.0%) respondents indicated that their pupils did not participate in baseball. Also, 3 (5.5%) respondents affirmed that their pupils participate in softball, while 52 (94.5%) reacted contrary to that. Moreover, 3 (5.5%) respondents acknowledged that their pupils participate in basketball, while 52 (94.5%) did not. Furthermore, 5 (9.1%) respondents indicated that their pupils participated in netball, while 50 (90.9%) did not. Also, 48 (87.3%) respondents affirmed that their pupils participated in dance (folk songs and or cultural dance), while 7 (12.7%) did not.

Table 3. PE activities taught to pupils in Public Urban Primary Schools

S/N	Sports	Yes	No
1.	Baseball	0 (0.0%)	55 (100%)
2.	Softball	3 (5.5%)	52 (94.5%)
3.	Basketball	3(5.5%)	52 (94.5%)
4.	Netball	5 (9.1%)	50 (90.9%)
5.	Traditional/cultural games (folk songs and or cultural dance)	48 (87.3%)	7 (12.7%)
6.	Athletic activities (running or jogging)	49 (89.1%)	6 (10.9%)
7.	Soccer	51 (92.7%)	4 (7.3%)
8.	Swimming	5 (9.1%)	50 (90.9%)
9.	Tennis	5 (9.1%)	50 (90.9%)
10.	Volleyball	4 (7.3%)	51 (92.7%)
11.	Others	4 (7.3%)	51 (92.7%)

Similarly, 49 (89.1%) respondents indicated that their pupils participated in athletic activities, while 6 (10.9%) did not. Besides, 51 (92.7%) acknowledged that their pupils participated in soccer, while 4 (7.3%) did not. Furthermore, 50 (90.9%) respondents reacted that their pupils do not participate in swimming, 5 (9.1%) did. More so, 5 (9.1%) affirmed that their pupils participated in tennis, while 50 (90.9%) respondents did not. Besides, 4 (7.3%) respondents indicated that their pupils participated in volleyball, while 51(92.7%) respondents did not. Also, 4 (7.3%) respondents indicated that their pupils participated in other sporting activities, while 51 (92.7%) respondents did not. Based on the responses of the respondents, it was established by most schools taught PE programs such as traditional/cultural activities such as dance, music and drama, athletic programs such running and jogging, as well as ball games especially soccer. This means that, of the various activities provided for in the 2009 PE curriculum for lower primary, only a fraction was taught which left out most of the programs provided for in the curriculum.

The findings indicated that PE activities in public primary schools were limited to athletics, ball games and traditional dances. However, they should involve the teaching of fundamental movement skills, games, dances, and swimming. Fundamental movement skills are the foundation for the development of more complex and specialized skills used in games, dances, and fitness activities [1].

Fundamental movement skills are basic movements that are divided into locomotor, non-locomotor, and manipulative skills. Locomotor activities include running, hopping, and skipping. Non-locomotor activities include curling, swinging, and turning while manipulative skills include striking, kicking, and dribbling [1], [18]. Once these movement skills are effectively employed, they would promote wellbeing and foster economic growth.

PE has been part of the school activities as children are always engaged in various forms of play such as singing games, dancing and playing games such as football, hit the dodger, and hide and seek [19]. As an activity-based subject, PE can be conducted either indoors or outdoors. Indoor play varies depending on the amount of space available and the setting in which the physical activity is taking place. On the other hand, outdoor play is conducted in the outside environment, which may have different surfaces such as grassy, sandy, water and soil areas [20]. Indeed, for centuries, pioneers of Early Childhood Education (ECE) such as Johann Pestalozzi (1764 - 1827) and Friedrich Froebel (1782-1852) have recognized the benefits of PE and validated the need for outdoor play and learning [21].

2) Research Question 2: *What resources are available for the teaching of PE in Public Urban Primary Schools in Kampala City, Uganda?*

As indicated in Table 4, 33 (60.0%) indicated that the football field was available for the teaching of PE in their schools, while 22 (40.0%) did not. Moreover, all the respondents (100.0%) indicated that they had open field/ space in their respective schools where they could hold a PE class. Furthermore, 8 (14.5%) respondents indicated that Courts for basketball, netball and volleyball were available for the teaching of PE in their schools, while 47 (85.5%) reacted contrary to that. More so, all the respondents responded that Indoor facilities like hall and gymnasium were not available in their respective schools.

