

COURSE GUIDE

KHE 102 INTRODUCTION TO SPORTS FACILITIES

Course Team

Prof. I. O. Oladipo (Course Writers) -
Department of Human Kinetics, Faculty of
Education, University of Ibadan, Ibadan
Nigeria

Prof. Grace Otinwa (Course Editor)-
Department of Human Kinetics and Health
Education, University of Lagos, Lagos
Nigeria



NATIONAL OPEN UNIVERSITY OF NIGERIA

© 2024 by NOUN Press
National Open University of Nigeria
Headquarters
University Village
Plot 91, Cadastral Zone
NnamdiAzikiwe Expressway
Jabi, Abuja

Lagos Office
14/16 Ahmadu Bello Way
Victoria Island, Lagos

e-mail: centralinfo@nou.edu.ng
URL: www.nou.edu.ng

All rights reserved. No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher.

Printed 2024

ISBN:

| CONTENTS | PAGE |
|-------------------|-------------|
| Introduction..... | iv |
| Study units..... | iv |

INTRODUCTION

Introduction to sport sports facilities involves an understanding of types, construction, purchase and maintenance of sports facilities and equipment.

STUDY UNITS

There are 12 study units in this course divided into four modules. The modules and units are presented as follows:

Module 1 Introduction to Sports Facilities

- Unit 1 Meaning and Concept of Facility and Equipment
- Unit 2 Principles Basic to Healthful Environment in Facility Planning
- Unit 3 Guidelines for The Planning, Construction and Use of Facilities

Module 2 Types of Sports Facilities and Equipment

- Unit 1 Out Door Facilities
- Unit 2 In Door Facilities
- Unit 3 Facilities for People with Disabilities

Module 3 Construction of Sports Facilities and Equipment.

- Unit 1 Steps in Planning
- Unit 2 Teaching Stations
- Unit 3 New Features in The Construction of Physical Education Facilities

Module 4 Purchase and Maintenance of Sports Facilities and Equipment.

- Unit 1 Facility Maintenance
- Unit 2 Sheared Facilities
- Unit 3 Common Errors Made by Physical Educators in Facility Management

MAIN COURSE

| CONTENTS | | PAGE |
|-----------------|---|-------------|
| Module 1 | Introduction to Sports Facilities..... | 1 |
| Unit 1 | Meaning and Concept of Facility and Equipment | 1 |
| Unit 2 | Principles Basic to Healthful Environment in Facility Planning..... | 7 |
| Unit 3 | Guidelines for The Planning, Construction and Use of Facilities..... | 12 |
| Module 2 | Types of Sports Facilities and Equipment..... | 16 |
| Unit 1 | Out Door Facilities..... | 16 |
| Unit 2 | In Door Facilities..... | 20 |
| Unit 3 | Facilities for People with Disabilities..... | 23 |
| Module 3 | Construction of Sports Facilities and Equipment | 27 |
| Unit 1 | Steps in Planning..... | 27 |
| Unit 2 | Teaching Stations..... | 34 |
| Unit 3 | New Features in The Construction of Physical Education Facilities..... | 37 |
| Module 4 | Purchase and Maintenance of Sports Facilities and Equipment..... | 44 |
| Unit 1 | Facility Maintenance..... | 44 |
| Unit 2 | Shared Facilities..... | 48 |
| Unit 3 | Common Errors Made by Physical Educators in Facility Management..... | 51 |

MODULE 1 INTRODUCTION TO SPORTS FACILITIES

INTRODUCTION

Facilities and equipment are important aspect of sports administration. It is important for you to know that the presence of these two determine greatly to a large extent to which you as sports administrator (to be) can carry out your assignments and duties. Availability of facilities, equipment and supplies and even quality sports personnel are very essential to the development of sports and the work of a sport administrator. In this module therefore you will study the meaning of common terms used by specialists in other to make you familiar and get introduced into this course.

| | |
|--------|--|
| Unit 1 | Meaning and Concept of Facility and Equipment |
| Unit 2 | Principles Basic to Healthful Environment in Facility Planning |
| Unit 3 | Guides for The Planning, Construction and Use of Facilities |

UNIT 1 MEANING AND CONCEPT OF FACILITY AND EQUIPMENT

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Sports Facilities
 - 3.2 Sports Equipment
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

2.0 INTRODUCTION

In this unit you will study the meaning of sports facility and equipment.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain the meaning of sports facilities
- List various types of facilities in different sports
- Explain the meaning of equipment
- List equipment in ten different sports.

3.0 MAIN CONTENT

3.1 Sports Facilities

Facilities are fixed non-moveable, static, permanent long life span materials used in sports. In broad term facilities in sports include training centers, gymnasiums, stadiums, sports federations, and even universities. They can host several activities, tournaments, and training sessions. While in specific term, facilities can also be mentioned to include volleyball court, running tracks, basketball court, swimming pool, handball court, badminton court, long jump pitch etc. Majority of the facilities in sports cannot be moved from one place to another because they are fixed and they have long life span.

A common example of sports facilities is Sports Complex. A sports complex is a group of sports facilities. For example, there are track and field stadiums, football stadiums, baseball stadiums, swimming pools, and Indoor arenas. This area is a sports complex, for fitness and for sports competition. Sports facilities can be planned for teaching of Physical Education in schools or to train athletes. In many cases sports facilities in schools are used for both programmes.

There are two types of facilities in sports which may be either indoor or outdoor. Indoor facilities are those materials and structures that can conveniently be constructed or enclosed in the four-wall of a building called gymnasium to facilitate learning programme. These include: the building or the physical plant capable of enclosing a standard swimming pool, gymnasium, locker, shower and drying rooms, teaching stations and rooms, corridors and foyers, offices and laboratory or research rooms.

Outdoor facilities are constructed outdoor or left in the open in order to serve physical education and sporting programme as we have in most of our primary and secondary school fields and other open fields. These will include: sports fields, courts and arenas for track and field athletics, football, basketball, handball, hockey, badminton, tennis and volleyball.



Indoor facility



Outdoor facility

3.2 Sports Equipment

Sports equipment refers to those disposable items used in sports. This can be in form of materials and apparels needed by athletes, coaches, managers for productivity and safety. Sports equipment is divided into the following categories:

- **Games equipment:** This includes sports equipment like balls, rackets, and goal posts that enable you to play a sport.
- **Player equipment:** This is gear worn for player safety like footwear, training essentials and helmets.
- **Vehicles:** These are used for specialized sports activities like engine sports. These are also used for transportation during sporting events, such as items like golf carts, cart to transport injured players off the field of play in football. What characterised equipment is that they are movable and small if compared with facilities.



Games equipment



Fitness equipment

Equipment is movable, durable materials used in sports that can be moved from one place to the other. They are usually kept in the store and are moved out when they are needed.

Facilities and equipment are programme related. If they are available, adequate and well maintained there is every possibility of having a good sports programme. Therefore, standard facilities and equipment available in a school or state for the conduct of sports programme determine to considerable extent the type of sports programme that can be offered. Different types of activities require different facilities and equipment.

4.0 CONCLUSION

The teaching of physical education and sport programme are mainly concerned with movement and one important factor in the conduct of a successful physical education and sport programmes is the provision of adequate facilities, equipment and supplies. Inadequate of these will greatly handicap even the most proficient teacher of physical education and sport.

5.0 SUMMARY

Facilities are fixed non-moveable, static, permanent long life span structures built for sporting activities such as athletics tracks, stadia, soccer pitches, basket ball court, tennis courts, gymnasium among others. There are two types of facilities in sports which may be either indoor or outdoor. Sports equipment on the other hand refers to those disposable items used in sports such as balls, rackets, jerseys, foot-wears and training essentials.

SELF-ASSESSMENT EXERCISES

1. A sports complex is a group of
(a) sports balls (b) swimming pool (c) sports facilities (d) sports competition.
2. All are sports equipment except (a) Vehicles (b) players equipment (c) games equipment (d) sports equipment.
3. Games equipment includes the following except (a) courts (b) balls (c) rackets (d) goal post.
4. A common example of sports facilities is (a) racket (b) ball (c) sports complex (d) games equipment.

