CONSTRAINTS FACING THE TEACHING OF ADAPTED PHYSICAL EDUCATION IN JOYTOWN SECONDARY SCHOOL FOR THE PHYSICALLY HANDICAPPED, THIKA DISTRICT, KENYA

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Constraints facing the teaching of

NOVEMBER 2009

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DECLARATION

This proposal is my original work and has not been presented for a degree in any other university.

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SUPERVISORS’ APPROVAL

This proposal has been submitted for review with our approval as university supervisors.

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DEDICATION

Dedicated to my wife Monica and our children Gladwin, Godwin and little Immaculate.
ACKNOWLEDGEMENTS

I am indebted to my University supervisors, Dr. Michael Njenga Njoroge and Dr. Andanje Mwisukha for their invaluable assistance, supervision and guidance which guided me in writing this research study.

My gratitude is also extended to members of my family, relatives and friends who contributed immensely towards the programme of study.
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<tbody>
<tr>
<td>APE</td>
<td>Adapted Physical Education</td>
</tr>
<tr>
<td>BED</td>
<td>Bachelor of Education</td>
</tr>
<tr>
<td>CBM</td>
<td>Christoffel Blinden Mission</td>
</tr>
<tr>
<td>DANIDA</td>
<td>Danish International Development Agency</td>
</tr>
<tr>
<td>FPE</td>
<td>Free Primary Education</td>
</tr>
<tr>
<td>H.I</td>
<td>Hearing Impaired</td>
</tr>
<tr>
<td>HOD</td>
<td>Head of Department</td>
</tr>
<tr>
<td>IOC</td>
<td>International Olympic Committee</td>
</tr>
<tr>
<td>IPC</td>
<td>International Paralympic Committee</td>
</tr>
<tr>
<td>K.I.E</td>
<td>Kenya Institute of Education</td>
</tr>
<tr>
<td>KISE</td>
<td>Kenya Institute of Special Education</td>
</tr>
<tr>
<td>KNUT</td>
<td>Kenya National Union of Teachers</td>
</tr>
<tr>
<td>MED</td>
<td>Master of Education</td>
</tr>
<tr>
<td>MH</td>
<td>Mentally Handicapped</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>MOEST</td>
<td>Ministry of Education Science and Technology</td>
</tr>
<tr>
<td>P.E</td>
<td>Physical Education</td>
</tr>
<tr>
<td>PH</td>
<td>Physically Handicapped</td>
</tr>
<tr>
<td>SNE</td>
<td>Special Needs Education</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational Scientific and Cultural Organization</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>VI</td>
<td>Visually Impaired</td>
</tr>
<tr>
<td>VSO</td>
<td>Volunteer Services Organization</td>
</tr>
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</table>
ABSTRACT

The Kenya secondary school Adapted Physical Education syllabus for learners who are physically impaired provides skills in games, athletics, gymnastics, swimming and dance. To teach these skills effectively, personnel, facilities, equipments and appropriate adaptations are required. The study therefore aimed at establishing instructional constraints facing APE in Joytown Secondary School for the physically handicapped. The study took the form of a case study. Learners who were physically handicapped were randomly selected on stratified basis, based on class level and gender. Four administrators and three APE teachers were purposively selected for the study. Three sets of questionnaires and observation schedule were used in data collection. A pilot study was done in Joyland secondary school for the physically handicapped in Kisumu. Test-retest technique was used to ascertain reliability of the instruments. The data collected was coded and analyzed using descriptive statistics that included percentages, frequencies and graphical representations. The study revealed that lack of trained personnel, facilities and equipment, lack of relevant adaptations of facilities and equipment and inappropriate APE curriculum were the major constrains facing APE in the school. Majority of teachers had no professional qualifications in APE. Facilities and equipment were noted as inadequate by 75.9%. Forty four (72%) and 38 (62%) of respondents indicated that the facilities and equipment respectively were not adapted. Two APE teachers indicated the APE syllabus as inappropriate in meeting the unique needs of learners with PH. As a result, the researcher has recommended more government involvement in provision of facilities, equipment, trained personnel as well as appropriate curriculum for APE for the PH. The study further recommends areas of further research, to improve teaching of the subject hence improved student learning may result.
CHAPTER ONE

INTRODUCTION

1.1 Introduction

Presented in the chapter is: background of the study, statement of the problem, purpose, objectives, and significance of the study. It also highlights research assumptions, scope and limitation of the study.

1.2 Background to the Study

Education was declared a human rights issue in 1948 (UNESCO, 2003). In its General Assembly of December 2001, the United Nations declared 2003 – 2010 the international literacy decade. Its theme was: Literacy for all, voice for all, learning for all (UNESCO, 2003). The World summit on Education for All of 1990 had earlier committed nations to the achievement of Education for All (EFA) by the year 2015 (UNESCO, 1990). Education and literacy have therefore been considered as key to social-economic growth and development. The close link between education, economic growth, poverty reduction and improved standards of living has been consistently emphasized (KNUT, 2005). In other words, enhancement of socio-economic development calls for high investment in education.

Kenya’s Ministry of Education’s specific target in secondary school is the achievement of transitional rate of 70 percent from primary to secondary by 2010. The current rate is 60 percent (MOEST, 2005). The country has 4506 secondary schools. However, only seven secondary schools are for special needs (MOEST, 2003). Three of the special schools are for learners with Physical Handicaps (PH). The secondary schools are Joytown in Thika, Port Reitz in Mombasa and Joyland in
Kisumu (Ndurumo, 1993). Joytown was opened in 1980 and is sponsored by the Salvation Army Church a faith-based organization. It is the oldest secondary school for the PH. It is a mixed single streamed secondary school. Table 1.1 shows class based enrollment data in 2008.

### Table 1.1 Class Based Enrollment Data 2008

<table>
<thead>
<tr>
<th>Class</th>
<th>Physically Handicapped</th>
<th>Integrated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Boys</td>
</tr>
<tr>
<td>Form 1</td>
<td>19</td>
<td>20</td>
<td>01</td>
</tr>
<tr>
<td>Form 2</td>
<td>14</td>
<td>20</td>
<td>04</td>
</tr>
<tr>
<td>Form 3</td>
<td>18</td>
<td>18</td>
<td>04</td>
</tr>
<tr>
<td>Form 4</td>
<td>16</td>
<td>12</td>
<td>03</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>70</td>
<td>12</td>
</tr>
</tbody>
</table>

In 2008 the school had 137 learners who were physically handicapped comprising of 67 boys and 70 girls. The school practices reverse integration whereby 12 boys and 4 girls were integrated. This therefore meant that 19% of the school’s population comprised of non-handicapped students. Koech (1999) recommends up to 30 percent of non-handicapped students where reverse integration is practiced. The school has 22 teachers: 8 males and 14 females. This study purposively used Joytown secondary school due to its longer academic history of handling learners who are Physically Handicapped (PH).
The school is a mixed residential special school. It provides range of specialized facilities, materials and teachers trained in teaching and managing learners with PH. Some special equipment includes prosthetic devices, wheel chairs, braces, crutches, and other assistive and supportive devices. Joytown secondary school follows the 8.4.4. system of education and learners sit for the Kenya Certificate of Secondary Education in form four. Table 1.2 shows the learners’ completion data for the past 5 years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>12</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>2004</td>
<td>16</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>2005</td>
<td>13</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>2006</td>
<td>20</td>
<td>21</td>
<td>41</td>
</tr>
<tr>
<td>2007</td>
<td>22</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>83</strong></td>
<td><strong>79</strong></td>
<td><strong>162</strong></td>
</tr>
</tbody>
</table>

Table 1.2 shows that from 2003 to 2007, 162 learners; 83 boys and 79 girls have completed their secondary education in the school.

Kenya secondary schools curriculum has ten core subjects, and Physical Education (PE) is one of those core subjects in all secondary schools (MOEST, 2006). It is packaged in volume one syllabus alongside languages. PE was made a compulsory
subject in all secondary schools following a presidential decree of 1980 (Kinoti, 1998). In that case, PE is therefore, an integral part of education. Hence, a good and appropriate PE programme can not be overlooked. Indeed, the World Conference on Education for All of 1990 in Jomtien, Thailand, emphasized on PE as a major area within the endeavor for broader education (UNESCO, 1990). That is because PE provides every learner, irrespective of level of disability with an opportunity to develop into a self-disciplined, physically fit and healthy person (MOEST, 2002). However, special provisions are required to attain maximum growth and development through organized education (Siedentop, 2001).

Sherill (1993) suggested that good teaching implied adapting the curriculum to individual needs. That, in return, helps minimize failure and preserve ego-strength. Graham, Halt and Parker (2001) further note that a good PE programme ensures student participation as a player rather than a spectator. Fahey (2000) and Sherill (1993) concurred that good PE for students with special needs should be adapted. The philosophy that guided Adapted Physical Education (APE) was based on the understanding and appreciation of individual differences.

Sherill (1993) further observed that P.E for learners with disabilities plays part in development of all the three domains namely, cognitive, affective and psychomotor. The benefits of APE for the PH include improved overall physical functioning, stronger emotional and mental state of mind and intellectual awareness. In addition it contributes to muscular strength, development of healthier blood and glucose reading, greater stamina, new friends and self-esteem (Sherill, 1993).
As a result of the above benefits, Kenya Institute of Education (KIE) developed a secondary school PE syllabus for learners who are physically handicapped in December 2004 (MOEST, 2004). The syllabus provides activities within the framework of gradual progression of skills in games, athletics, gymnastics, swimming and dance among others (MOEST, 2004). The syllabus is a guide for secondary school Adapted Physical Education (APE). The teacher is supposed to select topics for each class according to learners’ ability levels.

In view of the recognized importance of PE, several studies had been done on curriculum matters in the subject at different levels in Kenya. For instance, studies in secondary schools had been conducted by Simiyu (1990) and Wamukoya (1985). Similar studies had been carried out in diploma teachers’ colleges (Kinoti, 1998; Muniu, 1986). A study had been carried out in primary teachers’ colleges (Kiganjo, 1987). The studies cited lack of facilities and equipment, lack of indoor facilities, lack of reading materials and untrained teachers as some of the major problems hindering effective teaching of the subject. A specific study on PE in special primary schools for PH was done by Gathua (1990). The researcher has so far not accessed any empirical study addressing APE in special secondary schools for the PH in Kenya.

1.3 Statement of the Problem

Physical Education is a compulsory subject in all schools and teacher training colleges in Kenya. The overall aim of the course is to enable learners acquire skills which lead to the development of physical, mental, emotional, health and social aspects of the learner. Adapted Physical Education (APE) is specially designed instruction in physical education, intended to address the unique needs of learners. However, all this
notwithstanding, learners with Special Needs Education (SNE) are not fully benefiting from it because most teachers treat physical education as a break time activity or mere playtime (Fahey, 2000). Children are mainly let loose on the field on their own. PE teachers in schools for the physically handicapped had consequently expressed concern over numerous problems which they faced as they taught the subject (Gathua, 1990). Previous studies in that area had mainly addressed PE for the non-handicapped. There had been a study expressly designed to evaluate constraints faced in teaching of physical education in special primary schools for the physically handicapped in Kenya (Gathua, 1990). So far, however, the researcher had not yet come across any study addressing Adapted Physical Education (APE) in secondary schools for the physically handicapped in Kenya. However, recommendations from previous studies had expressed such a need (Gathua, 1990). This study was therefore designed to investigate constraints facing teaching of Adapted Physical Education in Joystown secondary school for the physically handicapped. The variables of the study included investigation of the extent of adequacy of teaching personnel, facilities and equipment at Joystown secondary school for PH. The study also evaluated the appropriateness of the APE syllabus in meeting the unique needs of learners with PH.