Table 4. Available resources for the teaching of PE in Public Urban Primary Schools

S/N	Resources	Available	Not Available
1.	Football field	33 (60.0%)	22 (40.0%)
2.	Open field	55 (100.0%)	0 (0.0%)
3.	Courts (for basketball, netball and volleyball)	8 (14.5%)	47 (85.5%)
4.	An indoor facility like hall and gymnasium	0 (0.0%)	55 (100.0%)
5.	Storeroom	16 (29.1%)	39 (70.9%)
6.	Equipment like balls, nets, hurdles and skittles	19 (34.5%)	36 (65.5%)
7.	Library materials like instructional material, PE textbooks and so on	16 (29.1%)	39 (70.9%)

Similarly, 16 (29.1%) affirmed that storerooms were available in their schools, 39 (70.9%) did not. Furthermore, 19 (34.5%) acknowledged that equipment like balls, nets, hurdles, skittles and so on were available for the teaching of PE in their schools, 36 (65.5%) did not. Again, 39 (70.9%) respondents established that library materials like instructional materials and PE textbooks were not available for the teaching of PE in their respective schools. Data from the respondents affirmed the fact that football field and open field were available. In this case, even a school compound was considered as a facility for teaching PE. However, Courts, instructional materials, and equipment were reported as regularly not available in most of these schools.

The findings of the study indicate that there are limited resources for implementing PE for all classes as well as less value attached to PE. This is in line with the study carried out [1], [22], in which it was established that the status of PE in Africa was 75% affected by unclear policies, low perceived importance of the subject by school administrators and teachers, insufficient resources and facilities.

3) Research Question 3*: What challenges are faced by Public Primary Schools in the implementation of PE program in Kampala City, Uganda.*

As shown in Table 5, 37 (67.3%) respondents acknowledged that other subjects like Mathematics or Science subjects are used to replace PE, 18 (32.7%) did not. Besides, 14 (25.5%) respondents affirmed that participation in physical activities was limited by few PE activities/programs. Moreover, 46 (83.6%) respondents acknowledged that participation is limited by few facilities, while 9 (16.4%) did not. Besides, 42 respondents (76.4%) reacted that very limited equipment to adequately teach/participate in PE was a challenge, while 13 (23.6%) did not. Furthermore, 36 (65.5%) respondents reacted that there were limited resources for implementing PE for all classes, 19 (34.5%) did not. Also, 53 (96.4%) respondents affirmed that religion was the least of the challenges being

faced by public primary schools in the implementation of PE program, while 2 (3.6%) agreed that religion affected their implementation of PE programs.

Table 5. Challenges faced in the implementation of the PE program

S/N	Challenges	Yes	No
1.	Other subjects are used to replace P. E (Math or Science subjects)	37 (67.3%)	18(32.7%)
2.	Participation limited by few P. E activities /Program	14 (25.5%)	41 (74.5%)
3.	Participation is limited by few facilities	46 (83.6%)	9 (16.4%)
4.	Very limited equipment to adequately teach/participate in P. E	42 (76.4%)	13 (23.6%)
5.	There are limited resources for implementing PE for all classes	36 (65.5%)	19 (34.5%)
6.	Religious reasons	2 (3.6%)	53 (96.4%)
7.	Long term physical or medical disability	10 (18.2%)	45 (81.8%)
8.	Less value attached to PE by pupils, parents and school management committee	28 (50.9%)	27 (49.1%)
9.	Limited PE teacher both specialized and generalist	21 (38.2%)	34 (61.8%)
10.	PE is not required for all classes	1 (1.8%)	54 (98.2%)
11.	High-class enrollment which overwhelms teachers and available facilities	50 (90.9%)	5 (9.1%)

Again, the challenge of long-term physical or medical disability was highlighted by 10 (18.2%), while 45 (81.8%) did not. Besides, 28 (50.9%) agreed that less value attached to PE by pupils, parents and school management committee was a challenge to the implementation of PE program, while 27 (49.1%) did not. Moreover, 21 (38.2%) affirmed that there was a challenge of limited PE teachers who are specialized in the subject. Furthermore, 1 (1.8%) respondent agreed that PE is not required for all classes, 54 (98.2%) did not. Also, 50 (90.9%) respondents agreed that high school enrolment per class which overwhelms teachers and available facilities was a challenge to the implementation of PE program.