5. An example of player equipment is (a) court (b) footwear (c) balls (d) goal post.
6. The following are sports facilities except (a) swimming pools (b) baseball stadium (c) football stadium (d) balls and rackets.
7. ----- are used for specialized sports activities and for transportation during sporting events (a) Vehicles (b) Courts (c) Footwear (d) Gears.
8. One of the characteristics of equipment is that they are (a) immovable (b) movable (c) facilities (d) engines.
9. Sports equipment are materials and apparel needed by athletes, coaches and managers for productivity and (a) vehicles (b) events (c) safety (d) arenas.
10. Majority of the facilities in sports are ----- and they occupies space (a) movable (b) small (c) big (d) immovable.
11. List 5 facilities for the following sports
 - a. Ball games
 - b. Racket games
12. Identify 5 equipment for
 - a. Games
 - b. Athletes use
 - c. Fitness programmes

Feedback

KEY: 1=C. 2=D. 3=A. 4=C. 5=B. 6=D. 7=A. 8=B. 9=C. 10=D

11. a (i) Football field
 - (ii) Basketball court
 - (iii) Volleyball court
 - (iv) Handball court
 - (v) Netball court
- 11b (i) Squash hall
 - (ii) Hockey pitch
 - (iii) Golf course
 - (iv) Cricket pavilion
 - (v) Tennis court

- 12a (i) Football cases
- (ii) Tennis racket
- (iii) Goal nets
- (iv) Goal post
- (v) Timers

- 12b (i) Protective wears (Helmet)
- (ii) Footwear
- (iii) Jersey
- (iv) Shorts

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

UNIT 2 PRINCIPLES BASIC TO HEALTHFUL ENVIRONMENT IN FACILITY PLANNING

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Health Considerations in Facility Planning
- 4.0 Conclusion
- 5.0 Summary
- 7.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Physical plant requires careful planning and specialist in the area of architecture must be consulted. Administrators, physical educators and other personnel should participate in planning new facilities and be knowledgeable about their structure and functions. In this unit you will study the basic principles to healthful environment in facility planning.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain healthful environment in sports facilities
- Explain the basic principles to healthful environment in sports facilities
- State 5 guidelines needed for planning a healthful environment in school sports facilities
- List 5 guidelines needed for construction of durable sports facilities.
- Explain the guidelines to be followed in appropriate use of sports facilities.

3.0 MAIN CONTENT

3.1 Health Considerations in Facility Planning

Trends and innovative structural concepts should be thoroughly examined in order to provide a healthful and efficient physical plant. In order to achieve this, there are two broad factors to consider which are:

- (1) The participants must be provided a safe, healthful, pleasant and emotionally secure environment in which to participate
- (2) The concern of the facility planning should be optimal promotion of a healthful environment.

- Building

Build for use can be:

- Multipurpose in design if need be.
- One – story construction. Provision should be made for future need to raise it.
- The materials selected should make the building attractive and safe.
- Every precaution should be made to prevent injury.
- The walls should be painted with light colours and treated with acoustic materials.
- Door should open outward.
- Space for clothing (locker room) Ramps
- Walkways Split entrance
- Toilet facilities should be provided.
- Provisions should be made for persons with disabilities and older citizen to assess the building.

- Lighting

- Proper lighting is important to protect and conserve vision to prevent fatigue.
- Both natural and artificial light should be provided as needed.
- Switches and other power sources for artificial light should be located in secure parts of the facility and enclosed for protection.
- Light intensity should depend on the activity conducted or to use the facility for.
- Glare is an undesirable hazard that should be eliminated.

- Heating and Ventilation

Efficiency in the gymnasium, exercise center, arena, special activities rooms, and other places is determined to some extent by thermal comfort, which is mainly determined by heating and ventilation.

The purpose of heating and ventilation are to remove:

- i) Excess heat
- ii) Humidity
- iii) Unpleasant odour
- iv) Gases
- v) Vapors
- vi) Fumes and
- vii) Dust from the room
- viii) To prevent rapid temperature fluctuation
- ix) To diffuse the heat within a room
- x) The supplied heat to counteract loss from the human body through radiation. Heating standard vary according to the:
 - activities engaged in
 - participants clothing and
 - geographic location of the facility.

- Sanitation

Sanitation of the facility should not be overlooked. Sanitation facilities should be well planned and maintained. Supply should be safe and adequate, which should include:

- i) Water closets
- ii) Urinals
- iii) Lavatories
- iv) Wash room equipment such as
 - soap dispensers
 - toilet paper holders
 - waste containers
 - mirrors
 - hand dryers
 - hair dryers
- v) Waste disposal should be adequate. There should be provision for
 - clean up
 - removal and
 - recycling of paper and other materials (that make the grounds and buildings a healthy and safely hazards as well as unsightly).
 - proper sewage disposal
 - prompt garbage, trash recycling services must be provided.

The above should be provided as needed and person with disabilities be put in mind.

Weekly overall plant and facility sanitation audits are strongly advised

- Acoustics

There is need for special treatment and control of the various noises associated with enthusiastic play and participation. Sound and public address systems can cause nervous strain and distracts from many of the activities benefits. Therefore, noise should be eliminated as effectively as possible by acoustical treatment of such important places as corridors, gymnasiums, arenas and swimming pools.

Acoustical materials include:

- glazes
- plasters
- fibers
- boards
- acoustic tiles and
- acoustic fabrics

Floor covering that reduces noise should be used. Likewise, the walls and ceilings should be treated and control of the various noises.

4.0 CONCLUSION

There is need to meet up with the basic principles to healthful environment in facility planning. Despite that it is capital intensive to develop this properly at all levels of schools, the authorities concerned must still make adequate provision for standard facilities and equipment. Most of our schools especially the government schools and some private schools in big cities and towns lack adequate sports facilities and equipment.

5.0 SUMMARY

The basic principles to facility planning relates particularly to the optimal promotion of healthful environment for the athletes or students should include, the provision for facilities that consider the physiologic needs of the students, including proper temperature control, lighting, water supply and noise level, toilet. Second principle is to provide safe facilities. The facilities should be planned so that the danger of fire, the possibility of mechanical accidents and the hazards involved in traffic would be eliminated or kept to a minimum. Another principle is concerned about protection against disease. This means that attention to such items as proper sewage disposal, sanitation procedures and water supply. Finally, there is the need to provide a healthful psychological environment. This has implications for space, location of activities, colour schemes and elimination of distractions through such means as soundproof construction.

SELF-ASSESSMENT EXERCISE

1. Identify 5 major areas that the basic principles to healthful environment in sports facilities should be applied.
2. Identify the purpose of heating and ventilation in a plant.

Feedback

1.
 - i) site
 - ii. Building
 - iii. Lighting
 - iv. Heating and Ventilation
 - v. Sanitation
 - vi. Acoustics
2. Heating and ventilation are to remove:
 - i) Excess heat
 - ii) Humidity
 - iii) Unpleasant odour
 - iv) Gases

- v) Vapors
 - vi) Fumes and
 - vii) Dust from the room
 - viii) To prevent rapid temperature fluctuation
 - ix) To diffuse the heat within a room
 - x) The supplied heat to counteract loss from the human body through radiation
- Unit 3: Guides for The Planning, Construction and Use of Facilities Introduction

Athletes are prepared physically, through physical fitness training programmes. They are prepared psychologically through various psychological programmes. Skill wise, they are prepared technically to execute effectively the skills of their chosen sports in different competition situations. All these training will come to naught if athletes do not have adequate facilities to train before going into the competition proper. In this unit you will study the guidelines that are needed for planning, construction and use of facilities in your school and in your community.

In all sports, rules and regulations and approved specifications relating to the mode of participation in that sport are explicitly stated. These specifications will include that of facility, equipment, order of movements and sanctions. For any effective programming for top-level performance at competition; orderliness and crowd control therefore, facilities must be structured and constructed to meet the standards of the related sports and competition. If sub-standard facilities are made available, performance will be adversely affected. The following guidelines will help you to plan and construct standard facilities and use them wisely.