1.4 Purpose of the Study

The purpose of the study was to investigate the constraints facing the teaching of APE in Joystown secondary school for the physically handicapped. The study sought to determine the adequacy of trained personnel who handle APE as well as availability and adequacy of APE facilities and equipment. Moreover, it was geared towards determining whether the facilities and equipment were appropriately adapted.
Similarly, appropriateness of APE curriculum for the PH in Joytown secondary school for the PH was evaluated.

1.5 Objectives of the Study

The study sought to identify constraints facing the teaching of APE in secondary schools for the PH. The specific objectives were:

i. To determine adequacy in number of trained teachers in APE in Joytown secondary school for the PH.

ii. To determine the availability and adequacy of APE facilities and equipment in Joytown secondary school for the PH.

iii. To determine whether the APE facilities and equipment are appropriately adapted in Joytown secondary school for PH.

iv. To evaluate appropriateness of APE syllabus in meeting the unique needs of learners with PH, in Joytown secondary school for the PH.

1.6 Significance of the Study

Since PE is a compulsory subject in all secondary schools, the findings of the study would provide helpful information to policy makers in Ministry of Education. It generated current information on status of APE in a special secondary school in Kenya, which would aid in development of effective APE programmes.

It is also hoped that the findings of the study would be significant to Kenya Institute of Education (K.I.E) in the development of curriculum for APE. It highlighted the major hindrances to effective implementation of APE in a special secondary school for PH in Kenya, so that they could be addressed by physical educators in their
endeavor to promote P.E in general and APE in particular. The study has also contributed towards the development of more literature in P.E and added to the scanty empirical studies on APE for PH in Kenya.

1.7 Research Questions

The following research questions were formulated to guide the study.

i. Does Joytown secondary school for the PH have adequately trained teachers to handle APE?

ii. Are APE facilities and equipment available and adequate at Joytown secondary school for PH?

iii. Are the facilities and equipment at Joytown secondary school for PH appropriately adapted?

iv. Is the APE syllabus appropriate in meeting the unique needs of learners with PH at Joytown secondary school for PH?

1.8 Research Assumptions

The study assumed that:

i. The respondents would provide genuine responses regarding the state of facilities and other resources

ii. The school under study had provision for teaching APE and adhered to the current syllabus.

iii. That the feedback from respondents would not be unduly biased.
1.9 Scope and Limitations

The study was confined to Joytown secondary school for the PH. The study was further limited to learners who were physical handicapped in the school. In addition, the research area under study had inadequate local literature. The researcher was therefore limited to rely more on foreign literature.

1.10 Theoretical Framework

The major problems facing learners with special educational needs are discrimination and labeling (Frank, 2000). In physical education they are discouraged because of failure to meet standards set by the society. The study was guided by Adaptation Theory forwarded by Ernst Kiphard (Sherill, 1993). The theory stresses individual and environmental interactions as a means of manipulating homeostasis—a state of equilibrium. Persons not only adapt to the environment but they alter and change the environment each time they responded. The environmental conditions should be suitable, adjusted and modified in accordance with individual needs. That therefore implies that adaptation entails both individuals and environment reciprocally changing one another. The process is continuous, dynamic and bidirectional. When applied to teaching, it is not a matter of changing the people, but rather manipulating the environment so that needs are met (Maslow, 1970).

In APE for the PH, many variables are operative. The variables interact in the teaching-learning process. They can be altered to promote success. The variables include: facilities, equipment, psychosocial variables and instructional variables. Figure 1.1 highlights the factors that are crucial to teaching of APE.
Physical facilities include fields, gymnasiums, courts and swimming pools. Teachers should ascertain that environmental conditions are appropriately adapted to meet individual needs. Equipment includes balls, swings and bats. They could be described in terms of size, weight, colour, texture and shape.
The psychosocial variables refer to attitudes and feelings about self and others. It considers the number of persons sharing the space, how they are perceived by teachers, learners and parents and how they affect learning (Sherill, 1993). Teachers and educators should appreciate and accept students for who they are to enhance intrinsic motivation. On the other hand, instructional variables include the syllabus, teaching style, method of presenting, and level of assistance during practice and structured use of time. Teaching materials and assessment tasks should therefore help to build trust, faith and confidence. The variables are interrelated and geared towards effective performance of Adapted Physical Education in schools.

In conclusion, it therefore implies that provision of relevant facilities and equipment, appropriate adaptations and appropriate APE syllabus, can enhance success in learner with PH. Adaptation Theory (Sherill, 1993), further argues that professionals who are knowledgeable about variables are able to match abilities with content and teaching style to create optimal learning opportunities.
1.11 Operational Definition of Terms

**Adapted Physical Education:** Modification of physical activities to enable learners with special educational needs participate safely and successfully.

**Administrators of Adapted Physical Education:** The principals, deputy principals, heads of Department games and sports teachers of Joytown school.

**Constraints:** Problems which hinder effective learning of APE

**Disability:** The loss or reduction of functional ability and/or activity.

**Equipment:** Portable materials and tools used in games and sports. Examples include ball, ropes, mats and rackets.

**Facilities:** Non-portable playing areas used in games and sports like fields, Swimming pools and gymnasiums.

**Handicap:** Disadvantages or restriction of activity caused by disability.

**Impairment:** Any disturbances of, or interference with the normal structure and function of the body.

**Physical Education:** Educational process that uses physical activity to help individual acquire optimal development and well being.

**Physically Handicapped:** Those who cannot perform easily without using aids in one or more motor activities involving body movement, due to muscular, skeletal and/or neurological disorders and/or chronic health impairments.

**Special Needs Education:** Education which provides appropriate modification to meet needs of learners such as those with PH.

**Special Unit:** A classroom located in a regular school but set aside for learners with specific type of disability.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter is divided into two parts. Presented in part one is the need and justification of Adapted Physical Education (APE) for the Physically Handicapped (PH). Part two looked at the problems facing APE for the PH.

2.2 Need and Justification for Adapted Physical Education for Physically Handicapped

Findings from several studies indicate that PE is vital to people with disabilities. For instance, Fahey (2000) noted that, PE is just as important for people with disabilities as for those who are able-bodied. Auxter, Pyfer and Heutig (1993), suggested that the ultimate goal for PE for learners with disabilities was to equip them with motor skills that contributed to independent living. That enabled them maximize potentials for self-sufficient living in the community. Wuest and Bucher (1999), further noted that APE enabled learners with disabilities perform the tasks of daily living. It made them enjoy satisfaction from meeting daily challenges. Gathua (1990), noted that learners with cerebral palsy learn activities of daily living (ADL) through APE. APE enables the learners with disability develop into a total person regarding his/her physical, social, emotional and intellectual potentials (Graham et al., 2001).

P.E is the only area of school curriculum that directly addresses the psychomotor domain (Wuest & Bucher, 1999). APE has immense contribution to motor skills and physical fitness development. According to Gathua (1990), benefits include enhancement of strength, co-ordination, speed and endurance to learners with PH.
Wuest and Bucher (1999) further noted that for learners with severe limiting conditions like quadriplegia and multiple sclerosis, it increase the muscular strength, endurance and balance. That in return allows more independence hence greater overall quality of life. A well-designed APE program helps people who has poliomyelitis, a major cause of PH gain strength co-ordination and endurance (Gathua, 1990). Graham et al. (2001) added that amputee gain balance, co-ordination and mobility. Learners with cerebral palsy gain balance, ocular control, muscular strength and posture (Fahey, 2000). For Spina Bifida, Sherill (1993) noted, APE strengthen upper extremity to compensate for leg paralysis. It stimulates bone growth and circulation in lower limbs. Swimming in warm water commonly referred to as aquatic therapy help learners with muscular dystrophy maintain muscle tonus, flexibility and encourage blood circulation. Inactivity increase the atrophy of muscles, (Auxter et al., 1993)

Findings from several studies indicate that, besides improvement in the physical realm, there are psychological benefits, feelings of well-being and success (Bailey & Macfadyen, 2003). Learners with handicap do have emotional and physiological needs. Everyone has fundamental drives to success, recognition and approval regardless of physical appearance. Fahey (2000) noted that self-fulfilling prophecy of low expectation and achievement by the learner with disabilities is reinforced by exclusion policies in sports. Participation in PE for learners with PH contributes to self-actualization and feeling of empowerment (Auxter et al., 1993). It helps them gain a sense of achievement and an opportunity to do something well. Graham et al. (2001) reaffirmed that success promotes self-worth and abilities that lower the emotional impact of disability. Due to frequent medical clinics and history of surgery,
learners with hydrocephaly often perceive themselves as unathletic. APE helps them gain positive self-concept and active lifestyle (Sherill, 1993).

Participation in PE is a key factor in development of social relationships. Children and youths have intrinsic need to play, act and be included with peers (Bailey & Macfadyen, 2003). APE enables more involvement in family and community thus becomes normalized. Auxter et al. (1993) outlined social benefits of APE for the handicapped. The learners are given an opportunity to socialize. That in return results to development of socially acceptable characteristics. Learners discover their capabilities and contribute to team and group efforts. Through play the handicapped learn acceptable social behavior like trust, cooperation, sharing and respect for others. It as well curbs anti-social behavior. It helps aggressive learners express hostility in socially acceptable ways (Sherill, 1993). Graham et al. (2001) further noted that like many children with disabilities, children with spina bifida benefit from socialization inherent in P.E.

APE not only enhances socialization but play an integral part in health. There is a close link between exercise, physical activity and health. Learners denied opportunity of physical activities would suffer a number of disability consequences. They include weak bones, obesity and high blood pressure. Ripley, Dainer and Barret (1997) suggested that difficulties experienced by learners with disability would develop into a “spiral of failure”. According to Graham et al. (2001), learners with spinal cord injuries and poliomyelitis have a tendency towards obesity. That was as a result of low energy expenditure due to inactive lifestyle. High levels of health-related fitness offered protection against degenerative diseases (Kinoti, 1998). The diseases include
obesity, musculoskeletal disorders and coronary artery disease. Health-related fitness promotes cardio-respiratory endurance, flexibility, muscular endurance and body composition. APE also plays a therapeutic role by relieving pain and numbness, correction of deformity and protection of further disabilities (KISE, 2003). Just as PE promotes health and total well-being in the non-handicapped population, the same is true for the person who is handicapped.

Graham et al. (2001) suggested that intelligence and skills could only function at the peak of their capacity when the body is healthy and strong. Studies have been conducted to support the hypothesis that physical activity increase individual’s awareness, self-concept, concentration and general learning abilities. APE help learner make judgment through rules of games, officiating, umpiring and scoring (Gathua, 1990). It enables learners with PH to make instant decisions. Auxter et al. (1993) observed that for Central Nervous System to develop normally, it needs wide variety of stimulation. Inadequate stimulation leads to developmental delay. The above notwithstanding learners with PH are denied the opportunity.

