MODULE

School Health

For the Ethiopian Health Center Team

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In collaboration with the Ethiopia Public Health Training Initiative, The Carter Center,
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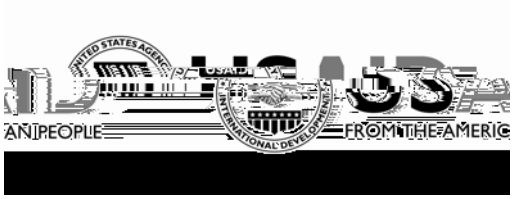
2005



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UNIT ONE

INTRODUCTION

1.1. Purpose and use of the module

Almost all higher institutions in Ethiopia are promoting community based practical education and development of problem solving skill approaches. However the shortage of adequate reference materials in the majority institutions is one of the main problems which make the teaching-learning process ineffective. Hence preparation of teaching materials is invaluable to alleviate the soaring problem of the teaching- learning process.

The purpose of this module is to enable students develop their knowledge, attitude and problem solving skills through interactive and participatory learning. This module will help the health professionals at degree level comprised of public health officers, environmental health officers, nurses, and medical laboratory technologists, to look the problems of the school environment from different angles and for their effective team work.

For this reason separate satellite modules are prepared for each professional category based on the tasks expected from them. This module can also be used for in-service training and quick reference of other health professionals, but it isn't intended to replace standard text books or other reference materials.

1.2. Direction for using the module

Before starting to read this module, follow the directions given below:

1. Go through all the contents of the core module by starting with the pre-test
2. Uses a separate answer sheet paper and label it" pre-test answers"
3. Read thoroughly the information in the core module
4. Do the post test.
5. Look the answer keys in the appendix and evaluate your knowledge
6. Proceed to read the satellite module corresponding to your profession
7. Use further references, if needed, for additional information on the subject.

UNIT TWO

CORE MODULE

(FOR THE TEAM OF PUBLIC HEALTH OFFICERS, NURSES, ENVIRONMENTAL HEALTH OFFICERS AND MEDICAL LABORATORY TECHNOLOGISTS)

2.1. Pre-test:

2.1.1. Questions for all categories of health professionals.

Answer the following questions and write your answers on a separate answer sheet.

2.1.1.1. Choose the best answer from the given alternatives.

1. Which one of the following is true about the location of the school?
   A. the location of the school isn't important in school health
   B. schools built near to the road aren't associated with any danger to the students.
   C. all sites are equally good to build a school
   D. the distance of the school should be near to the community being served
   E. C and D
2. One of the following infectious diseases may affect school children by spreading through faecal-oral route
   A. amoebic dysentery
   B. cholera
   C. malaria
   D. A and B
   E. all
3. Which of these physical aspects of the school environment influence the physical and mental health of the school children?
   A. sanitation
   B. hazardous location

C. inadequate furniture

D. dangerous structure

E. all

4. The principles which must be considered as priority issues to create healthy school environment are

A. keeping the compound clean of faecal material and waste;

B. providing or restoring toilets and keeping them clean;

C. providing convenient hand washing facilities and encouraging their use;

D. providing safe drinking-water.

E. all

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Increase the priority given to developing environments in schools that promote health

Define areas where interventions are feasible and suggest what can be done and how particularly under difficult conditions and within severe budgetary constraints.

Objectives of school health service include:

1. To build schools on modern sanitary lines.
2. To appoint suitable medical inspectors or school medical officers.
3. To make provision of an adequate system of medical inspection and screening of all children and suggest the possible remedies.
4. To establish school clinics
5. To segregate cases of infectious disease and establish centres for the prevention of spread of these diseases.
6. To provide nutritional service e.g. through mid-day meals, specially in kindergarten
7. To provide the practice of hygiene and healthy living to students both in school and at home
8. Provision of special methods of education for children who happen to be disabled in body or in mind
9. Accident prevention

2.3. Learning objectives

Upon completion of the module, the reader will be able to:

1. Identify the main health related problems that may occur in school compound
2. Analyze the association between the physical and mental dimensions of health with the environment.
3. List those physical aspects which may influence the health of the children.
4. Design how to create safe physical environment for school children.,

2.4. Case Study

Tulla elementary school is located in Awassa Zuria Woreda. It was established 25 years back. Based on the new education policy it now gives basic education to first cycle primary school students from grade 1-4.The school delivers a whole day teaching for nearly 1000 students.

The school is located next to the main road where buses and taxis stop. The noise from the vehicles and the pedestrian is audible to most of the classrooms. The fence of the school has fallen down in more than 50% of the boundary. The residents from the nearby village have free access to the school compound. In addition domestic animals usually spend most of their times in the students play ground.