As indicated in Table 5, most respondents affirmed that few facilities, very limited equipment, limited resources, high school enrolment per class as well as fewer values attached to PE were the challenges faced by public primary schools in the implementation of PE programmes. The results of this study are in line with the studies carried out [22], [23], which indicated that one of the central challenges to the implementation of PE in urban schools of Uganda is inadequate facilities and equipment. The low importance in terms of status attached to the subject [1], [22], along with overcrowded classes impede the implementation of indoor activities most especially in urban based public primary schools where space for expansion or creation of playgrounds and courts may be limited. Another study done in the Midwestern U.S on teachers' perspective on PE, pointed out that instructional resources are critical, more so in the implementation of culturally relevant pedagogies. Facilities for the implementation of PE should be embraced as it evokes critical thinking, has the potential to harmonize community violence and prompts students to pursue a career in the same line. Again, it promotes preparation and organizational skills and overall professional development among the teachers [24].

Table 6. Correlation analysis on the relationship between the availability of facilities and the implementation of the PE program

Variables (sub-scales)	Implementation of PE program	Availability of facilities	N	Sig. (p value)	Remark
Implementation of PE program	1	.374**			
Availability of facilities	.374**	1	55	.005	Significant
Mean	8.2909	7.9091			
Standard Dev	3.04091	1.87846			

Table 6, shows that the relationship between the availability of facilities and the implementation of PE program in Urban Public Primary Schools in Kampala City, Uganda was significant with an r value 0.374, at p-value <0.05. The relationship indicated a statistically significant p-value 0.005, which means that increasing logistics and facilities could increase the effective implementation of PE programme. The outcome of this study was in line with the finding of the study carried out by [23],

which indicated that lack of adequate demarcated facilities and equipment make the development of PE classes extremely difficult.

Findings indicate that less value attached to PE and insufficient policy documents regarding the subject limit PE activities in schools. According to Hardman, 75% of schools in Africa lack the legal policy requirements for PE implementation [7]. In Kenya for example, public schools work under unavailable and unclear government policies which have made it difficult for the implementation of the PE curriculum to be effective [25]. Other common challenges in African schools are less time allocation, low perceived importance attached to PE, poor attitudes by school administrators, parents, teachers, lack of formal monitoring control system, diversion of resources to other projects, insufficient financial and material resources, and deficiencies in trained personnel [7]. In most schools, PE is timetabled but the time for PE is used to teach other subjects. The problem of time allocation is not only a Ugandan issue. A study done in Kenya [1] found that 50% of African countries have the same problem and it indicates that the subject has not yet attained equal status with other subjects such as English language, and Mathematics, which are considered academic.

A study on the teachers' uses of play as a medium for bridging pre-school children's mathematical experiences in Kasarani found that it was challenging to translate the pre-school curriculum in varied environments. Pre-schools vary in curriculum depending on the sponsorship, time allocation, scheduling, teaching patterns and approaches [25]. Studies carried out at various tiers of the Kenyan educational system reveal a problem of inadequate PE facilities and equipment [22], [23]. All the discussed studies focused on the challenges facing the implementation of PE and availability of facilities and equipment in schools. However, they were carried out in other countries other than Uganda and their focus was not on urban public primary schools. Further research could focus on private urban-based schools and probably a comparative study between public and private primary schools in the same geographical area could provide more and new insights on the subject.

Conclusion

Traditional games, athletics, and ball games were the main activities. Insufficient resources such as Courts, library materials, balls, nets, hurdles, and skittles as well as less value attached to these activities were the major challenges. Resource allocation and sensitization on the value of physical education could enhance its' implementation in Urban Public Primary Schools.

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