2.3 Constraints Facing Adapted Physical Education for Physically Handicapped

A lot of development and expansion has been taking place in every sphere of education in Kenya. A policy framework for education, training and research revealed that SNE provision is still limited (MOEST, 2005). Learners with SNE should receive an appropriate physical education. “Appropriate” means a program designed to meet individuals’ identified needs (Siedentop, 2001). Graham et al. (2001) however, noted that an appropriate APE program require resources. These resources include finance,
personnel, facilities and supplies. However, personnel is the most important resource (Graham et al, 2001).

2.3.1 Personnel in Adapted Physical Education

The Education Act (Kenya, 1980) stipulated that an approved curriculum should be taught by trained teachers. The presidential working party on education and manpower training for the next decade and beyond (Kamunge, 1988) upheld the same views. However, lack of trained teachers in SNE is a critical issue affecting provision of special needs educational services (MOEST, 2003). Only 20 percentage of teachers in SNE programs are trained. The secondary school APE syllabus for learners who are physically challenged suggest that teachers of APE should be competent in the subject (MOEST 2004). The teacher should be knowledgeable, innovative, patient, committed and posses positive attitude towards APE and learners. The capability of APE teacher determines which intervention strategy to use. The teacher is expected to adapt given activities to suit each individual learner (MOEST, 2004). It is true therefore that qualification of APE teachers with similar resources make a difference.

Several authorities (Frank, 2000; Gathua, 1990; MOEST, 2005; Sherill, 1993) had established inadequate capacity among teachers to handle learners with SNE as the main challenge. Learners who are physically challenged are classified in three main categories – those with musculo-skeletal impairments, neurological impairments and other health related impairments (MOEST, 2004). It is therefore necessary to have a teacher aide and a spotter to assist the teacher in handling these learners. Planning of APE programme should be done by a multi-disciplinary team (Graham et al., 2001; MOEST, 2004). The team is composed of all involved in providing appropriate
education. They include classroom teacher, special educator, parents, learner and all professionals from related services. All the above personnel are not available in schools (MOEST, 2003).

A study on instructional problems encountered by women teachers and their relation to teaching competency as expressed by PE majors in Minnesota (Korri, 1970), PE teachers felt that they were not adequately prepared to provide PE to learners with handicaps. On individual problems by teachers, the problem ranked most frequent was that the schedule did not provide classes and time to work with learners with handicaps.

Views from the students indicated that teachers had least competence in selecting and setting equipment for learners with handicaps (Korri, 1970). Providing activities for students with handicaps was ranked second in the area of least competence. From the study it could be inferred that; the two problems receiving highest frequency by teachers and the two problems students ranked teachers least competent to deal with effectively were both directly related to PE for learners with special needs in education.

Poor teaching and administrative practices are responsible for many psychomotor problems (Sherill, 1993). Inappropriate practices include: using fitness activities as punishment, forming teams and measuring success rates (Siedetop, 2001). Sherill (1993) further noted that many physical activity settings are anti-ethical to learning. They include choosing sides, elimination games and expecting all learners to engage
in the same activities which lead to failure. Graham et al. (2001), clearly illustrate Sherill’s (1993) views:

*If gymnastic is for everyone, including SNE, then all children cannot be asked to do the same gymnastic movement at the same time in exactly the same way, for clearly some children are going to be under-challenged and some are going to be over-challenged.* (pg 451).

In other cases learners with SNE are excused from PE or placed in a corrective program (Sherill, 1993). Both are inappropriate and inadequate in meeting the child’s total needs. Excusing the child seems safe but costly to the learner. It may reduce chances of incurring new injuries, frustration, failure and reduce chance of aggravating learner’s condition. However, the learner’s needs are not met. Corrective program on the other hand may not be helpful because some disabilities are not remediable. Non-remediable disabilities include poliomyelitis, cerebral palsy, epilepsy and amputations (Siedentop, 2001).

In Kenya, some schools for the learners with PH prohibit practical PE lessons (Gathua, 1990). The administrators opt for therapy instead of PE. This is against public law CAP 94–142, which states that related services should not replace instructional PE program for the handicapped (Graham et al, 2001). Other factors affecting participation for the handicapped are self-discrimination, stereo-typing, esteem, self-fulfilling prophecy, control by dominant group influence and language. Frank (2000) further suggested that self-fulfilling prophecy of low expectation and achievement is reinforced by exclusion policies in PE, sports and recreation. Wuest and Bucher (1999) argued that discrimination results from myths, superstitions and sport control. The imposed myth is that persons with disability are inferior and different from the so-called ‘normal’ athlete.
2.3.2 Adapted Physical Education Facilities and Equipment

Ministry of education emphasizes on provision of teachers. However no provision has been made on equipment and facilities (Simiyu, 1990). Learning and teaching resources include balls, nets, bats, mats, footwear, playing courts and racquets (MOEST, 2004). Simiyu (1990) suggests that lack of emphasis on provision of PE facilities and equipment reflects the low priority to the teaching of the subject in schools. Learners with SNE require more material resources for their education than their non-handicapped peers (MOEST, 2003). Learners with PH require recreational, sports and therapeutic facilities. Facilities and equipment, which are relevant, however, are not available in schools (KISE, 2003). Provision of PE equipment is borne by parents (Frank, 2000). The number of parents in special schools is however small. Thus, disadvantaged when it comes to raising funds for capital development. That state of affairs affects SNE adversely.

A study on assessment of PE learning resources in secondary school (Simiyu, 1990) revealed that inadequate reading materials were a major drawback in PE. That was fully evidenced by Ministry of Education approved list of primary and secondary textbooks (MOEST, 2006). One book per class was approved as teacher’s guide in primary school. No pupils’ books and reference materials were approved. Three reference materials were approved. In secondary school the same state was reflected. Three learners’ books were approved in Forms One, Two and Four. A single teacher’s book was approved for Form Three (MOEST, 2006). There was no approved book and other instructional materials for the APE in any category at any level. Compared to other subjects, very little literature is available to both learners and teachers. That
leaves PE teachers in general and APE teachers in particular in an awkward situation. The problem is further aggravated when the teacher is not specifically trained in APE.

Gathua (1990) noted that effective teaching and learning of PE to Physically Handicapped can only prosper where equipment and facilities are adapted accordingly. Adaptation largely depends on the functional ability of the learner (MOEST, 2004). Learners with PH without intellectual difficulties can follow the regular 8-4-4 curriculum (MOEST, 2003). Nevertheless some adaptations are necessary. Heterogeneity of children with PH demands specific curricula for specific levels of education (Koech, 1999). Lack of proper adaptations marginalize some learners especially those with severe handicaps. That eventually leads to inability to cope and lack of skill mastery. It undermines self-actualization leading to poor examination results.

Korri (1970) conducted a study on instructional problems encountered by women teachers and their relation to teaching competency as expressed by PE majors in Minnesota. The study revealed that facilities, equipment and supplies, were ranked by teachers as the major problem in frequency out of the six areas addressed. However, facilities and equipment were ranked third in importance. The problem which ranked most important was inadequate number of indoor teaching stations. Similarly, facilities and equipment were ranked lowest by students in relation to teaching competency by teachers.

A study on the role of physical education and sports in the nation building process in Kenya (Hall, 1973), revealed that inadequate provision of facilities affected physical

Muniu (1986), Kiganjo (1987) and Simiyu (1990) conducted studies in Kenya on P.E at different educational levels. The studies were in Diploma Teachers Colleges, Primary Teachers Colleges and Secondary Schools respectively. According to Muniu (1986), in Diploma teachers colleges, facilities and their maintenance were adequate. In contrast, Kiganjo (1987) identified facilities and equipment as a drawback to implementation of P.E curriculum in Primary Training Colleges. Outdoor facilities were termed as inadequate in primary teachers’ colleges.

In secondary schools, Simiyu (1990) noted that availability of P.E outdoor facilities and equipment were satisfactory. That was with regard to soccer, netball, volleyball and athletics. However, P.E facilities and learning resources were not a priority in secondary schools. Kiganjo’s (1987) and Simiyu’s (1990) findings revealed that availability of facilities and equipment was hampered by financial constraints both in primary teachers’ colleges and secondary schools. The three studies; Muniu (1986), Kiganjo (1987) and Simiyu (1990) concurred on two issues; there were inadequate indoor facilities and reading materials at the three levels under study. All the above studies conducted in Kenya had not addressed APE.

Gathua (1990), however, conducted a study on instructional problems constraining teaching of PE in special primary schools for the PH in Kenya. The study observed that facilities, equipment and textbooks were grossly inadequate in primary schools
for the PH. Most of the equipment used were not adapted and some skills were not taught due to lack of equipment. According to the study (Gathua, 1990) 81 percent of teachers were not trained in APE. The trained teachers lacked experience. All schools lacked teacher aids. Degree and diversity of handicapping conditions and unsuitable syllabus featured as major constraints. Limited time and inadequate facilities featured third and fourth respectively. Negative attitude of pupils towards PE was ranked last. However, negative attitude by administrators towards PE was noted. In some schools, learners were prohibited from practical PE classes. Administrators advocated provision of therapy instead. Lack of specialized personnel was one of the major drawbacks in PE for learners in special primary schools for the PH. That negated a recommendation that children with handicap should be handled by specially trained personnel (Kamunge, 1988). Unlike regular PE (Muniu 1986, Kiganjo 1987, Simiyu 1990) large classes was not identified as a problem in special primary schools for the PH. The three main instructional problems constraining the teaching of PE in Kenya Special Primary Schools for the PH according to Gathua (1990) were: inappropriate curriculum for the PH, inadequate equipment and facilities and lack of trained personnel.

2.3.3 Adapted Physical Education Curriculum for the Physically Handicapped

There is a division of SNE at KIE where curriculum for education in special needs is developed (MOEST, 2003). However, the curriculum was noted to be rather rigid, demanding and has the same expectations for all learners. This system advantage some learners because some can complete the curriculum in less that specified time while others may need a longer period to do the same. For all learners to benefit the
curriculum has to be differentiated in terms of time, learning resource, methodology and mode of access. The differentiation leads to adaptation (MOEST, 2003). Learners who are physically handicapped are so diverse in nature. The implication on their educational provision calls for consideration of their individual differences (MOEST, 2004). Secondary school APE syllabus has been adapted for learners who are physically handicapped in secondary schools. Given the importance of APE in the total development of an individual, the activities given in the syllabus are intended to give the learner thorough practice within the framework of gradual progression of skills in games, athletics, gymnastics, swimming and dance among others. The games include soccer, volleyball, netball, hockey, handball, softball, table tennis and badminton. In athletics activities are sprints, walk, jumps, javelin, discus and shot put. The syllabus further provides optional activities such as martial arts, outdoor pursuits and other indoor games (MOEST, 2004). The optional activities can be introduced during APE lessons, clubs, games time or weekend.

Secondary school APE syllabus for the PH has 15 general objectives. Some of the objectives include; developing physical and neuromuscular skills, performing skillful and efficient movement through physical and mental coordination and developing knowledge and experience of movement concepts for expression and communication. Further, it aims at developing good citizenship and national cohesiveness through sporting activities among others. The activities in the syllabus are intended to promote development of physical, mental, emotional, health and social aspects of the learners (MOEST, 2004).
People with disabilities have needs just like able bodied. The needs are such as approval, involvement, acceptance, recognition and opportunity (Frank, 2000). The above can be achieved through sports programme geared to meet the needs. Learners with PH have been isolated in sports with little opportunity. This is because of inability of those providing the services leading to degeneration. Learners with PH further develop negative attitude towards themselves. The peers also fear and feel that the learners with PH may break their bones. Due to low level of performance they are seen to spoil the game.