There is only one toilet in the school compound and it is littered with faecal material. Students usually defecate in the field where they play during their break period. The school source of water is from a well near to the toilet but it is not functional. So all students have no access to hand washing facilities after visiting

2.4.1. List at least six health related problems and their solutions based on the information given in the above school.

2.5. Health and health related aspects of school

By the year 2010, there will be over 1680 million children between the ages of 5 and 14 years, out of which 87% will be living in developing countries. Children in this age group are 14 times more likely to die between their fifth and fifteenth birthdays than their age-mates in the industrialised market-economy countries (2). A range of physical aspects of the school environment can influence the physical and mental health of children. These can be listed as sanitation (or the lack of it); dirty hands; water quality; the microclimate; indoor air quality; noise; light (both too little and glare as a result of too much light); dangerous structures; inadequate furniture, and a hazardous location.

Added to these is the fact that, for mam 0.0002 Tc0.0774T*ef9 Tw Tcth too little andceeh go

It is therefore, in this concept tempting to suggest that all these problems are the products of poverty and that the answer is ims

rain, sometimes along busy roads, all of which can increase the hazards they face.

While little can be done about the location of an existing school, planners and community groups should consider this issue at an early stage in the development of a new school. The availability of water, for example, must be borne in mind. Moreover, even in the case of existing schools, improvements are possible. For example: footpaths and bridges can be built for getting to the school; hazardous waste can be removed from the site; efforts can be made to seal off the school from adjacent hazards such as rivers and gullies.

2.5.2. Design and Classroom Structure

Many countries, with the assistance of international aid, have focused on developing standard school and classroom designs. Yet results have often been poor either because their authors did not recognise that conditions on the ground are not standard, or because provision for complementary aspects such as water and sanitation facilities, security, furniture and maintenance were neglected. As well as protecting children and staff from the elements, the structure of a school building is intended to enhance health and well being. But badly designed or poorly maintained structures may in fact threaten health. Classrooms often require larger roof spans than traditional domestic buildings for example, and if domestic construction techniques are used for schools, they may prove to be inadequate, particularly in areas prone to earthquakes and typhoons.

External structures, such as concrete sports grounds, are often poorly built, with inadequate foundations. They are also, inevitably, exposed to the weather and so deteriorate rapidly. School grounds tend to be characterised by jagged lumps of subsiding concrete, wide cracks, broken steps and missing inspection covers. All these features are common sources of injury.

On a smaller scale, cracks and inaccessible corners may provide homes for hookworms, mites and jigger fleas, while dampness and poor ventilation may

lead to the growth of moulds and fungi. Broken windows, dilapidated steps, exposed nails, the lack of stair rails, missing inspection covers and other such hazards may cause injury. These points are illustrated by the following brief examples.

In one South American country in the 1970s a standard design for a rural classroom was developed which used a steel frame, concrete-block walls and asbestos-cement roofing sheets. The windows were large unglazed openings running the length of the room, on both sides, under a widely overhanging roof. The design was intended to maximise cross-ventilation in hot, tropical conditions. The design worked reasonably enough in the hot lowlands, but was also used for villages in the Andean highlands, for whose extreme mountain climate it was totally unsuited. When the sun shone, the thin roofing sheets heated up excessively. When cloudy, the lightweight construction and unglazed windows soon led to extreme cold. When windy, dry dust was blown into the classrooms making conditions intolerable. Elsewhere, the overhanging roof was useful for preventing overheating - provided the room was correctly orientated. But often the builders of the schools placed the classrooms with no consideration for correct orientation, rendering thti. Broke904 - prov