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

UNIT 3 GUIDES FOR THE PLANNING, CONSTRUCTION AND USE OF FACILITIES

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

2.0 INTENDED LEARNING OUTCOMES

3.0 MAIN CONTENT

Guides for planning, construction and the use of facilities for school physical education and sports programmes includes:

- 1) Validity: standards for space, structure and fixtures must be compatible with the rules essential for the effective conduct of the programme
- 2) Utility: facility should be adaptable for different activities and programmes without it affecting such items as safety and effective instruction
- 3) Accessibility: facilities should be readily and directly accessible for the individual who would be using them
- 4) Isolation: facilities should be planned to reduce to a minimum distractions, offensive odours, noise, and undesirable activities and groups
- 5) Departmentalization: functionally related services and activity areas should be continuous or adjacent for greatest economy and efficiency
- 6) Safety, hygiene and sanitation: the maintenance of proper health standards should be a major consideration in all facility planning.
- 7) Supervision: facilities should take into consideration the need for proper teacher supervision of activities under his or her jurisdiction. Therefore, visibility and accessibility are essential considerations.
- 8) Durability and Maintenance: facilities should be easy and economical to maintain and should be durable
- 9) The type, location and size of essential areas and facilities must be related to the total community pattern
- 10) Traffic circulation and control must be related to the other

buildings, structures and the community to minimized congestions in corridors, stair-ways, locker rooms, seating spaces and spectator's arena. This will also inform the location of thoroughfares, placement of primary and secondary entrances and exits

- 11) The facility should be constructed to effectively control the crowd
- 12) There should be plain for pedestrians' control and handling of spectators and visitors
- 13) The construction should be made to allow maximum security and control of all persons using the facility
- 14) The facility should have a good framing, substantial doors, and heavy-duty hardware and locks
- 15) Every seating arrangement should be completed before use of the facility
- 16) The seat should be numbered and the tickets must bear the seat numbers. This is to make sure that the facility is not used beyond capacity
- 17) Beauty: facilities should be attractive and aesthetically pleasing with the utilization of good colours, dynamics and designs
- 18) The general public and the user of the facility must be educated as to the normal procedure in using the facility
- 19) The shower rooms, floors, toilets and lavatory rooms, ceilings and lights, equipment and supplies have specifications for use. These specifications must be well understood and followed
- 20) Flexibility and Expansibility: changes in programme and other considerations for future expansion should be considered. Modern thinking has stressed the principle of flexibility in regard to physical education facilities.

4.0 CONCLUSION

Facilities should therefore be well planned, designed and constructed to meet the approved standard requirements for competition. It is therefore a collective responsibility of the sports administrator, the architect and other consultants, even the community to plan and construct proper facilities for competition and other uses.

5.0 SUMMARY

A well planned and constructed facility will respect building principles which should reflect maintenance needs, traffic and movement patterns, programme needs, supervision, safety and healthful environment.

SELF-ASSESSMENT EXERCISE

1. Standards for space, structure and fixtures must be compatible with the rules essential for the effective conduct of the programme is related to: (a) sanitation (b) utility (c) isolation of complex (d) validity
2. Who should be educated as to the normal procedure in using the facility? (a) end users (b) managers (c) coaches (d) athletes
3. What should be the condition of the seating arrangement before use of the facility? (a) clean (b) completed (c) numbered (d) marked
4. The type and size of essential areas and facilities must be related to ____ sanitation (b) utility (c) the capital (d) the total community pattern
5. Traffic circulation and control must be related to ____ (a) utility
6. (b) other buildings
- (c) the capital (d) the total number of vehicles
7. To make sure that the facility is not used beyond capacity you should (a) number the buildings (b) number the vehicles (c) number the seats (d) know the total number of staff
8. For facility to be adaptable for different activities it must obey the principle of __ (a) sanitation (b) utility (c) flexibility (d) isolation
9. Which principle has modern thinking stressed in regard to physical education facilities
(a) sanitation (b) utility (c) flexibility (d) isolation
10. The principle of departmentalization deals with
(a) considerations for future expansion
- (b) placement of primary and secondary entrances (c) flexibility and aesthetically pleasing (d) functionally related services and activity areas
11. Rules on facility, equipment, order of movements and sanctions can be sum-up under
_____ (a) departmentalization (b) specifications (c) top-level performance (d) aesthetic

Feedback

- | | |
|------|-------|
| 1. D | 6. C |
| 2. A | 7. B |
| 3. B | 8. C |
| 4. D | 9. D |
| 5. B | 10. B |

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

- Awosika, Y. (1996). Status facilities and equipment in producing successful Olympic athletes. In National Institute of Sports Seminar on Managing Olympic Success: The Centennial Olympic Experience (Serial No 1.)
- Ojeme, E. O. (2000). Standard sports facilities, equipment and the new challenges 21st Century and sports development in Nigeria. Abuja Federal Ministry of Sports and Social Development.
- Penman, K. A. (1997). Planning Physical Education and Athletics Facilities in Schools. New York; John Wiley and Sons, Inc.

MODULE 2 TYPES OF SPORTS FACILITIES AND EQUIPMENT

| | |
|--------|---|
| Unit 1 | Indoor Facilities |
| Unit 2 | Out Door Facilities |
| Unit 3 | Facilities for People with Disabilities |

UNIT 1 INDOOR FACILITIES

CONTENTS

| | |
|-----|---|
| 1.0 | Introduction |
| 2.0 | Intended Learning Outcomes |
| 3.0 | Main Content |
| | 3.1 Considerations in Construction of Indoor Facilities |
| 4.0 | Conclusion |
| 5.0 | Summary |
| 6.0 | Tutor-Marked Assignment |
| 7.0 | References/Further Reading |

1.0 INTRODUCTION

In module 1 we are able to interact on the meaning and concepts of facilities and equipment. You also learned that there are two types of facilities in sports which may be either indoor or outdoor. In this module you will learn more about indoor and out-door facilities.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain indoor sports facilities
- List examples of indoor sports facilities
- Differentiate between indoor and outdoor sports facilities

As discussed in module 1 indoor facilities are those materials and structures that can conveniently be constructed or enclosed in the four-wall of a building called gymnasium to facilitate learning programme. These include, the building or the physical plant capable of enclosing a standard swimming pool, gymnasium, locker, shower and drying rooms, teaching stations and rooms, corridors and foyers, offices and laboratory or research rooms.

In door facilities will include:

- (1) Staff offices
- (2) Locker rooms (close to activity area for storage and dressing) to include benches, mirror, scales, sauna, hair dryer, drinking fountains among others.
- (3) Shower rooms (wash rooms/drying rooms)
- (4) Natatoriums
- (5) Racket sport halls
- (6) Weight and exercise rooms
- (7) Arenas
- (8) Gymnasiums
- (9) Vellodrome
- (10) Metrodome



Aspire Stadium indoor football field in Doha, state of Qatar

3.0 MAIN CONTENT

3.1 Considerations in Construction of Indoor Facilities

A. Site Selection

In site selection, all the personnel such as the programmes specialists, architects, engineers and others should be involved in selection of site for any new construction. Factors to be considered should include:

1. Proximity to classroom
2. Pedestrian/traffic patterns
3. Motor traffic movement and parking space
4. Soil conditions and drainage
5. Availability of utilities.
6. Relationship to other health, physical education, recreation and athletic facilities.
7. Proximity to housing.

8. Location should not be on an area too small to allow for design options or additions
9. Facility expansion plans for the future

B. Traffic Circulation

Drive ways should be so free to make direct access to the parking area and this should not bisect playing areas. The most important consideration in traffic circulation and control is the location of the building and also to minimize congestion in corridors, staircase, locker rooms, spectator areas, minimizing the disturbances of students and staff offices, classrooms and study room, enhancing efficient and safe movement and providing for future building expansion.

C. Space Relationships

Here careful consideration should be given to the relationship of activity areas, instructional areas and service areas to the placement and size of corridors, lobbies, stair and doors. Spectator space should be separated from the swimming pool and pool deck areas, gymnasium floor and other activity areas. Entrance to the seating area should be direct from the outdoors or from the corridor or foyers without requiring travel through locker rooms or across pool decks or gymnasium. It is also important that traffic flow to and from the locker room should not cross the gymnasium floor. The location of toilet rooms in relation to the swimming pool and to outside facilities should be given careful considerations especially with reference to public use.

D. Security of the Participants

There should be means of security of the individuals since people enter the general building through many outside doors and disperse to offices, classrooms, dressing rooms, activity areas and spectator galleries. The following are security measures:

1. There should be direction and control of all persons using the building
2. All swimming pool doors should be locked when there is no class going on and should be opened by authorized persons.
3. In gymnasium, the room or store where equipment such as trampoline are kept must be locked up after use.
4. Viewing balconies and stairs should have handrails and lights at the sides or luminous reflectionising materials on the edges.
5. Activity areas, shower rooms and dressing rooms should be free to obstruction and objects

E. Security of the Building

Security of the building and its component rooms against illegal entry is the first and most logical consideration in terms of building protection. Good door framing, substantial doors and heavy-duty hardware and lock hold-up are necessary to protect against wear, abuse, loss or damage and theft. Also, the following should be put in place:

1. Surveillance devices should be installed
2. Avoid windows within reach of the ground
3. Have no windows in storage areas
4. Install security lights and cover outside lights with vandal-proof guards.