A taskforce on special needs education (MOEST, 2003) noted that problems of learners with PH are related to mobility, manipulation of learning materials and access to learning environment. The learners require adapted sports and recreational facilities and equipment. The program should be adapted to their level. The rules and the regulations should be adapted to fit them. For instance, a learner with crutches can play soccer with adaptations like reducing the playing area to avoid fatigue, reduced time of play, allow crutches to hit the ball and adding number of players among others.

Although PE is compulsory in primary, secondary and teacher training colleges, it is non-examinable in schools (MOEST, 2002). The subject is thus given lesser emphasis compared to the examinable subjects (Simiyu, 1990). That is mainly because Kenyan curriculum is examination oriented. However studies (Gathua, 1990) revealed that learners have favorable attitude towards the subject. This is in special primary school for the PH and secondary schools respectively. Teachers had displayed negative attitude towards APE for PH due to fear of legal liability (Sherill, 1993). There is a
common belief that learners with handicap are fragile and risk hurting themselves. Unlike the common belief, performance from Paralympics showed that people with disability can be active, healthy and fit (Frank, 2000). Therefore, each child needs the opportunity to develop fully, physically and without discrimination (Sherill, 1993).

Siedentop (2001) argued that too many PE activities were done in a short time. That made PE goals more difficult to attain. The number of lessons and duration of each lesson are stipulated in the Kenya school syllabus. Secondary school syllabus (MOEST, 2002) allocates one lesson of 40 minutes for Forms One and Two. Form Three and Four have two lessons respectively. The time allocated is grossly inadequate to cover the syllabus. On the other hand the lesson is inclusive of dressing time prior to and after the lesson. The problem is further aggravated for the learners with PH who need more preparation time (Gathua, 1990). More time is required to teach the skills because due to disabilities some learners take longer to acquire the skills.

Class size also affects the effectiveness of learning. Teacher/learner ratio in certain SNE categories and schools is too small. The programs for the PH had a teacher/learner ratio of 1: 7. That was far below the recommended ratio of 1: 15 for the category (MOEST, 2003). Diversity and degree of handicapping conditions affect APE adversely. That means that the class has diverse abilities and needs. That makes it difficult for an individual teacher to meet the instructional needs of all learners (MOEST, 2004). The problem is more pronounced in absence of teacher aide and a spotter. Gathua (1990) noted that diverse age of learners affected the instructional programme.
Report of the Commission of Inquiry into the Education system of Kenya (Koech, 1999) summed up the problems faced by SNE in Kenya as follows:

The quality of the services for children with special needs in Kenya is adversely affected by acute shortage of specialized aids and equipments, specialist personnel, an appropriate curriculum, insufficient institutions and programmes, lack of coordination and unity of purpose between and among service providers, inadequate support staff, an absence of clear policy guidelines, and lack of legal status on special education provisions (p. 97)

2.5 Summary

The chapter has clearly shown that APE was crucial for learners with PH. It has also highlighted problems facing implementation of PE and APE curriculum in educational institutions at different levels. Korri (1970) conducted a study on instructional constrains encountered by P.E. teachers in Minnesota. Simiyu (1990) and Wamukoya (1985) further conducted studies in secondary schools in Kenya. Other studies were conducted in diploma teachers’ colleges (Kinoti, 1998; Muniu, 1986). Kiganjo (1987) conducted an empirical study on problems encountered by Physical Education tutors in the implementation of PE curriculum in Kenya teachers’ colleges. Many of the researches in this area dwelt more on PE for the non-handicapped. However, a study by Gathua (1990) focused on instructional problems constraining the teaching of PE in special primary schools for the PH. Unlike the aforementioned studies, the current study was specific to identifying the constraints facing APE in a secondary school for the PH.
CHAPTER THREE
METHODOLOGY

3.1 Introduction
Addressed in the chapter was: location of the study, research design, and target population, sampling and research instruments. Piloting, determination of reliability and validity, administration of instruments, and data analysis were also presented.

3.2 Location of the Study
The study was carried out in Joytown Secondary School for the Physically Handicapped. The school is one of the three secondary schools for the PH in Kenya. Other two schools are: Joyland in Kisumu and Port Reitz in Mombasa. Joytown is the oldest secondary school for the PH. It was established in 1980 by the Salvation Army. Port Reitz in Mombasa and Joyland in Kisumu were established in 1984 and 1987 respectively. Joytown is the biggest school for the PH in Kenya (Ndurumo, 1993).

Table 3.1. Shows the school's enrollment in 2008.

Table 3.1. Joytown Secondary School Enrollment 2008

<table>
<thead>
<tr>
<th>Category</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physically challenged</td>
<td>67</td>
<td>70</td>
<td>137</td>
</tr>
<tr>
<td>Integrated</td>
<td>12</td>
<td>04</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>79</strong></td>
<td><strong>74</strong></td>
<td><strong>153</strong></td>
</tr>
</tbody>
</table>

Table 3.1 shows that the school had an enrollment of 153 learners comprising of 79 boys and 74 girls. Further, the school had learners in all the three major categories of
physical handicaps. The categories are; neurological impairments, musculoskeletal and other health conditions. The school was hence purposefully selected for the study.

Joystown secondary is situated in Thika Municipality, Thika District, Kenya. Thika is an industrial town in central province. It is the headquarters of Thika District. Thika town is situated about 45km to the North East of Nairobi, the capital city of Kenya. It covers an area of 220.2 square kilometers. In 1999 the municipality had a population of 107,174 persons: 56,236 males and 50,938 females (Kenya, 2001). It had a population density of 487 persons per square kilometer and 34,353 households.

3.3 Research Design
The study employed a case-study design. A case study required the research to make a detailed examination of a single subject, a group or a phenomenon (Mugenda & Mugenda, 1999)

3.4 Target Population
The target population was derived from Joystown Secondary School for the PH. The school is a mixed single streamed secondary school. The study targeted 137 learners with PH: 67 boys and 70 girls. It also involved all the four PE teachers handling APE in the four classes that was, form one to form four. In addition, four administrators in the school namely, principal, deputy principal, Head of Department PE and Sports and games master were involved.

3.5 Sampling
Joystown secondary school for the PH was purposively selected among the three
secondary schools for the PH in Kenya. The school was selected due to its longest history being the first secondary school for PH. Form two and three classes were purposively selected. Form one and four were excluded. Form one was new in the school whereas form four was an examination class. A total of 54 students were selected through stratified random sampling based on gender and class level. That was seventy seven (77) percent of students with PH in the two classes. In addition, the principal, deputy principal, head of department of games and sports, games master and three teachers of APE were purposively selected for the study because they were the key players in the implementation of APE in the school. The study therefore used sixty one (61) respondents from the target population. Table 3.2 displays a summary of the sample size.

Table 3.2 Sample Size in Joytown Secondary School for the PH

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Total Population</th>
<th>Sample Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form Two</td>
<td>Boys</td>
<td>14</td>
<td>11</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>20</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td>Form Three</td>
<td>Boys</td>
<td>18</td>
<td>14</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>18</td>
<td>14</td>
<td>78</td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td>70</td>
<td>54</td>
<td>77</td>
</tr>
<tr>
<td>Administrators</td>
<td></td>
<td>04</td>
<td>04</td>
<td>100</td>
</tr>
<tr>
<td>APE Teachers</td>
<td></td>
<td>03</td>
<td>03</td>
<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>77</td>
<td>61</td>
<td>79.2</td>
</tr>
</tbody>
</table>
3.6 Research Instrument

The data was collected using observation schedules and questionnaires. Observation solicited information on facilities and equipment available and adaptation made. The performance during PE lesson was also observed. Observation schedule (Appendix IV) was used to check availability of APE facilities and equipment. Observation protocol was adapted from Gathua (1990), but modified to fit the study.

Three sets of questionnaires were used. The first set solicited information from the students who were physically impaired (Appendix III). It helped gather information on their views on availability, adequacy and adaptation of APE facilities and equipment. The second questionnaire (Appendix II) targeted the four administrators namely principal, deputy principal, head of department PE and sports and games master. The three teachers handling APE in the four classes (Form one to form four) filled the third questionnaire (Appendix I). It solicited information from the respondents on qualification of APE personnel, availability and adequacy of APE facilities and equipment and their adaptations. It also established appropriateness of APE syllabus for the PH. The questionnaires were formulated by the researcher with the assistance of the supervisors who were experts in APE.

3.7 Piloting

A pilot study was carried out in Joyland secondary school for the PH in Kisumu. The school for pilot study was identified through simple random selection that involved tossing of a coin. Piloting ensured that the instruments were stated clearly and had the same meaning to all respondents (Mugenda & Mugenda, 1999). It also helped the researcher establish time taken to administer the instruments. Relevant corrections
and modifications were then undertaken before administering the instruments to the study sample. Corrections included restructuring the question items which were considered ambiguous. Irrelevant questions were also corrected. This helped in collecting more meaningful data.

3.7.1 Validity

Validity was the accuracy and meaningfulness of inferences which were based on the research results (Mugenda & Mugenda, 1999). Content validity was established through professional counsel from the researcher’s supervisors and course lecturers. Various consultative meetings were held with the two universities supervisors. That was done to appraise the instruments to check and ensure that items were clear to the subjects and that they tested what they were meant to test.

3.7.2 Reliability

To test the reliability of the questionnaires, test-retest method was used. The same instruments were administered twice to the same group of subjects. A time lapse of two weeks was given between the first and second test. The scores from both testing periods were correlated using Pearson product – moment correlation. The reliability was calculated and found to be $r = 0.645$. Reliability of 64.5% found indicated that the findings in the study from the instruments used were reliable enough for the purpose of the study.

3.8 Administration of Instruments

The researcher visited the school under study and familiarized himself before the study period. During the study, questionnaires were administered and observations
conducted. The questionnaires were administered by the researcher to all the three categories of respondents namely the administrators, teachers of APE and students. Lesson observation schedule was used to solicit information on appropriateness of the APE syllabus. At least three lesson observations were made to give a clearer picture on appropriateness of APE. Checklists for availability and condition of APE facilities and equipment were used.

3.9 Data Analysis

Collected data was coded and analyzed. Actual coding of data contained in the completed questionnaires was done by the researcher. Respondents who gave a similar answer to a question were given the same code and later counted. The data was then analyzed using descriptive statistics that involved tabulating, graphing and describing data. This helped presentation of data in an organized and meaningful fashion. The data was analyzed according to the objectives and research questions of the study.
CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction
Adapted physical education is specially designed instruction in physical education intended to address the unique needs of learners with special education needs. The study sought to identify constraints facing teaching of APE in secondary schools for learners who were Physically Handicapped. Joytown Secondary School for the physically handicapped, Thika district in Kenya was used for the study.

In the chapter quantitative data analysis was done using a computer package, Statistical Package for Social Science, version 11.5 to find out the frequency distribution of the respondents’ demographic information, the available facilities and equipment in Joytown secondary school and establish the adaptation of the facilities. Data was presented using graphs, figures and charts.

Three teachers of APE and four APE administrators from Joytown secondary participated in the study. A total of 54 students 26 (48.1%) form two and 28 (51.9%) form three also participated. The data was analysed according to the objectives below:

i. To establish the number of trained teachers in APE in Joytown secondary school for the PH.

ii. To establish the availability and adequacy of APE facilities and equipment in Joytown secondary school for the PH.

iii. To determine whether the APE facilities and equipment were appropriately adapted in Joytown secondary school for PH.
iv. To evaluate appropriateness of APE syllabus in meeting the unique needs of learners with PH, in Joytown secondary school for the PH.