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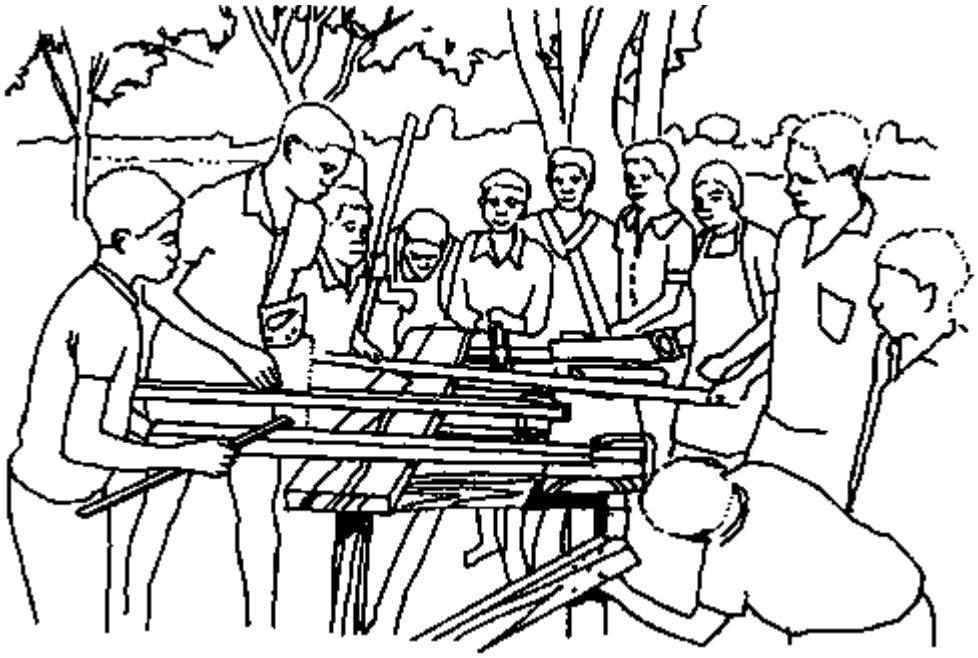
classrooms. Semi-formal learning situations arise in the workplace, the kitchen, the fields and at places of worship. Informal learning takes place through play



2.5.4. Indoor air quality

There is a wide range of potential indoor air pollutants, which may influence the health of schoolchildren. Pollution from heating stoves can lead to chronic respiratory diseases and carcinomas. In a crowded environment, airborne bacteria and viruses can cause cross-infection. Other threats include; rotten matter produced by moulds and fungal growths; fine dust; gaseous and particulate compounds from building materials, and radon gas. Many health problems are associated with these pollutants, including acute respiratory infections and asthma. (7)

2.5.5. Noise

High levels of noise can cause irritation, encourage aggressiveness, reduce physical and mental performance, and cause discomfort and headaches. Exceedingly loud and continual noise can lead to more serious problems.(7) Children with hearing problems, visually impaired children, and children with learning difficulties are particularly dependent on a good acoustic environment(8).

2.5.6. Light

Bad lighting can affect the well being of both pupils and staff. Eyestrain is a frequent complaint in classrooms and other teaching spaces where light levels are low, or where glare is excessive. Eyestrain probably largely accounts for the higher prevalence of headaches in the afternoons that have been reported by children and teachers. Poor light conditions can cause children to adopt poor posture, which itself can eventually lead to physical strain.(9)

2.5.7. Inadequate furniture

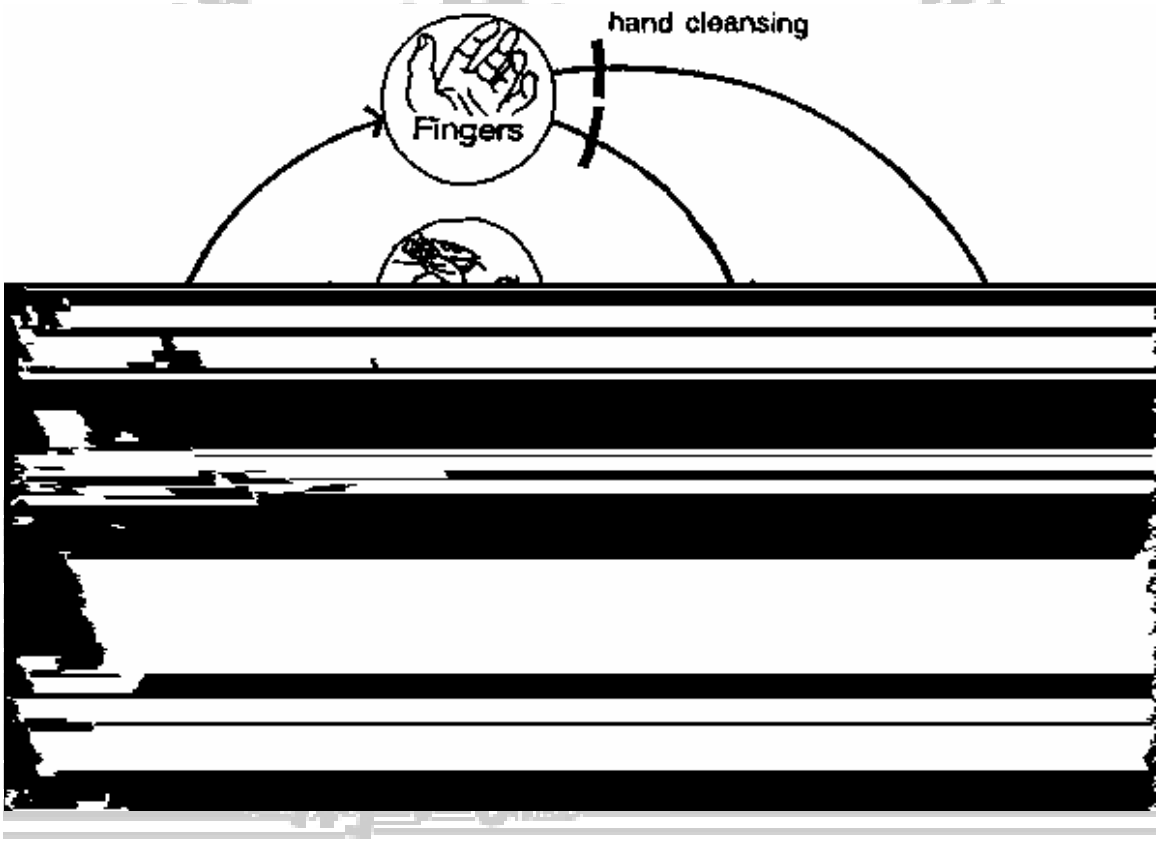
With a widespread shortage of furniture in schools, many children spend much of 9)