UNIT 2 OUT DOOR FACILITIES

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Outdoor facilities are constructed outdoor or left in the open in order to serve physical education and sporting programme as we have in most of our primary and secondary school fields and other open fields. These will include, playgrounds, sports fields, courts and arenas for track and field athletics, football, basketball, handball, hockey, badminton, tennis and volleyball.

Before a site is selected for outdoor facilities you need to appraise the following at the location:

- Topography
- Soil drainage
- Water supply
- Water table
- Acreage
- Shape and
- Natural features

The outdoor facility should be near the locker room to refresh and yet far enough to prevent congestions and allow safe movements of players. The facility should serve the needs and interest of the people. Playing fields and playgrounds should have good turf and be clear of rocks, holes and uneven surfaces. Not dirty or dusty surface.



Outdoor facility in Shagamu, Ogun State, Nigeria

2.0 INTENDED LEARNING OUTCOMES

3.0 MAIN CONTENT

4.0 CONCLUSION

Indoor and outdoor facilities should be constructed in such a way that would encourage proper crowd control, seating arrangements and use of service area. Poor or substandard facilities will no doubt influence substandard performance, and result in unsatisfactory outcome. It may lead to negative reactions of athletes or spectators.

5.0 SUMMARY

In constructing facilities for competition therefore, adequate measures must be taken to involve seasoned sports administrators who are highly knowledgeable and experienced and are abreast with the recent developments in the sports globally. This is very necessary to avoid visible problems. More so when it negates the principles in site location and other considerations such as the position of the sun and vis-a-vis the siting of the state box and the popular demand side in relation to programming and scheduling of competitions.

SELF-ASSESSMENT EXERCISE

1. In site selection, the following are the personnel to be involved except --. (a) Sports Administrators (b) Architects (c) Students (d) Engineers.
2. Outdoor facilities are (a) Playgrounds (b) Fields (c) Courts (d) all of the above
3. Mainstreaming of people with disability requires the following except (a) rest and relaxation (b) sound planning (c) accessibility (d) committed efforts by parents and staff.
4. Factors to be considered in site selection includes the following except (a) availability of utilities (b) proximity to housing (c) proximity to classroom (d) proximity to specialists.
5. Indoor facilities include the following except (a) parking space (b) shower rooms (c) gymnasium (d) Metrodome.
6. Individual with disabilities should be provided with sport programmes according to (a) fees paid (b) disabling conditions (c) their height and weight (d) the security of the building.
7. Pick out the odd one (a) Shower rooms (b) weight and exercise rooms (c) courts (d) gymnasium.
8. All the following factors should be considered when constructing indoor facilities except (a) Playgrounds (b) space relationship (c) security of the participants (d) traffic circulation.
9. Types of sports facilities are (a) water supply and water table (b) velodrome and Metrodome (c) indoor and outdoor (d) rest and relaxation.
10. The following except one should not be considered when appraising a location for a site (a) natural features (b) water table (c) soil drainage (d) soil colour.

Feedback

1. C
2. D
3. A
4. D
5. A
6. A
7. D
8. A
9. B
10. D

6.0 TUTOR-MARKED ASSIGNMENT**7.0 REFERENCES/FURTHER READING**

UNIT 3 FACILITIES FOR PEOPLE WITH DISABILITIES

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

An increasing number of people with disabilities are participating in sports, leading to the development of new assistive technology. Assistive technology devices are equipment that aided people with disabilities. These devices can be simple, "low-tech", or they may use highly advanced technology, with some even using computers. Assistive technology for sports may also be simple or advanced.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain assistive sports equipment
- Differentiate equipment for people with mobility and visual impairments
- List examples of sports for people with disabilities

3.0 MAIN CONTENT

Assistive technology can be found in sports ranging from local community recreation to elite Paralympic games. More complex assistive technology devices have been developed over time, and as a result, sports for people with disabilities "have changed from being a clinical therapeutic tool to an increasingly competition-oriented activity"

- Sport programmes include:
 - Specialized development exercises,
 - perceptual motor ability activities,
 - rehabilitation exercises
 - health and fitness
 - modified sports
 - stress management
 - rest and relaxation

Therefore, facilities for individuals with disabilities should be provided according to the disabling condition of those served.

- **Mobility impairments:**
Equipment for people with mobility impairments range from light-weight wheelchairs for basketball, tennis, and racing to all-terrain wheelchairs with rugged frames and wheels for rolling over unpaved surfaces, like hiking trails, snow, or beach sand. Others include Handcycles, or recumbent bicycles, which are like bicycles with pedals and steering using only the rider's arms, weights that users strap onto their wrists rather than having to hold them with the hands, Gym equipment that lets users stay in a wheelchair while using arm exercise machines, Mitts with Velcro straps that help users to hold onto an exercise machine if their grip isn't strong enough and elastic band or tubes that exercise muscles through resistance instead of weight among others.

A handcycle is a type of human-powered land vehicle powered by the arms rather than the legs, as on a bicycle. Most handcycles are tricycle in form, with two coasting rear wheels and one steerable powered front wheel. Despite usually having three wheels, they are also known as handbikes.

- **Visual impairments**
For athletes with visual impairments have access to equipment like Softballs that beep, so that people with visual problems can locate the ball to hit and catch it. Basketballs with jingle bells inside for people who have limited or no eyesight.



Australian Paralympic athletes using a two-seated tandem racing bicycle; the visually impaired cyclist pedals in rear, while a sighted "pilot" sits in the front.



Wheelchair Tennis

Sports that use assistive technology equipment may include the following:

- Adaptive Golf
- Adaptive Shooting
- Adaptive Table Tennis
- Adaptive Water Sports
- Handcycling
- Power Hockey
- Wheelchair Basketball
- Wheelchair Weightlifting
- Power Soccer
- Wheelchair Fencing
- Wheelchair Baseball
- Wheelchair Softball
- Wheelchair Table Tennis
- Wheelchair Tennis
- Wheelchair Volleyball
- Wheelchair Racing and Field Sports

4.0 CONCLUSION

Contemporary sport programme has the person with disabilities returning to the least restrictive activity. Some special equipment may be necessary; however, mainstreaming or inclusion to the main group is the trend. Though this trend requires accessibility, sound planning and a committed team effort by parent and staff.

5.0 SUMMARY

SELF-ASSESSMENT EXERCISE

1. Define assistive technology
2. Match the following disabilities with the appropriate sports equipment
 - a. Mobility impairments ----- wheelchair
 - b. Visual impairments ----- Volleyball with bell
 - Velcro straps
 - Softballs that beep
3. Identify 10 Sports that use assistive technology equipment.

Feedback

1. Assistive technology devices are equipment that aided people with disabilities.
2. ----a wheelchair
 ----b Volleyball with bell
 ----a Velcro straps
 -----b Softballs that beep—
3. Adaptive Golf Adaptive Shooting Adaptive Table Tennis
 Adaptive Water Sports Handcycling

Power Hockey Wheelchair Basketball Wheelchair Weightlifting Power Soccer Wheelchair Fencing Wheelchair Baseball Wheelchair Softball

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

- Onifade, A. (2001). Sports and society. In C. O. Udoh (Ed.) Issue in human kinetics, health promotion and education. Ibadan; Chris-Rose ventures.
- Ekpe, S. (2011). Problems of sports development in Nigeria: Report of the National Committee on problems of sports development in Nigeria.
- Nnebe, C. H. (2002). Effective Facility Planning and its Role in Preparing Athletes for High Level Competition. In V. C. Igbunugo (Ed.) Preparation of Athletes for High Level Performance. Ibadan;Babs- Tunde Intercontinental Prints.