4.2 Number of Trained Teachers in APE in Joytown Secondary School for the PH

Four administrators in the school who included Principal, deputy principal, games master and a head of department participated in the study. All the 4 administrators were professionally trained as teachers. Two of the administrators had Bachelor of Education Degree. One had Masters in Counseling Psychology while another one had a Diploma in Education.

4.2.1 Education in Special Needs

Two administrators in the school had no professional qualification in special needs education. However, the other 2 had professional training in special needs education. Therefore though some administrators had some training in SNE, there was need to train more in the area. All the teachers in the school were professionally trained. However, only 4 teachers had training in SNE.

4.2.2 Teachers of APE in the School

Three teachers of APE in the school participated in the research. All the 3 APE teachers were professionally trained at Diploma level as teachers. Only 1 of those teachers had professional qualification in special needs education. Two of the teachers were not trained in APE. One teacher had been trained in APE mainly through seminars/in-service in APE. Two of the teachers had taught APE for the PH for 1-5 years.
These results negate the Education Act (Kenya, 1980) which suggested that an approved curriculum should be taught by trained teachers. The study similarly contrasted Kamunge report (1988) which emphasized on trained personnel to handle learners with SNE. Nevertheless, the study concurred with Gathua (1990) which indicated that 81 percent of teachers handling APE in special schools were not trained. Furthermore the findings from the study confirmed an earlier study by Korri (1970) which discovered that majority of teachers were not adequately prepared to provide P.E. for learners with handicap.

Untrained personnel implied that they were unable to determine which intervention strategies to use and adaptations needed to suit each individual learner. This findings agreed with literature by Frank (2000) and Sherill (1993) who established capacity among teachers to handle learner with SNE as the main challenge. Learners with PH have diversified needs which necessitates a teacher aide and a spotter (MOEST, 2004). The personnel were not available which further constrained the learner’s performance. The results further concurred with Korri’s (1970) findings that teachers had the least competence in handling learners with SNE.

4.3 Availability and Adequacy of APE Facilities and Equipment in Joytown Secondary School

Table 4.1 shows the respondents’ views on adequacy of APE facilities and equipment in Joytown secondary school.
Table 4.1. Adequacy of APE Facilities and Equipment

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Inadequate</th>
<th>Adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>41</td>
<td>13</td>
</tr>
<tr>
<td>Administrators</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Teachers</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>46</td>
<td>15</td>
</tr>
</tbody>
</table>

It was evident from the table 4.1 that in Joytown Secondary school for the physically handicapped there were inadequate facilities and equipment. This was noted by 41 (75.9%) of the students, 2 of the administrators, and all the 3 teachers of APE. Only 13 (24.1%) of students; and 2 of administrators indicated that the facilities were adequate. No teacher responded in support of adequacy of the facilities and equipment. In general, 46 (75.4%) respondents indicated that the facilities and equipment were inadequate. Only 15 (24.6%) of respondents affirmed that the facilities were adequate. All the 4 administrators and all the 3 teachers of APE concurred on lack of APE indoor facilities in the school. Inadequacy of facilities constrained teaching of APE as confirmed by three administrators and all the 3 teachers of APE.

The above results showed that the facilities and equipment were inadequate in the school. That implied that the learners' performance was adversely affected. The results concurred with Simiyu (1990) that the government emphasized on provision of teachers and neglected equipment and facilities. Similarly, the study supported literature by Frank (2000) that provision of PE equipment and facilities was borne by
parents and 70% of learners with SNE were from poor families hence unable to be financed adequately.

In addition these findings confirmed earlier studies by Gathua (1990) and Hall (1973) that cited lack of adequate facilities and facilities as a major drawback to the study of the subjects. The study further confirmed earlier reports that facilities and equipment which were relevant for the learners with SNE were not available in schools (KISE, 2003). However, a study by Muniu (1986) and Simiyu (1990) revealed that the facilities and their maintenance were adequate at Diploma teachers' college and secondary schools respectively. Even so this study concurred with the two studies (Muniu, 1986; Simiyu, 1990) on indoor facilities and equipment which were grossly inadequate in school. Figure 4.1 shows the students' views on the quality of APE facilities in the school.

**Figure 4.1 Quality of APE Facilities in the School**
The quality of the APE facilities was indicated by 24 (44.4%) of the students as poor whereas 14 (25.9%) describe the facilities as very poor. Thirteen (24.1%) and 3 (5.5%) ranked the facilities as good and very good respectively. This indicated that the quality of facilities was poor. Consequently the quality hindered the learners with PH from performing in the subject as required. Table 4.2 shows attendance of PE lessons during wet weather.

Table 4.2. Attendance of P.E. Lessons during Wet Weather

<table>
<thead>
<tr>
<th>Class</th>
<th>Response on attendance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Totals</td>
</tr>
<tr>
<td>Form 2</td>
<td>7 (26.9%)</td>
<td>19 (73.1%)</td>
<td>26</td>
</tr>
<tr>
<td>Form 3</td>
<td>8 (28.6%)</td>
<td>20 (71.4%)</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>15 (27.8%)</td>
<td>39 (72.2%)</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 4.2 shows that the Attendance of PE lessons during wet weather was low. In form two 19 (73.1%) and in form three 20 (71.4%) did not attend PE lessons during wet weather. Main reason for lack of attendance was lack of appropriate facilities. That implied that 39 (72.2%) of the students did not attend PE during wet weather and only 15 (27.8%) attended. Students who did not attend wet weather lesson gave various reasons. Table 4.3 shows the students’ five major reasons for failure to attend P.E lessons during wet weather.
Table 4.3. Reasons for Failure to Attend P.E. Lessons during Wet Weather

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Number of students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of appropriate facilities</td>
<td>39</td>
<td>100%</td>
</tr>
<tr>
<td>Difficulty to access field during wet weather</td>
<td>26</td>
<td>66.7%</td>
</tr>
<tr>
<td>Facilities not suitable for wheelchair</td>
<td>22</td>
<td>55.6%</td>
</tr>
<tr>
<td>Some students not able to walk on mud</td>
<td>17</td>
<td>44.4%</td>
</tr>
<tr>
<td>Students have health problems during cold weather</td>
<td>13</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

The table 4.3 illustrated that the major hindrance to P.E lesson attendance during wet weather is lack of facilities. This was supported by all the 39 (100%) students who did not attend wet weather PE lessons. Difficulties in accessing the field during wet weather was ranked second with 26 (66.7%) respondents. Students' health problem was ranked as the least reason with 13 (33.3%) responses. From the above reasons, factors related to facilities played the major role in hindering attendance of P.E. lesson during wet weather.

4.3.1. Maintenance Status of APE Facilities and Equipment

Table 4.4. Shows views on maintenance status of the APE facilities and equipment.
Table 4.4. Views on Maintenance Status of the APE Facilities and Equipment

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Very good</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Very poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>APE teachers</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4.4 on maintenance status of APE facilities and equipment shows that 1 of the administrators rated the maintenance as very good and another 1 as good. However, 2 administrators rated the maintenance as average. On the other hand 2 teachers of APE rated the maintenance as average with 1 teacher rating it as poor. From all the respondents 4 felt that the maintenance status was average whereas no response indicated the maintenance as very poor. The maintenance status of APE facilities and equipment was classified as average.

4.3.2. APE Literature in the School

Table 4.5 shows administrators’ and teachers of APE views on availability of APE literature in the school.

Table 4.5 Availability of APE Literature in the School

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Adequate</th>
<th>Not adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>APE teachers</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
Apart from 1 administrator all the other 3 noted that the school has no adequate APE literature to meet the instructional needs of the subject. Three learners’ books were approved in Forms One, Two and Four. A single teacher’s book was approved for Form Three. There was no approved book and other instructional materials for the APE in any category at any level. All the 3 teachers of APE indicated that the APE literature was inadequate. According to the teachers, no APE text book was available in the school. However, syllabi and rule books were available. This was bound to affect teaching. Without literature, teachers lacked consistency and were likely unable to teach effectively. The results therefore confirmed an earlier study by Simiyu (1990) which revealed inadequate reading materials in the subject.

4.4 Adaptation of APE Facilities and Equipment in Joytown Secondary for the PH

Adaptation of both facilities and equipment was assessed. The respondents were the administrators, teachers of APE and students.

4.4.1. Adaptation of Facilities

Figure 4.2. displays adaptation status of APE facilities in Joytown Secondary school for the PH.
From the figure 4.2, 44 (72%) of the respondents were of the opinion that the facilities were not adapted to cater adequately, for learners with PH. Only 17 (28%) noted the adaptations. Lack of adaptation of facilities constrained the teaching and learning of the subject. The facilities included the football pitch, volleyball and handball courts and athletics track. Adaptations on facilities may include leveling the surfaces to enable easy mobility and changing the dimensions of the field of play.

4.4.2. Adaptation on Equipment

Figure 4.3 displays adaptation status of APE equipment.

Figure 4.3. Adaptation Status of APE Equipment

Figure 4.3 clearly shows that equipment are not adapted in Joytown secondary school for PH. This was confirmed by 38 (62%) of respondents who felt that the equipment
were not adapted. Twenty three (38%) respondents were of the opinion that the equipment were adapted. The equipment available included balls for football, volleyball and netball as well as table tennis equipment. Lack of appropriate adaptation of equipment constrained the teaching of APE as confirmed by three teachers of APE and three administrators.

From the above data it implied that most of the facilities and equipment were not adapted appropriately. This adversely affected the learners’ performance and even marginalized others as indicated by Koech (1999). The study further confirmed studies by Gathua (1990) and Korri (1970) that most of the facilities and equipment were not adapted to meet the needs of learners with SNE. It as well negated recommendations by Koech (1999) which suggested that due to heterogeneity of children with PH there should be specific adaptations at all specific levels of education. Table 4.6 below shows learners with difficulties accessing the field.

### Table 4.6 Learners with Difficulties Accessing the Field

<table>
<thead>
<tr>
<th>Learners with PH</th>
<th>Have difficulties</th>
<th>Do not have difficulties</th>
<th>None committal</th>
</tr>
</thead>
<tbody>
<tr>
<td>With crutches</td>
<td>24 (44.4%)</td>
<td>17 (31.5%)</td>
<td>13 (24.1%)</td>
</tr>
<tr>
<td>With wheelchairs</td>
<td>43 (79.6%)</td>
<td>9 (16.7%)</td>
<td>2 (3.7%)</td>
</tr>
</tbody>
</table>

Learners on wheelchair were most affected as far as accessing the field was concerned. Forty three (79.6%) had difficulties accessing the field with only 24 (44.4%) of learners with crutches having difficulties. On the other hand 17 (31.5%) of learners with crutches did not have difficulties whereas only 9 (16.7%) of learners on
wheelchair did not have difficulties in accessing fields. This therefore indicated that majority of learners had difficulties in accessing the field. Learners with wheelchairs were the most affected as compared to learners with crutches. This was mainly because the field was not leveled. The surface had tall grass which made it difficult for free movement of a wheelchair. The field was also bumpy and rough. In addition, there were no ramps connecting the classes to the field. Figure 4.4 displays modification on the rules of the games.