MODULE 3 CONSTRUCTION OF SPORTS FACILITIES AND EQUIPMENT

| | |
|--------|---|
| Unit 1 | Steps in Planning Introduction |
| Unit 2 | Teaching Stations |
| Unit 3 | New Features in The Construction of Physical Education Facilities |

UNIT 1 STEPS IN PLANNING INTRODUCTION

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Planning the Facility
 - 3.2 Steps in Planning
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The physical plant is a major consideration in most physical education, athletic and recreational programmes. New architectural ideas are being introduced and new concepts developed in order to have a more economical and functional plant. Some building concepts include convertability, for example, rearranging interiors by using elements such as movable walls and partitions and using such areas as the gymnasium and amphitheater for a variety of activities such as basketball, volleyball and tennis. Such versatility is needed in order to accommodate a number of different activities so that small and large groups instruction and independent study spaces may be provided. The flexibility also ensures such important functions as team teaching and proper installation and use of electronic aids. In this module therefore, you will learn about the various Steps to follow in planning sports facilities also factors to note in setting teaching stations and the new features in the construction of physical education facilities.

In this unit you will study the principles that are related to facility planning. I want to remind you that in Module 2 we discussed those factors to be considered for indoor and outdoor facility construction. After the site have been chosen then in planning for the construction will then follow.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain Cooperative planning in sports facility
- Differentiate between planning sports facilities for educational and community needs.
- List specialists that constitute the planning team.

3.0 MAIN CONTENT

3.1 Planning the Facility

At the onset, two principles should be prominent in the minds of physical educators in relation to facility planning.

1. Programme needs: which has to do with whether the facilities emanate as a result of programme needs or is it for community recreation; and
2. Cooperative planning: which is essential to avoid common mistakes.

(1) Programme needs

The objectives, activities and teaching methods and materials, administrative policies, equipment and supplies represent programme considerations regarding facilities. The educational and recreational needs of both the school and community. All these should be part of the thinking of both school administrators and physical educators in order to construct appropriate facilities related to the needs.

(a) User group needs: The planning should consider if the facility is for:

- i. Students (for teaching/educational purpose)
- ii. University Athletes (for competition)
- iii. People from the community (for recreation)

(b) Activities: The planning should also consider the activities to be done inside the facility.

- i. Lectures, Experiment, Research,
- ii. Training or test
- iii. Recreation and relaxation
- iv. Competition

(2) Cooperative Planning

Likewise, the advice of both architects and lay persons are other considerations if facilities are to be planned wisely. Therefore,

the planning should involve specialist TEAM that should consist:

- a) Manager/employer/management
- b) Facility manager
- c) Coaches
- d) Architects
- e) Engineers
- (f) Programme specialists
- (g) Personnel of
 - Public safety Dept.
 - Building and grounds
 - Maintenance
 - Policy board
 - Building Task Force

For Quality and Standard during planning, technical information can be obtained in form of standards and guides from various sources such as:

- (a) State departments of health (for safety and sanitation code)
- (b) Sports organizations and federations
- (c) Professional journals

3.2 Steps in Planning

1) Developing of Policy

In planning, it is important to develop a statement of purpose and philosophy regarding the use of the facilities. There should be a written policy concerning the functions of the school buildings and to what extent the community may use the facilities. If the policy provides for community use, the building must be designed to meet these standards. Facilities constructed without anticipation of community use most often prove unsatisfactory for multipurpose programme. A building sub- committee should be formed consisting of people that will have need for the facilities to:

- a) Develop broad plan defining the purpose and use of the facilities.
- b) Make recommendations on sources of funds for the construction of the facilities, type and location of structure.

2) General Plan

The purpose here is to provide the architect with an overview of the physical education programme to guide his thinking in the initial planning. The general plan should contain the programme needs which will include enrolment, class size, and area of community use, type of instructional activities, service areas and special uses.

3) Review of the General Plan

After the general plan, the review of the tentative plan has to follow. If the general plan is satisfactory final specific recommendation can be made.

4) Specific Recommendations

After the general plan, the specifics have to be included. They are the types of lockers, shower heights, floor making, floor covering etc. a checklist can help ensure that none of the specifics for a functional facility is overlooked.

General Principles for Planning Facilities

The following are the general principles for planning facilities, they are:

1. Establish a priority for use of facilities.
2. Design facilities that are compatible with the unique characteristics of the community
3. Specify the age group for which the facility is planned.
4. Project the population growth rate in early stages of planning
5. If it is a new school, it should be designed for fifty (50) years of use.
6. Design facilities for efficient supervision
7. Eliminate duplication of school and park facilities in the same neighborhood
8. Park and school officials should have close working relationships in regard to facilities
9. The physical educator will have to persuade key officials to incorporate new concepts in facilities
10. Physical educators should have adequate knowledge of facility planning
11. The physically handicapped should be considered in the planning
12. The maintenance of facilities after construction should be considered
13. A model of the proposed facility should be built.
14. Physical educators should attempt to obtain the best possible facility
15. Planning for schools should recognize the different types of activities in the programmes at each educational level.

4.0 CONCLUSION

If you follow the prescribed steps for planning and construction of sports facilities the best possible facilities will come out it. Good planning will make the facility to be strong, durable and easy to maintain.

5.0 SUMMARY

Facility planning involves two major principles which are the principle of programme needs which has to do with whether the facilities emanate as a result of programme needs or is it for community recreation; and the second principle has to do with cooperative planning, which is state that a team of specialists should work together to plan and construct the facility so as to avoid mistakes and to come out with a durable and standard facility.

SELF-ASSESSMENT EXERCISE

1. In order to have a good construction of sports facilities and equipment:
 - (a) The physical plant is a minor consideration in most physical education, athletic and recreational programmes.
 - (b) Sport equipment and supplies are more important
 - (c) Sports personnel are the first consideration
 - (d) The physical plant is a major consideration in most physical education, athletic and recreational programmes.
2. During the construction of sports facilities and equipment, new architectural ideas are being introduced and new concepts developed in order to have one of the following:
 - (a) In order to have a bigger plant
 - (b) In order to have a unique plant
 - (c) In order to have a more economical and functional plant.
 - (d) In order to have a more beautiful plant
3. On the outset of planning the facility, two principles should be prominent in the minds of physical educators in relation to facility management. These include:
 - (a) programme needs and cooperative planning to avoid common mistakes.
 - (b) Programme evaluation and cooperative planning to avoid common mistakes.
 - (c) programme needs and cooperative evaluation to avoid common mistakes.
 - (d) programme needs and personal planning to avoid common mistakes.
4. Cooperative planning should involve specialist TEAM that should consist the following except:
 - (a) Manager/employer/management
 - (b) Facility manager/Coaches
 - (c) Architects/Engineers
 - (d) Programme specialists/Personnel of

- Public safety Dept.
 - Building and grounds
 - Maintenance
 - Policy board
 - Building Task Force and Heads of Departments.
5. For Quality and Standard during planning, technical information can be obtained in form of standards and guides from various sources such as:
- (a) State departments of health (for safety and sanitation code) education
 - (b) Sports organizations and federations
 - (c) Professional journals
 - (d) All of the above
6. One of the following is not part of steps in planning of facilities construction:
- (a) Review of general plan
 - (b) General plan
 - (c) Cost Reduction and specific recommendations
 - (d) Development of policy
7. Review of the General Plan is one of the steps in planning facilities construction. If the general plan is satisfactory what is the next step?
- (a) General plan can then be made
 - (b) Final specific recommendations can be made
 - (c) Policy development should follow
 - (d) None of the above
8. The general plan in facilities construction of physical education, athletic and recreational programmes. should contain the programme needs which will include all of the following except:
- (a) Enrolment
 - (b) Somatic system of the students
 - (c) Class size, and area of community use
 - (d) Type of instructional activities, service areas and special uses.
9. The following include the general principles for planning facilities:
- (a) Design facilities for efficient supervision
 - (b) Eliminate duplication of school and park facilities in the same neighborhood
 - (c) Park and school officials should have close working relationships in regard to facilities
 - (d) All of the above

10. One of the following is more important than the rest in general principles of planning facilities:
- (a) Establish a priority for use of facilities
 - (b) Design facilities that are compatible with the unique characteristics of the community
 - (c) Specify the age group for which the facility is planned.
 - (d) None of the above

Feedback

- 1. D
- 2. C
- 3. A
- 4. D
- 5. D
- 6. C
- 7. B
- 8. B
- 9. D
- 10. D

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

UNIT 2 TEACHING STATIONS

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Contents
 - 3.1 Teaching Stations
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In the last unit you learned about programme needs which includes the objectives, activities and teaching methods and materials, administrative policies, equipment and supplies that represent programme considerations regarding facilities. You as the sport administrator or the physical education teacher needs to guide your thinking during the initial planning of the facility on how big or spacious the facility will be. What will inform you on this decision will include the programme needs which will include enrolment, class size, type of instructional activities, service areas and special uses that is whether the facility will be sheared or solely for a single programme. To achieve the above objectives, you as the teacher of physical education can make use of teaching stations during practical classes.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain the meaning of teaching stations
- Give the formula for computing the number of teaching stations
- Work examples on computation of teaching stations