Figure 4.4 Modifications on the Rules of the Games to Enable Participation by Learners with PH.

During the P.E. lesson rules were notably modified to enable learners with PH to participate. About 35 (64.8%) of the students noted the modifications of the rules of games while 15 (27.8%) did not realize any modifications. On the other hand 4 (7.4%) of the respondents were non-committal. It is evident therefore that notable modifications were made on the rules of the game. Some of the modifications made in
a class situation included reduction of time spent on each activity to reduce fatigue and injury. Others were on modified stance when executing activities as well as the size and weight of equipment and dimensions on the field of play. The modified rules enabled learners with PH perform. The results concurred with studies by Graham et al (2001) and Sherill (1993) who recommended modification of rules to fit all learners. Otherwise some learners would be under-challenged or over-challenged.

4.5 Appropriateness of APE Syllabus in Meeting Unique Needs of Learners With PH, in Joystown Secondary School for PH.

Figure 4.5 shows students views on time allocated to PE in a week

Figure 4.5. Students' Views on Time Allocated to PE in a Week

Figure 4.5 clearly showed that time allocated to PE in a week was not adequate. A total of 28 (51.90%) stated that the time allocated was not adequate. On the other hand 25 (46.30%) stated that the time allocated was adequate while 1 (1.90%) was non-committal. Teachers and administrators ranked inadequate fourth and ninth.
respectively. Time allocated was not adequate to perform the activities stipulated in the syllabus. Adequate time meant that a learner had time to learn a skill and practice on the learnt skill. Gathua (1990) had cited the problem of inadequate time in special primary schools for the PH. Figure 4.6 displays students’ comments on the activities in the PE lesson.

**Figure 4.6 Students Comment on the Activities in the PE Lesson for the PH**

![Pie chart showing students' comments on PE activities](chart.png)

From the figure 4.6, majority of the students felt that the activities in PE lesson for the PH were difficult to perform. This was supported by 31 (57.4%). Furthermore, 6 (11.1%) felt that the activities were very difficult; 12 (22.2%) viewed the activities as being easy; while 5 (9.3%) described the activities as very easy.

Majority of teachers indicated that the APE syllabus was inappropriate in meeting the unique needs of learners with PH. Two teachers of APE confirmed that it was difficult to interpret the APE syllabus. One described the syllabus interpretation as very difficult.
On activities in the syllabus, in terms of relevance to PH, 2 of APE teachers were of the view that the activities were irrelevant whereas 1 viewed the activities as very irrelevant. Suitability of APE syllabus for the PH was rated suitable by 1 teacher; unsuitable by 1 teacher and very unsuitable by 1 teacher.

Teachers’ responses on the objectives in terms of clarity and achievement were as follows: Two of teachers termed the objectives as vaguely stated and 1 as very vaguely stated. In classifying objectives in terms of achievement, Two and one classified the objectives as difficult to achieve and impossible to achieve respectively.

These findings confirmed study by Gathua (1990) which cited inappropriate curriculum for PH. This study further concurred with literature by Siedentop (2001) which found out that too many PE activities were done in a short time. Degree and diversity of handicapping conditions necessitated a diverse syllabus which put into consideration learners’ abilities and interests.

4.6 Problems Constraining Teaching of APE for the PH

To gather information on problems constraining teaching of APE for the PH, each category of respondents who included, teachers of APE and students filled a questionnaire item. The administrators, teachers of APE and students were expected to rank ten problems constraining teaching of APE for the PH. The mean of the ten problems from administrators, teachers of APE and students were obtained. Table 4.7 shows the ranking of major problems obtained from administrators, APE teachers and students.
Table 4.7 Problems Constraining Teaching of APE for PH

<table>
<thead>
<tr>
<th>Problem</th>
<th>APE Teachers</th>
<th>Administrators</th>
<th>Students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Rank</td>
<td>Mean</td>
<td>Rank</td>
</tr>
<tr>
<td>Lack of appropriate facilities and equipment</td>
<td>10.00</td>
<td>1</td>
<td>10.00</td>
<td>1</td>
</tr>
<tr>
<td>Lack of qualified teachers</td>
<td>6.33</td>
<td>5</td>
<td>8.50</td>
<td>2</td>
</tr>
<tr>
<td>Unadapted facilities and equipment</td>
<td>7.67</td>
<td>3</td>
<td>7.50</td>
<td>3</td>
</tr>
<tr>
<td>Learners disability</td>
<td>4.33</td>
<td>7</td>
<td>5.00</td>
<td>6</td>
</tr>
<tr>
<td>Inappropriate syllabus</td>
<td>8.67</td>
<td>2</td>
<td>4.25</td>
<td>7</td>
</tr>
<tr>
<td>Inadequate time</td>
<td>7.33</td>
<td>4</td>
<td>2.00</td>
<td>9</td>
</tr>
<tr>
<td>Inadequate literature</td>
<td>4.67</td>
<td>6</td>
<td>6.75</td>
<td>5</td>
</tr>
<tr>
<td>Lack of funds</td>
<td>1.33</td>
<td>10</td>
<td>7.00</td>
<td>4</td>
</tr>
<tr>
<td>Negative attitude – PE not examinable</td>
<td>2.67</td>
<td>8</td>
<td>1.50</td>
<td>10</td>
</tr>
<tr>
<td>Lack of indoor facilities</td>
<td>2.00</td>
<td>9</td>
<td>2.50</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 4.7 clearly shows that lack of appropriate facilities and equipment received similar ranking by teachers of APE, administrators and students as the major constrain
in APE for PH. All the 3 teachers and all the 4 administrators ranked it as the major problem. Similarly all the 54 (100%) students cited lack appropriate facilities and equipment as a problem. Lack of qualified personnel was ranked fifth by teachers, second by administrators and third by students. Lack of qualified personnel ranked second.

The six major problems as ranked by teachers of APE were, lack appropriate facilities and equipment; inappropriate syllabus; unadapted facilities and equipment; inadequate time; lack of qualified teachers and inadequate literature. Lack of adequate funds was however ranked fourth by administrators though teachers of APE ranked it tenth. Similarly, the administrators cited inadequate time as the second last problem though it was ranked sixth by teachers of APE.

On the contrast, students ranked learners’ disability as the second major problem. The problems that were ranked third, fourth, fifth and sixth respectively were: lack of qualified personnel; inadequate time; negative attitude due to the fact that P.E. is non-examinable and unadapted facilities and equipment. The students did not recognize lack of funds as a major problem and was ranked ninth. Inadequate literature was ranked tenth by the students.

On overall, the major three problems were lack of facilities and equipment; lack of qualified teachers and unadapted facilities and equipment. Contrary the problems which ranked lowest were lack of indoor facilities, negative attitude because PE is non-examinable and lack of funds. A study by Gathua (1990) however indicated the three major problems as inappropriate curriculum, lack of facilities and equipment
and untrained teachers. Facilities and equipment and untrained teachers were therefore featuring among the three major problems in the two studies.

4.7 Findings Based on Researchers Observations

Observation by the researcher was done to solicit information on timetabling and attendance of APE classes. Observation also provided information on availability and condition of equipment and facilities. Three observations were made in each class. Furthermore mobility used by students with PH and available APE literature were observed.

4.7.1 Timetabling and Attendance of APE Classes

In this school, APE was scheduled on the timetable and both classes form two and three, had one lesson per week. Each lesson lasted 40 minutes. In both form two and form three, 21 (38.9%) of the students did not attend all PE lessons whereas 33 (61.1%) attended the lessons. Three lesson observations were made in each class. Figure 4.7 displayed students’ attendance of P.E. lessons based on classes.
Figure 4.7. Students Attendance of PE Lessons in the School

From figure 4.7, it was evident that 20 (76.9%) of form two students and 13 (46.4%) of form three students attended all P.E. lessons per week. However, 6 (23.1%) and 15 (53.6%) of form two and three respectively did not attend P.E. lessons. The main reason was that some learners could not access the field on wheelchairs school did not have teacher aides and spotters. The actual APE lesson took 20 minutes. The preparation for the next lesson after APE took 10 minutes. At one go two classes were out for APE lesson in the school and this caused congestion during the lesson.

4.7.2 Mobility Devices Used by Students with PH.

Lessons observations were made in form three and form two. There were 42 forms three and 40 form two students. During P.E. lesson the learners used facilities within the school compound. They spent 10 minutes to travel to the site.
The equipment in the school were used in small groups, were not adequate and not adapted appropriately. Table 4.8 shows number of learners participating in APE.

Table 4.8. Number of Learners who Participated in APE

<table>
<thead>
<tr>
<th>Participation</th>
<th>Form 2</th>
<th>Form 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without mobility aids</td>
<td>4 (10%)</td>
<td>10 (23.8%)</td>
</tr>
<tr>
<td>Using sticks or other walking devices</td>
<td>6 (15%)</td>
<td>12 (28.6%)</td>
</tr>
<tr>
<td>Using artificial limbs</td>
<td>5 (12.5%)</td>
<td>4 (9.5%)</td>
</tr>
<tr>
<td>Using wheelchair</td>
<td>4 (10%)</td>
<td>8 (19.0%)</td>
</tr>
<tr>
<td>Number not participating</td>
<td>21 (52.5%)</td>
<td>8 (19.0%)</td>
</tr>
<tr>
<td>Number in class</td>
<td>40 (100%)</td>
<td>42 (99.9%)</td>
</tr>
</tbody>
</table>

It was observed that 10 (23.8%) learners from form 3 and 4 (10%) form 2 students participated in PE without mobility aids. Not all the learners managed the activities taught. Twenty one (52.5%) students in form two and 8 (19.0%) in form three did not participate in APE. This was caused by lack of adapted equipment which would enable them participate. Some learners on the other hand, had severe cases of disability which the teacher could not handle without the assistance of health personnel.

Over 50% of learners with PH did not participate in PE lessons. This was mainly due to lack of appropriate facilities and equipment, unadapted facilities and equipment and physical disabilities of students.
4.7.3 Availability of APE Literature

The study found out that there was no teachers’ guide, pupil’s books or any reference materials on APE in the school. However, it was observed that the school had syllabi and rulebooks. This was mainly due to very few books which were approved in the subject compared to other subjects (MOEST, 2006). There was no APE book approved by the Ministry of Education at any level.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter the summary, conclusions and recommendations were made on policy and areas of further research.

5.2 Summary of the Study

The study was done in Joytown Secondary School for Physically Handicapped. The study sample comprised of 61 subjects – 54 students, three teachers of APE and four administrators. The research used three sets of questionnaires for the students, teachers of APE and administrators. An observation schedule was also used to gather information on availability and adaptation of APE facilities and equipment. The study was guided by the following objectives:

i. To establish the number of trained teachers in APE in Joytown Secondary School for the PH

ii. To establish the availability and adequacy of APE facilities and equipment in Joytown Secondary School for PH

iii. To determine whether the facilities and equipment were appropriately adapted in Joytown Secondary School for the PH

iv. To evaluate appropriateness of APE syllabus in meeting the unique need of learners with PH, in Joytown Secondary School for the PH.

The following is a summary of the research findings:
5.2.1 Number of Trained Teachers in APE in Joytown Secondary School for the PH

To establish the number of trained teachers in APE in Joytown Secondary School for the PH.

- The study findings revealed that majority of teachers at Joytown Secondary School for PH were not trained in APE. Only one teacher was trained in APE.
- It was noted that the teachers trained in APE was mainly through seminars which normally took a short period and not very intensive.
- The study found out that APE teachers in the school were not experienced and had taught APE for less than five years.
- In terms of proportion, few teachers were professionally trained in special needs education (SNE). Only four teachers out of 22 teachers had training in SNE. However, all teachers were professionally trained in regular education.
- The study found out that the teachers of APE did not have teacher aides and spotters during the APE lessons.

5.2.2 Availability and Adequacy of APE Facilities and Equipment

To establish the availability and adequacy of APE facilities and equipment in Joytown Secondary School for the PH.

- The study found out that APE facilities and equipment were the major problem facing teaching of APE. Some facilities were lacking and the available one not
adequate. The inadequacy led to non-participation in APE activities by some students.

- It was further revealed that wet weather facilities and equipment were not available, leading to low APE attendance during wet weather. Wet weather facilities include gymnasiums or halls where PE lessons could take place during wet weather.

- The study found out that maintenance status of APE facilities and equipment were average.

- The study also found out that the school had no adequate APE literature. The school had books in regular PE but not in APE. Inadequate APE literature adversely affected the teaching of the subject.

- The study found out that there were no indoor facilities in the school which constrained teaching of APE especially for learners who could not access the outdoor facilities.

5.2.3. Adaptation of APE Facilities and Equipment

To determine whether the APE facilities and equipment are appropriately adapted in Joytown Secondary School for the PH.

- Most of the facilities and equipment were not appropriately adapted to meet the unique needs of learners with PH. Adaptations expected included modification of some equipment like balls; change of some rules and adjustment of the dimension of the field of play.
• Lack of appropriately adapted facilities and equipment constrained teaching of APE in the school.

• Learners mainly on wheelchairs could not access most of the facilities and equipment due to lack of appropriate adaptations and mobility.

• The study however found out that most of the rules were modified to enable learners with PH participate in the activities approved in the syllabus.

5.2.4. Appropriateness of APE Syllabus in Meeting Unique Needs of Learners with PH.

To evaluate appropriateness of APE syllabus in meeting the unique needs of learners with PH in Joytown Secondary School for PH.

• The study established that the time allocated for APE per week was inadequate. That was because half of the time was used in preparation before and after the lesson.

• Majority of teachers were not able to interpret the APE syllabus and consequently, the objectives could not be achieved. This could be attributed to inadequate capacity among teachers.

• The study revealed that the activities in the syllabus were difficult and as a result not all learners with PH could perform them effectively.

• The study findings indicate that the APE syllabus is irrelevant and not suitable for learners with PH.

• The objectives in relation to PH were vaguely stated and irrelevant. This constrained teaching of APE for PH.
5.3 Conclusions

The following are the conclusions on the constrain facing teaching of APE in Johtown secondary school for the PH. The conclusions are based on the four objectives of the study.

5.3.1 Conclusion on the Number of Trained Teachers

Lack of trained teachers in APE in Johtown Secondary School constrained teaching of APE in the school. The teachers were inadequately skilled to handle learners with PH. The school further lacked other relevant staff which included spotters and teachers aides.

5.3.2. Conclusion on Adequacy of Facilities and Equipment

Appropriate facilities and equipment were not adequate in Johtown Secondary School for the PH. That inadequacy seemed to be the major constrain facing implementation of the APE. This implied that most of the activities spelt out in the syllabus could not be learnt effectively. There was also an acute shortage of textbooks and indoor facilities.

5.3.3 Conclusion on Adaptation of APE Facilities and Equipment

The APE facilities and equipment were not appropriately adapted in Johtown secondary school for the PH. This hindered the effective implementation of APE for the PH in the school. Lack of proper adaptations marginalized some learners especially those with severe handicaps.
5.3.4. Conclusion on Appropriateness of APE Syllabus for the PH

The APE syllabus was not appropriate in meeting the unique needs of learners with PH. The objectives were vaguely stated and activities unsuitable for learners with PH. The syllabus was difficult for teachers to interpret. The time allocated for the subject was inadequate. A lot of time was used in preparation before and after the APE lesson.

5.4 Recommendations for Policy and Practice

The following recommendations for practice and policy were made based on the findings of the study.

i. Ministry of Education should enact policy to increase the number of trained teachers in the education for learners with special needs in general and APE in particular. That would help alleviate the problem of inadequate teachers in the subject. Teachers training in PE should take a number of compulsory units in APE to enable them handle learners with SNE. On the other hand, national universities training teachers should come up with a curriculum which lays emphasis on APE. Trained teachers in schools for the PH should be in-serviced and equipped with skills which are necessary in teaching APE for learners with PH. This in-service should be done in collaboration with Kenya Institute of Special Education (KISE).

ii. The study revealed that majority of teachers were not trained in APE. Universities should train more teachers in APE as well as other relevant staff.
who would aid the teachers during lessons. Those staff includes teacher aides, spotters, first aides and physiotherapists.

iii. Specialized equipment and construction of special-needs-friendly APE facilities needs a lot of money. Hence, the government should zero-rate taxes on imports of sports equipment and facilities for learners with PH. For the locally produced goods, the government should subsidize the costs to make them affordable.

iv. The government should liaise with non-governmental organizations, community-based organizations faith-based organizations and the community at large to help finance the schools so as to alleviate the current financial problems.

v. KIE should consider allocating more time for APE for learners with PH because a lot of time is spent on preparation before and after the lesson. This can be done through APE-related activities which would compensate the time lost. APE lessons should be time tabled before or after break so that learners can use break time to prepare.

vi. Scholars should write more books on APE the same way they have done in the general P.E. Those books should be included in the ministry of education list of recommended books to be used in schools.
5.5 Suggestions for Further Research

From the findings of the study on constraints facing teaching of APE in Joytown Secondary School for the PH, the following topics were suggested for further research.

i. A comparative study to establish instructional constraints facing APE in other secondary schools for the PH should be conducted.

ii. A study should be carried out in instructional constraints facing APE in secondary schools for other categories of learners with special needs in education like the hearing impaired, visually impaired and mentally handicapped.

iii. A study should be done as earlier recommended by Gathua (1990) to find out the attitude of teachers, administrators and learners toward APE.
REFERENCES


Kenya Institute of Special Education. (2003). *Introduction to adapted physical education for learners with special needs*. (Module 27) Nairobi: KISE


APPENDIX I

QUESTIONNAIRE FOR APE TEACHERS

The following questionnaire aim at gathering information on instructional constraints facing implementation of adapted physical education in Joytown Secondary School for the PH. From the findings recommendations would be made aimed at improving implementation. All data collected would be treated with strict confidence and would only be used for statistical purposes. Please respond to all questions appropriately. Your sincere co-operation would be highly appreciated.

1.0 SECTION ONE: Background Information

1.1 Are you professionally trained as a teacher? Yes □ No □

1.2 What is your highest professional qualification?

DIPLOMA □ BED □ MED □

Others (Specify) ...........................................

1.3 Do you have any professional qualification in Special Needs Education?

Yes □ No □

1.4 Which class do you teach Adapted Physical Education?

..................................................

1.5 Are you trained in APE? Yes □ No □

1.6 Have you attended any seminar or in-service course in APE?

Yes □ No □

1.7 How many years have you taught APE for the PH?

1 - 5 □ 11 - 15 □

6 - 10 □ Over 15 □
2.0 SECTION TWO: Availability and Adequacy of APE Teaching and Learning Resources

2.1 Are APE facilities in your school adequate?  
Yes □  No □

2.2 What is the maintenance status of the facilities?

Excellent □  Very Good □  Good □  
Average □  Poor □  Very Poor □

2.3 Does inadequacy of facilities constrain teaching of APE?

Yes □  No □  Not Applicable □

2.4 Are there facilities for wet weather?  
Yes □  No □

2.5 Does inadequacy of wet weather facilities constrain teaching of APE?

Yes □  No □

2.6 Are there indoor APE facilities?  
Yes □  No □

2.7 Does inadequacy of indoor facilities constrain teaching of APE?

Yes □  No □

2.8 Are equipment adequate to cater for all learners in APE class?

Yes □  No □

2.9 Does inadequate equipment constrain teaching of APE?

Yes □  No □

2.10 Does the school have adequate APE literature to meet all instructional needs?

(i) PE book  
Yes □  No □

(ii) APE book  
Yes □  No □

2.11 If No above, briefly explain how it affects your teaching.

......................................................................................................................

......................................................................................................................
3.0 SECTION THREE: Adaptation of APE Facilities and Equipment

3.1 Are APE facilities appropriately adapted to meet the special educational needs for the PH? Yes ☐ No ☐

3.2 Does lack of appropriate adaptation of facilities constrain teaching of APE? Yes ☐ No ☐

3.3 If yes above, briefly explain how.................................

3.4 Are APE equipment appropriately adapted? Yes ☐ No ☐

3.5 If the equipment are un-adapted, do this constrain teaching of APE? Yes ☐ No ☐

3.6 If Yes above, briefly explain how.................................

4.0 SECTION FOUR: Appropriateness of APE Syllabus for the PH

4.1 Comment on the interpretation of the APE syllabus

   Very easy to interpret ☐ Difficult to interpret ☐
   Easy to interpret ☐ Very difficult to interpret ☐

4.2 Does difficulty in interpretation constrain your teaching? Yes ☐ No ☐

4.3 Explain how it constrains your teaching

...........................................................................

4.4 How are the activities in the syllabus in terms of relevance to learners with PH?

   Very Relevant ☐ Irrelevant ☐
   Relevant ☐ Very Irrelevant ☐

4.5 Comment on the Clarity of APE objectives in relation to PH

   Very clearly stated ☐ Vaguely stated ☐
Clearly stated ☐ Very vaguely stated ☐

4.6 Classify APE objective in terms of achievement

Easily achievable ☐ Difficult to achieve ☐
Achievable ☐ Impossible to achieve ☐

4.7 Are the activities in the syllabus suitable for learners with PH?

Yes ☐ No ☐

4.8 Rate the suitability of APE syllabus for PH

Very suitable ☐ Un-suitable ☐
Suitable ☐ Very un-suitable ☐

5.0 SECTION FIVE: Problems Constraining Teaching of APE for the PH

5.1 Rank the major problems constraining teaching of APE for the PH.

(i) Lack of facilities and equipment ☐
(ii) Lack of qualified teachers ☐
(iii) Inappropriate syllabus ☐
(iv) Unadapted facilities and equipment ☐
(v) Inadequate literature ☐
(vi) Inadequate time ☐
(vii) Learners disabilities ☐
(viii) Lack of funds ☐
(ix) Negative attitude – PE not examinable ☐
(x) Lack of indoor facilities ☐

Thank you for your cooperation.

Gichia Patrick Njau
APPENDIX II
QUESTIONNAIRE FOR ADMINISTRATORS

The following questionnaire aims at gathering information on Instructional Constraints Facing Implementation of Adapted Physical Education in Joytown Secondary School for the PH. From the findings recommendations would be made aimed at improving implementation. All data collected would be treated with strict confidence and would only be used for statistical purposes. Please respond to all questions appropriately.
Your sincere cooperation would be highly appreciated.

1.0 SECTION ONE: Background Information

1.1 Position: Principal ☐ Deputy Principal ☐ HOD ☐
Games Master ☐

1.2 Are you professionally trained as a teacher? Yes ☐ No ☐

1.3 What is your highest professional qualification?

DIPLOMA ☐ BED ☐ MED ☐
Others (Specify) .........................................................