3.0 MAIN CONTENT

3.1 Teaching Stations

The teaching stations concept should be considered when scheduling physical education classes. A teaching station is the space or setting where one teacher or staff member can carry on physical education activities for one group of students. The number and size of the teaching stations available together with the number of teachers or the staff, the size of the group, the numbers of times the group meets, the number of

periods in the school or college day and the programme of activities are important things to consider in planning. The formula for computing the number of teaching stations needed for physical education is as follows:

$$\text{Teaching stations} = \frac{\text{Total No. Of Students} \times \text{periods per week}}{\text{No. In class} \times \text{periods per week day}}$$

For example, if a school system projects its enrolment to 700 students and plans six class period a day with an average class size of 30 students, and physical education is required daily, the formula is as follows:

$$\begin{array}{lcl} \text{Total No. of students} = 700 & \times & 5 \text{ periods per week} = \\ 3,500 \text{ periods per week (5)} & \times & \text{periods per day (6)} = \\ 30 \text{ periods} & & \end{array}$$

$$\begin{array}{lcl} \text{No. per class (30)} \times 30 \text{ Periods} & = & 900 \\ \text{Teaching stations} = \frac{3,500}{900} & = & 3.9 \end{array}$$

Example 2, if a school system projects its enrolment to 900 students and plans six class period a day with an average class size of 50 students, and physical education is required daily, calculate the teaching stations?

$$\begin{array}{lcl} \text{Min No. of} = \frac{900 \text{ students}}{4,500} \times 5 \text{ periods per week} \\ = 2.6 \end{array}$$

$$\text{Teaching} \quad 50 \text{ per class} \quad 35 \text{ periods per week day} \quad 1750$$

4.0 CONCLUSION

Teaching station enables you to plan and manage the available space judiciously. More students and more classes can be accommodated within a limited space.

SELF-ASSESSMENT EXERCISE

1. A teaching station concept is considered when for physical education classes (a) assigning students (b) rotating students (c) scheduling students
2. The consideration for teachers in teaching station is their (a) number (b) size (c) age
3. An advantage of teaching stations is that it (a) reduces time (b) saves effort (c) decongests class
4. Teaching stations improveof students (a)Visibility (b)

- memory (c) assimilation
5. For the facility manager, teaching stations is helpful as it helps to
(a) generate funds
(b) maximize space (c) reduce work
 6. The school uses teaching stations to reduce.....on
facilities (a) student number (b) number of teacher (c) cost
implications
 7. If a school system projects its enrolment to 700 students and
plans six class period a day with an average class size of 30
students, and physical education is required daily, what is the
number of teaching stations (a) 3.9 (b) 3.8 (c) 4.0
 8. if a school system projects its enrolment to 850 students and
plans six class period a day with an average class size of 40
students, and physical education is required daily, what is the
number of teaching stations (a) 3.4 (b) 3.6 (c) 3.5
 9. teaching station is just for one... of students (a) group (b)
number (c) size
 10. Activity ground for teaching stations can be maximized by
using (a) partitions (b) rearranging interiors (c) lines

Feedback

1. C
2. A
3. C
4. A
5. B
6. C
7. A
8. C
9. A
10. A

5.0 SUMMARY**6.0 TUTOR-MARKED ASSIGNMENT****7.0 REFERENCES/FURTHER READING**

UNIT 3 NEW FEATURES IN THE CONSTRUCTION OF PHYSICAL EDUCATION FACILITIES

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 New Features in The Construction of Physical Education Facilities
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

There are many new trends in facilities and materials for physical education programmes, including new playing materials, new types of equipment, improved landscapes, new construction materials, new shapes for swimming pools, partial shelters and synthetic grass. Combination of indoor and outdoor pools, physical fitness equipment for outdoor use, all weather tennis courts, and lines that come in multicolours for various games and activities are other new developments.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Mention features in modern gymnasium construction
- List examples of new trends in facilities and supplies for sport programme
- Identify the advantages in modern facilities

3.0 MAIN CONTENTS

3.1 New Features in The Construction of Physical Education Facilities

Facilities are moving from the use of regular glass to either a plastic or fiberglass panel or to an overhead skydome. Lightweight, fiberglass, sandwich panels, or fabricated sheets of translucent fiberglass laminated over an aluminium framework are proving popular. They require no painting, the cost of labour and materials is lower, there is no need for

shades or blinds to eliminate glare, and breakage problem is reduced or eliminated.

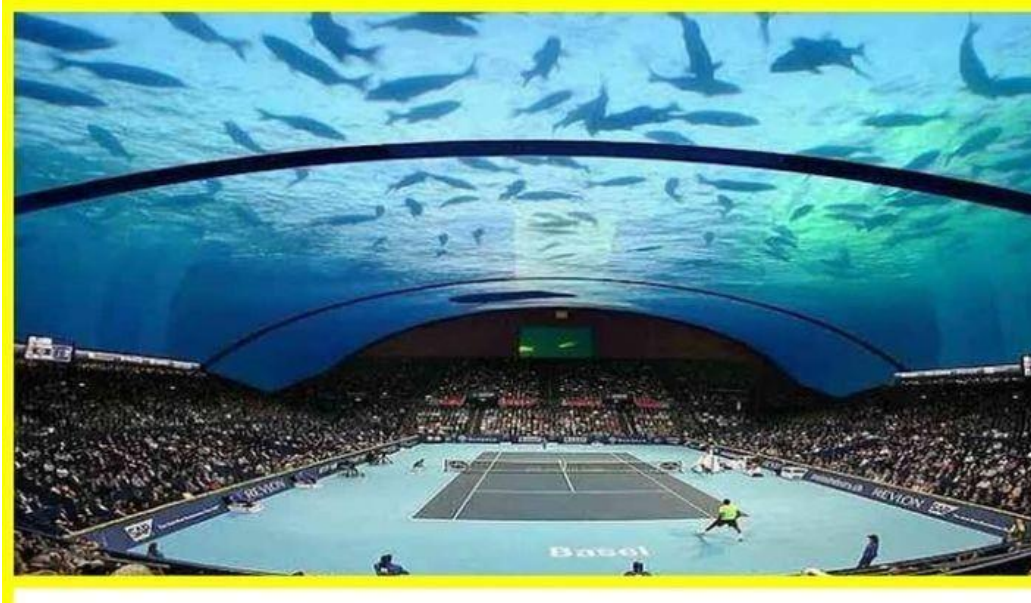
In gymnasium construction, some of the new features includes using modern engineering techniques and materials, which has resulted in welded steel and laminated wood modular frames, arched and gabled roofs, domes that provide areas completely free from internal supports, exterior surfaces of aluminium, steel, fiber glass, and plastics, different window patterns and styles, several kinds of floor surfaces of non-slip materials, prefabricated wall surfaces, better lighting systems with improved quality and quantity and less glare.

Locker rooms and service area include built-in locks with combination changers that permit the staff to change combinations when needed. There is more extensive use of ceramic tiles because of its durability and low-cost maintenance. Wall hung toilet compartment features permit easier maintenance and sanitation with no chance for rust to start from the floor. Odour control is being effectively handled by new dispensers. New thin profile heating, ventilating and air conditioning fan coil units are being used nowadays.

The athletic training and health suite is being modernized by making it more attractive and serviceable. There is also a trend toward better ventilation, heating and lighting and more easily cleaned materials on walls and floors to guarantee improved sanitation.



Floating Football Stadium



First World Underwater Tennis Stadium in Dubia

Other new trends in facilities, equipment, supplies and materials for sport programme still including:

New surface materials

- rubberized all-weather running tracks
- rubber-cushioned tennis courts
- Roll-out floor systems (portable football field the turf can be rolled up)
- Personal storage units (lockers)
- Air-supported structures

Improved landscapes

- New ceiling
- Partial shelters
- Synthetic grass
- Synthetic walls
- Combination indoor-outdoor pools
- Water slides
- New physical fitness equipment
- All-weather tennis courts/games area
- New climbing walls

Modern gymnasium construction features include

- Using modern engineering techniques and materials which have resulted in -welded steel
- Domes that provide area completely free from internal supports
- laminated wood modular frames
- arched roofs
- gabled roofs

Exterior surfaces aluminum

- steel
- fiber glass and
- plastics

Floors

hydraulic floors surfaces

- myrial floors surfaces
- nonslip floors surfaces

New windows patterns and styles Prefabricated wall surfaces

Better lighting systems with improved quality and quantity and reduced glare. Facilities are moving from using regular glass to using either a plastic and fiber glass panel or an overhead sky dome and they are

ADVANTAGES of modern facilities: The following advantages were noted on the modern facilities if compared with the regular ones:

- a) Light weight
- b) Require no painting
- c) Easy to maintain
- d) Less labour
- e) Material cost is lower
- f) Shades/curtains/blinds are not needed to eliminated glare.
- g) The breakage problem is reduced or eliminated.
- h) It helps to solve the problem of lack of money and land.

4.0 CONCLUSION

Technological innovation is a major driving force behind change in any industry, especially sport. Technology has helped to build better facilities hence better sportsmen and women while keeping athletes safer in the field and enhancing the fan experience to improve decision-making and entertainment values.

5.0 SUMMARY

The extent to which modern technology has improved sports facilities includes:

- more and better access to sports participation
- comfort facilities
- safety

Modern materials like floodlights – enable sport to be played during hours of darkness. Synthetic surfaces – enable play all year round in different weather conditions. Increases quality of play and allow more

people to participate in sport. There are better timing devices. There are, new equipment that increased accountability of officials, more accurate decision making and improved detection of foul play. There are new safety equipment for players also non-human decision-making technology in form of video replay equipment and goal line judgement technology.

SELF-ASSESSMENT EXERCISE

1. In gymnasium construction some of the new features includes using modern engineering techniques and materials, True or False
2. There are many new trends in facilities and materials for physical education programmes. They including the following except:
 - (a) New paving materials,
 - (b) New types of equipment and improved landscapes,
 - (c) New construction materials and new shapes for swimming pools,
 - (d) None of the above
3. All of the following also include new trends in facilities and materials for physical education programmes
 - (a) partial shelters and synthetic grass.
 - (b) Combination of indoor and outdoor pools, physical fitness equipment for outdoor use, all weather tennis courts, and lines that come in multi-colours for various games and activities are other new developments.
 - (c) The above statement is True
 - (d) The above statement is False
4. Facilities are moving from the use of regular glass to either a plastic or fiberglass panel or to an overhead sky dome in modern times. YES or No?
5. There is more extensive use of ceramic tiles because of the following except:
 - (a) its perishability
 - (b) its durability
 - (c) its low cost of maintenance
 - (d) its Aesthetics
6. The following statements about progression of facilities are TRUE or FALSE?

Facilities are moving from the old methods to modern locker rooms and service areas include built-in locks with combination changers that permit the staff to change combinations when needed.

7. There are many new trends in facilities, supplies materials for sport programmes. They include the following except:
- (a) Paring materials rubberized all-weather running tracks
 - (b) Surface materials (rubber-cushioned tennis courts)
 - (c) Roll-out floor systems (portable football field the turf can be rocked up/Personal storage units (lockers) and air-supported structures
 - (d) None of the above
8. Modern gymnasium construction features include which of the following?
- (a) Using modern engineering techniques and materials which have resulted in welded steel
 - (b) Domes that provide area completely free from internal supports
 - (c) laminated wood modular frames, arched roofs and gabled roofs.
 - (d) all of the above
9. Exterior surfaces of modern gymnasium should include the following types
- (a) masonry
 - (b) steel
 - (c) all **except** option A
 - (d) fiber glass and plastics/aluminum
10. Floors of modern gymnasium should be in the form of:
- hydraulic floors surfaces
 - myrial floors surfaces
 - nonslip floors surfaces TRUE or FALSE?

Feedback

- 1. **True**
- 2. **D**
- 3. **C**
- 4. **Yes**
- 5. **A**
- 6. **True**
- 7. **D**
- 8. **D**
- 9. **C**
- 10. **True**

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

- Awosika, Y. (1996). Status facilities and equipment in producing successful Olympic athletes. In National Institute of Sports Seminar on Managing Olympic Success: The Centennial Olympic Experience (Serial No 1.)
- Ojeme, E. O. (2000). Standard sports facilities, equipment and the new challenges 21st Century and sports development in Nigeria. Abuja Federal Ministry of Sports and Social Development.
- Penman, K. A. (1997). Planning Physical Education and Athletics Facilities in Schools. New York; John Wiley and Sons, Inc.

MODULE 4 MAINTENANCE OF SPORTS FACILITIES AND EQUIPMENT

In the last two modules you have learned how to plan and construct sports facilities. To be precise in module 3 unit 1 you were advised that the facility should be designed for fifty (50) years of use. In order to achieve this duration plan for proper maintenance should be put in place. In this module therefore, you will learn about the procedures and ways to manage sport facilities.

| | |
|--------|---|
| Unit 1 | Facility Management |
| Unit 2 | Shared Facilities |
| Unit 3 | Common Errors Made by Physical Educators in Facility Management |

UNIT 1 FACILITY MANAGEMENT

CONTENTS

| | |
|-----|----------------------------|
| 1.0 | Introduction |
| 2.0 | Intended Learning Outcomes |
| 3.0 | Main Content |
| 3.1 | Facility management |
| 4.0 | Conclusion |
| 5.0 | Summary |
| 6.0 | Tutor-Marked Assignment |
| 7.0 | References/Further Reading |

1.0 INTRODUCTION

Planning for the construction or remodeling of facilities is an important management function. An equally important responsibility of facility management is maintenance. In this unit you will be exposed to proper ways to maintain sports facility so as to make it to last longer, provide healthier environment, be less costly for repairs and provide a more satisfying experience for user.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- Explain the meaning of facility management
- List the components of facility management
- Identify the advantages in proper maintenance of sports facilities.

3.0 MAIN CONTENT

3.1 Facility management

(FM) is a profession that encompasses multiple disciplines to ensure functionality, comfort, safety and efficiency of the built environment by integrating people, place, process and technology. Facility management includes effective Scheduling that involves maintenance of facilities, planning new structures and expansion to keep pace with the demand for users. Facility management principles will include:

Facilities must be

- (1) accessible to all including persons with disabilities
- (2) brought up to code concerning myriad environmental standards.
- (3) energy conservation
- (4) maintenance and repair cost sustainable
- (5) economical in cost, time and the use of energy.
- (6) safe, secure, attractive, comfortable and clean.
- (7) practical and adapted to the needs of the individual.
- (8) economical to operate and maintain.
- (9) Facilities must take into consideration protection of the community (e.g. sound, lighting)
- (10) accessible to user groups yet isolated enough so that the activity is not a distraction to people.
- (11) long term in nature to include both adaptability and expandability to meet the needs charges.

If proper plans, construction, and materials are selected, then maintenance should be made easier. Nothing is more embarrassing than a new facility that is a maintenance nightmare because of poor management decisions in the design and planning phases of the construction process. Given an adequate facility, it is up to the facility manager in cooperation with other stake holders to work together in taking pride in the facility and putting forth a special effort to see that it is maintained in as near perfect condition as possible.

It is the job of the facility manager to create an environment that encourages productivity, is safe, is pleasing to clients and customers, meets government mandates, and is efficient. As you learned in module 1, unit 1 that a sports complex is a group of sports facilities. Which includes, track and field stadiums, football stadiums, baseball stadiums, swimming pools, and Indoor arenas. These places need proper maintenance. In such stadium, and arena, it is facility managers, sometimes called general managers, sports facility managers, or stadium operations executives, that are responsible for the day-to-day operations and management involved in running a sports facility. Sports Equipment

Managers are responsible for maintaining, ordering, and inventorying sports equipment and apparel.

4.0 CONCLUSION

Proper maintenance of a facility will make it last longer, provide healthier environment, be less costly for repairs, and provide a more satisfying experience for user.