1.4 Do you have any professional qualification in Special Needs Education?

Yes ☐ No ☐

2.0 SECTION TWO: Availability and Adequacy of APE Teaching and Learning Resources

2.1 Are APE facilities in the school adequate? ☐ Yes ☐ No

2.2 What is the maintenance status of the facilities

Excellent ☐ Very Good ☐ Good ☐
Average ☐ Poor ☐ Very Poor ☐
2.3 Does inadequacy of facilities constrain teaching of APE?
   Yes ☐ No ☐ Not Applicable ☐

2.4 Are there facilities for wet weather?
   Yes ☐ No ☐

2.5 Does lack of inadequacy of wet weather facilities constrain teaching of APE?
   Yes ☐

2.6 Are there indoor APE facilities?
   Yes ☐ No ☐

2.7 Does inadequacy of indoor facilities constrain teaching of APE?
   Yes ☐ No ☐

2.8 Are equipment adequate to cater for all learners in APE class?
   Yes ☐ No ☐

2.9 Does lack of adequate equipment constrains teaching of APE?
   Yes ☐ No ☐

2.10 Does the school have adequate APE literature to meet the instructional
     needs of the subject?
   Yes ☐ No ☐

2.11 Does inadequate APE literature adversely affect your teaching?
   Yes ☐ No ☐ Not Applicable ☐

2.12 If yes above, briefly explain how ..................................................

3.0 SECTION THREE: Adaptation of APE Facilities and Equipment

3.1 Are APE facilities appropriately adapted to meet the special educational needs of
     learners with PH?
   Yes ☐ No ☐

3.2 Does lack of appropriate adaptation of facilities constrain teaching of APE?
   Yes ☐ No ☐
3.5 If the equipment are un-adapted, do this constrain teaching of APE?

Yes □    No □

3.6 If Yes above, briefly explain how

4.0 SECTION FIVE: Problems Constraining Teaching of APE for the PH

4.1 Rank the major problems constraining teaching of APE for the PH.

(i) Lack of facilities and equipment

(ii) Lack of qualified teachers

(iii) Inappropriate syllabus

(iv) Unadapted facilities and equipment

(v) Inadequate literature

(vi) Inadequate time

(vii) Learners disabilities

(viii) Lack of funds

(ix) Negative attitude – PE not examinable

(x) Lack of indoor facilities

Thank you for your cooperation.

Gichia Patrick Njau.
APPENDIX III

QUESTIONNAIRE FOR STUDENTS

The following questionnaire aim at gathering information on Instructional Constraints Facing Implementation of Adapted Physical Education in Joytown Secondary School for the PH. From the findings recommendations would be made aimed at improving implementation. All data collected would be treated with strict confidence and would only be used for the study purposes. Please respond to all questions appropriately.

Your sincere co-operation would be highly appreciated. Do not write your name on this questionnaire.

1.0 SECTION ONE: Background Information

1.1 Which class are you in Form II □ Form III □

1.2 How many P.E lessons do you have per week? ...........................................

1.3 Do you attend all PE lessons per week? Yes □ No □

1.4 Do all learners participate in PE lessons? Yes □ No □

1.5 If no above, please explain why .................................................................

2.0 SECTION TWO: Availability and Adequacy of Facilities and Equipment

2.1 Does the school have adequate facilities for all learners during P.E lesson? Yes □ No □

2.2 What is the quality of the APE facilities?

Very Good □ Good □ Poor □ Very Poor □

2.3 Are there activities which you do not participate in due to lack of facilities? Yes □ No □

2.4 Do you attend P.E lesson during wet weather? Yes □ No □
2.5 If No in No.2.4 above explain why. .................................................................
 ......................................................................................................................

2.6 Are equipment adequate for all learners during PE lesson?

Yes ☐  No ☐

2.7 Which equipment would you require, but are not available

1. .............................................

2. .............................................

3. .............................................

4. .............................................

3.0 SECTION THREE: Adaptation of APE Facilities and Equipment

3.1 Are all the facilities well adapted to be used by learners with PH?

Yes ☐  No ☐

3.2 Which learners have difficulties accessing fields?

Those with crutches Yes ☐  No ☐

Those on wheel chair Yes ☐  No ☐

3.3 Are equipment like balls, hockey sticks and racquets modified to enable learners with PH to use them?

Yes ☐  No ☐

3.4 Are the rules of the games modified to enable learners with PH to participate

Yes ☐  No ☐

3.5 Is the time allocated for P.E in a week enough?

Yes ☐  No ☐

3.6 Comment on the activities in the P.E lesson for the PH?

Very difficult to perform ☐  Easy to perform ☐

Difficult to perform ☐  Very easy to perform ☐
4.0 SECTION FOUR: Problems Facing APE for PH

4.1 Rank the problems you experience during PE lessons

(i) Lack of facilities and equipment
(ii) Lack of qualified teachers
(iii) Inappropriate syllabus
(iv) Unadapted facilities and equipment
(v) Inadequate literature
(vi) Inadequate time
(vii) Learners disabilities
(viii) Lack of funds
(ix) Negative attitude – PE not examinable
(x) Lack of indoor facilities

Thank you for your cooperation

Gichia Patrick Njau
APPENDIX IV

OBSERVATION SCHEDULE

1.0 SECTION ONE: APE Programme

1.1 Number of students per class  
   Form II □  Form III □

1.2 Is APE scheduled on the timetable?  
   Yes □  No □

1.3 How many lessons per class per week?  
   Form II..........................
   Form III..........................

1.4 How many lessons are scheduled on the same time?.........................

1.5 What is the length of each APE lesson?......................................

2.0 SECTION TWO: Checklist for Availability and Condition of APE facilities

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Available</th>
<th>Function</th>
<th>Adapted</th>
<th>Accessible by wheel chair</th>
<th>No. of facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Track</td>
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<td>2. Courts</td>
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<tr>
<td>(i) Basket Ball</td>
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<td>(ii) Hockey</td>
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<td>(iii) Handball</td>
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<td>(iv) Netball</td>
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<td>(v) Rounder</td>
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<td>(vi) Tennis</td>
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<td>(vii) Soccer</td>
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<td>(viii) Volleyball</td>
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<td>(x) Tenniquoit</td>
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<td>(ix) Squash</td>
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<td>(xi) Badminton</td>
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<td>(xii) Soft ball</td>
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<td>(xiii) Football</td>
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<td>(xiv) Baseball</td>
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<td>(xv) Table Tennis</td>
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<td>(xvi) Cricket</td>
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<td>3. Swimming Pool</td>
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<td>4. Gymnasium</td>
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</tbody>
</table>
### 3.0 SECTION THREE: Checklist of Equipment Availability and condition

<table>
<thead>
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<th>Equipment for</th>
<th>Available</th>
<th>Functional</th>
<th>Adapted</th>
<th>No. of Equipment</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>1) Athletics</td>
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<td>2) Basketball</td>
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<td>3) Hockey</td>
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<td>4) Handball</td>
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<td>5) Football</td>
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<td>6) Netball</td>
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<td>7) Rounder</td>
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<td>8) Tennis</td>
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<td>9) Soccer</td>
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<td>10) Tenniquoit</td>
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<td>14) Softball</td>
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<td>15) Baseball</td>
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<tr>
<td>16) Table Tennis</td>
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<tr>
<td>17) Cricket</td>
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<td>18) Swimming</td>
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<tr>
<td>19) Dance</td>
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<tr>
<td>20) Tug-of-war</td>
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<tr>
<td>21) Gymnastic</td>
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<tr>
<td>22) Martial arts</td>
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<tr>
<td>23) Shooting target</td>
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<tr>
<td>24) Bowling</td>
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<tr>
<td>25) Board games</td>
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</tbody>
</table>

### 4.0 SECTION FOUR – Checklist for Availability of APE Literature

4.1 Are there APE books such as?

- i) Syllabi
  - Yes  
  - No  
- ii) Teachers’ Guide
  - Yes  
  - No  
- iii) Pupils’ books
  - Yes  
  - No  
- iv) Rule books
  - Yes  
  - No  
- v) Reference Materials
  - Yes  
  - No  
- Number  


5.0 SECTION FIVE: Lesson Observation Schedule

5.1 Administrative Information

Form..........................................

Time..........................................

Roll..........................................

Topic..........................................

<table>
<thead>
<tr>
<th>Observation Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
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</table>

5.2 Do learners use (Tick appropriately)

(i) Off-site facilities [ ] (ii) On-site facilities [ ]

5.3 How long do learners spend on traveling to the site?..................................

5.4 Do learners change for P.E lessons? Yes [ ] No [ ]

5.5 How long do they spend on changing?..........................................

5.6 Are equipment in use adequate? Yes [ ] No [ ]

5.7 Are the equipment adapted appropriately? Yes [ ] No [ ]

5.8 How are the equipment used? Individually [ ] In pairs [ ]

       In small groups [ ] Whole class [ ]

5.9 How many learners participate?

    (i) Without mobility aids..........................................

    (ii) Using sticks or other walking devices..........................

    (iii) Using artificial limbs..........................................

    (iv) Using wheelchairs.............................................

5.10 Do all the learners manage the activities taught? Yes [ ] No [ ]
5.11 Does the teacher have assistance of:

- Teachers Aid(s) Yes ☐ No ☐
- Spotters(s) Yes ☐ No ☐

5.12 How much time is spent on actual APE lesson? .........................

5.13 How much time is spent in preparation for the next lesson after APE? ............

5.14 How many classes are out for APE lesson at ago ........................

5.15 Is there any congestion during the lesson? Yes ☐ No ☐
APPENDIX V
REQUEST FOR RESEARCH

KENYATTA UNIVERSITY
DEPARTMENT OF SPECIAL EDUCATION
P.O. BOX 43844
NAIROBI

Date 29/05/08

THE PRINCIPAL
JOYTOWN SECONDARY SCHOOL FOR THE PHYSICALLY HANDICAPPED
P.O. BOX ..........................
THIKA

Dear Sir/Madam,

RE: PERMISSION FOR RESEARCH

I am a postgraduate student at Kenyatta University currently preparing to undertake a study on “Instructional Constraints Facing Implementation of Adapted Physical Education (APE) in Joytown Secondary School for the Physically Handicapped.” The study will cover the principal, deputy principal, head of department P.E and sports and teachers handling APE in the four classes. In addition it will involve form two and three learners who are physically handicapped. The findings will assist in making recommendations aimed at improving teaching of APE in the school.

I wish to be in your school for the research from 17/06/08 to 21/06/08 so as to collect the data.

Your co-operation and assistance in this regard will be highly appreciated.

Yours faithfully

PATRICK NJAU GICHIA
When Replying please quote
Ref. NO.MoST 13/001/37C 711/2

Patrick Njau Gichia
Kenyatta University
P.O. BOX 43844
NAIROBI

Dear Sir,

RE: RESEARCH AUTHORISATION

Following your application for authority to conduct research on: "Institutional Constraints facing Implementation of Adapted Physical Education in Joy Town Secondary School for the Physically Handicapped" for a period ending 31st December, 2008.

You are advised to report to the Principal Joy town Secondary School before commencing your research project.

On completion, you are expected to submit two copies of your research report to this office.

Yours faithfully,

M. O. ONDIEKI

CC: The Principal
    Joy Town Secondary School
    THIKA