SELF-ASSESSMENT EXERCISE

1. Facilities maintenance is done when?
(a) Before construction (b) During construction (c) After construction
2. of facilities is an important management function?
(a) remodeling (b) reuse (c) recycling
3. With proper maintenance, a facility should be
(a) Less costly (b) more costly (c) free
4. Facility maintenance discussions should start at.....
(a) Construction stage (b) planning stage (c) commissioning stage
5. Individuals responsible for doing teams' laundry are
(a) Washer men (b) Dry cleaners (c) Equipment managers
6. Apart from proper plans and construction, Is needed to make maintenance easier (a) professionals (b) Material (c) knowledge
7. Which is not another name for facility managers
(a) general managers (b) stadium operations executives (c) sports managers
8. Facility management encourages productivity by integrating people, place, process and (a) innovations (b) technology (c) designs
9. Managers are to be ideally involved in running of the facilities
(a) daily (b) weekly (c) monthly
10. Facility management encompasses.....(a) sports disciplines (b) multiple disciplines (c) Engineering disciplines

Feedback

1. C
2. A
3. A
4. B
5. C
6. B
7. C
8. B
9. A
10. B

5.0 SUMMARY

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

UNIT 2 SHARED FACILITIES

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

You have learned in module 3 unit 1 that a single facility can be planned to be multi- purpose. The facility can be planned for teaching/educational purpose. It can be for training of university athletes, for competition or for recreational use by staff and other people in the community. In this kind of situation, the facility will be shared by many groups of people for different activities.

When little or no money is available (because capital expenditure for building is so high) the following alternative methods can be used to see that necessary facilities are available to conduct quality programs.

- (i) Renovating existing structures
- (ii) Converting existing structures (e.g. cafeteria, amphitheater, through the use of movable walls rearrange the interiors, curtains, partitions)
- (iii) Instituting multipurpose use of present facilities (multipurpose activity stations)
- (iv) Joint ventures and partnering

All these situations involved sharing of facility. However, it is imperative that management establish guidelines ensuring that appropriate precautions are taken (legal and fiscal) and that such facilities are used properly when approval is granted.

Policy should be issued on

- who can use the facilities
- at what time
- under what condition

In case of use by outsiders, the policy should include:

- making a proper application
- obtaining the liability insurance coverage if necessary
- setting the fee structure and

- type of payment
- making stipulation regarding maintenance and
- security.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to;

- State 5 rules that you will institute for multipurpose use of a sport facilities.
- Identify 4 situations that can lead to sharing facilities.

3.0 MAIN CONTENT

4.0 CONCLUSION

It is so common to see sports facilities like stadium or school football field been used for burial or marriage ceremony or political party campaign. Whether the facility will be shared by people within or outside the school system adequate policy should be put in place for proper usage.

5.0 SUMMARY

Facility shearing has to do with multi-purpose use of a single facility. This can be as a result of renovating existing structures, converting existing structures, instituting multipurpose use of present facilities or joint ventures and partnering with other users.

For convenience of the usage, policy should be issued on who can use the facilities, at what time and under what condition.

SELF-ASSESSMENT EXERCISE

1. Alternative measures that can be used in achieving quality programs include
(a) renovating existing structures (b) building smaller structures (c) changing structures
2. School A wants to use the football field, the manager should first insist on
(a) making proper application (b) amount to be paid (c) maintenance stipulations
3. Mr. Dele is to use the swimming pool, who should provide security
(a) Facility Manager (b) Mr. Dele (c) Police and Army

4. Under legal and fiscal precautions, approval should be on.....
(a) security (b) fee structure (c) time of use
5. Stipulating maintenance liability on outsiders using the facility is important to.....
(a) Generate fund (b) forestall facility damage (c) ensure maximum use
6. Basketball court can be marked and used for handball to
(a) Maximize activities (b) maximize space (c) maximize money paid
7. When converting existing structure, one of these strategies could work
(a) Repaint the room (b) change the sitting arrangement (c) rearrange the interiors
8. While approval is granted on the policy of who can use the facility, considerations should be focus...(a) the age (b) the gender (c) the class
9. The guidelines that ensures legal and fiscal precautions are taken is from... (a) the school (b) the management and the school (c) the management
10. For outsiders, obtaining the liability insurance coverage can simply be done by making them.....(a) sign relevant documents (b) bring a lawyer (c) bring an insurance broker

Feedback

1. A
2. A
3. B
4. C
5. B
6. B
7. C
8. A
9. C
10. A

6.0 TUTOR-MARKED ASSIGNMENT**7.0 REFERENCES/FURTHER READING**

UNIT 3 COMMON ERRORS MADE BY PHYSICAL EDUCATORS IN FACILITY MANAGEMENT

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Common Errors Made by Physical Educators in Facility Management
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

This course has introduced you to types, construction, purchase and maintenance of sports facilities and equipment. The methods, guidelines, rules and procedures to follow as a good sports administrator were provided. However, if these professional ethics and suggestion are not followed by sports administrators or physical education teachers, errors and mistakes shall be committed. In this unit therefore, I will call your attention to some of these common errors that you avoid if you stick to the information provided in this course of study.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you will be able to:

- Suggest adequate solutions to common errors made by physical educators in facility management
- Identify common mistakes made by physical educators in facility management

3.0 MAIN CONTENT

3.1 Common Errors Made by Physical Educators in Facility Management

Some common mistakes made by physical educators in facility planning and management include the following:

- 1) Failure to adequately project enrollments and programme needs into the future (facilities are difficult to expand or change, so this is a significant error)
- 2) Failure to provide multiple use of facilities

- 3) Failure to provide for adequate accessibility for students in physical education classes and also for community groups for recreational purposes.
- 4) Failure to observe basic health factors in planning facilities in regard to lighting, safety and ventilation
- 5) Failure to provide adequate space for the conduct of a comprehensive programme of physical education activities
- 6) Failure to provide appropriate accommodation for spectators
- 7) Failure to soundproof areas of the building where noise will interfere with educational functions
- 8) Failure to meet with the architect to present views on programme needs
- 9) Failure to provide adequate staff offices
- 10) Failure to provide adequate storage space
- 11) Failure to provide space and privacy for medical services and examination
- 12) Failure to provide entrance large enough for transporting equipment
- 13) Failure to observe desirable currently professional standards
- 14) Failure to provide for adequate study of cost in terms of durability, time, money and effective instruction.
- 15) Failure to properly locate teaching stations with service facilities

4.0 CONCLUSION

If professional ethics can be adhered to there will be less error committed by physical education teachers or sports administrators. It is worthy to note that the outcome of any or all of the above stated common errors can lead to serious injury, accident or even untimely death. Therefore, there is need to keep these errors to the barest minimum.

SELF-ASSESSMENT EXERCISE

1. The first error of physical educators in facility management would be failure to.....
(a) present views on program needs (b) provide multiple facility use (c) observe health factors
2. Failure to observe basic health factors in planning facilities in regard to lighting, safety and
(a) Heat (b) Ventilation (c) Diseases
3. Spectators getting drenched in the rain while in the gallery might be a failure of(a) appropriate housing for spectators (b) adopting current professional standards (c) providing adequate space

4. Failure to provide adequate storage space will be characterized by? (a) papers left on the corridors (b) jerseys and balls under the stairs (c) cones in the coach's office
5. Failure to observe desirable currently professional standards would be characterized by (a) lack of locker rooms (b) few changing rooms (c) few staff rooms
6. Medical services need space and for their services and examination. (a) silence (b) equipment (c) privacy
7. Noise from the basketball court getting into the teaching classroom is failure of proper plan forfrom/of play area (a) announcements (b) noise (c) soundproof
8. Incorrect courts dimension measurement is a failure to (a) project program needs into the future (b) observe desirable standard (c) provide adequate space
9. Failure to meet with architect to present program needs could possibly lead to... (a) uneasy movement for physically handicapped (b) providing lifts to convey people (c) uneasy movement of people.
10. Failure to envisage security of property can be characterized by (a) windows close to the ground (b) gates too small (c) small security post

Feedback

1. A
2. B
3. A
4. B
5. A
6. C
7. C
8. B
9. A
10. A

5.0 SUMMARY**6.0 TUTOR-MARKED ASSIGNMENT**

7.0 REFERENCES/FURTHER READING

- Awosika, Y. (1996). Status facilities and equipment in producing successful Olympic athletes. In National Institute of Sports Seminar on Managing Olympic Success: The Centennial Olympic Experience (Serial No 1.)
- Ojeme, E. O. (2000). Standard sports facilities, equipment and the new challenges 21st Century and sports development in Nigeria. Abuja Federal Ministry of Sports and Social Development.
- Penman, K. A. (1997). Planning Physical Education and Athletics Facilities in Schools. New York; John Wiley and Sons, Inc.