infections and problems with joints. Moreover, what furniture there is may be used excessively. This can lead to overcrowding, with the attendant risk of cross-infection, for example from scabies. And with overuse, furniture may become damaged, causing injury. Classroom furniture may not always be used appropriately. Examples exist of desks designed for very young children (6-8

expedient of carrying water to school each day, remain constantly aware of hygiene and cleanliness.

2.5.9. Dirty hands

The availability of convenient hand-washing facilities is as important as safe disposal of urine and faeces. Hepatitis A, diarrhoea caused by Escherichia coli, amoebic and bacillary dysentery, cholera and typhoid are among the infectious diseases, which can be spread via the f



2.5.10. Water supply

Many of the faecal-oral infections listed above can also spread via contaminated drinking-water. Children dipping their unwashed hands into a shared drinking-water supply are a typical route of contamination. But problems can also arise from water which is not used for drinking. If rainwater or floodwater is allowed to stand in puddles, the breeding of mosquitoes and other insects may be encouraged, leading to transmission of di

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Schools may provide a health safety net for children from disadvantaged homes. Where meals or food supplem

his or her efforts can make a difference. If not, they will feel there is little reason to fight for change.

As well as encouraging the commitment of local people, seven other basic tasks can be done which can be achieved by taking simple practical measures and which, once achieved, will go a long way towards creating a healthier school environment. These tasks are: a faecal-free environment, safe drinking water, convenient hand-washing arrangements, well-lit learning spaces, protection from the elements, structural safety, and adequate cleaning and maintenance.

A. Faecal-free environment

Evidently, faeces on the ground will be a threat to health. The point to be made, though, is that staff, pupils, parents and governing bodies of schools should consider the whole school environment, not just classrooms. Ideally, concern should extend to the streets and fields between home and school, and to the pupils' homes. But at the very least, it must include the school compound.

Success in eliminating faecal material from a school compound is dependent on:

informed and responsible pupils;

supervision of young children;

a compound fence, and vigilance, to stop animals and outsiders from defecating in the compound;

toilets which are conveniently located, reliable, clean, reasonably odour-free and reasonably private.

B. Safe drinking-water

The conditions required for clean water are well known, but often they are unachievable. Recommendations to boil all water are of little value in a society where fuel is expensive and scarce. Advice about deep boreholes is of no use to a resource-starved school. Rather than concentrating on the source of the water,

achievable measures are often those concerned with the handling of available water.

Frequently, water from a tap or pump is reasonably clean, but has become contaminated by the time it reaches someone's mouth. For example, if people are dipping their hands into a water container to scoop up water in a cup, it is likely that they are contaminating it with germs from their hands. Simply providing a ladle can be an extremely low-cost solution. Similarly, in some circumstances, covering the water container with a lid may be an important step.

C. Convenient hand-washing arrangements

In many countries awareness is widespread of the importance of washing one's hands after defecation. It is reasonable to suppose that it is one of the central planks of all school health-education programmes. However, it is equally clear that hand-washing is a practice that is widely ignored. Spreading the message of the importance of hand-washing is not enough; it must also be an easy and convenient thing to do. People will not normally go out of their way to wash their hands.

If the tap or water source is distant from the toilet, people are unlikely to use it. If water is stored in a relatively high-sided tank it may be awkward for younger children to use. Similarly, wells with high sides may discourage people from drawing water. Taps or water tanks which are constantly surrounded by mud may also be discouraging. Hand pumps may be too stiff for a small child to use, or it may be difficult to pump and wash one's hands at the same time.

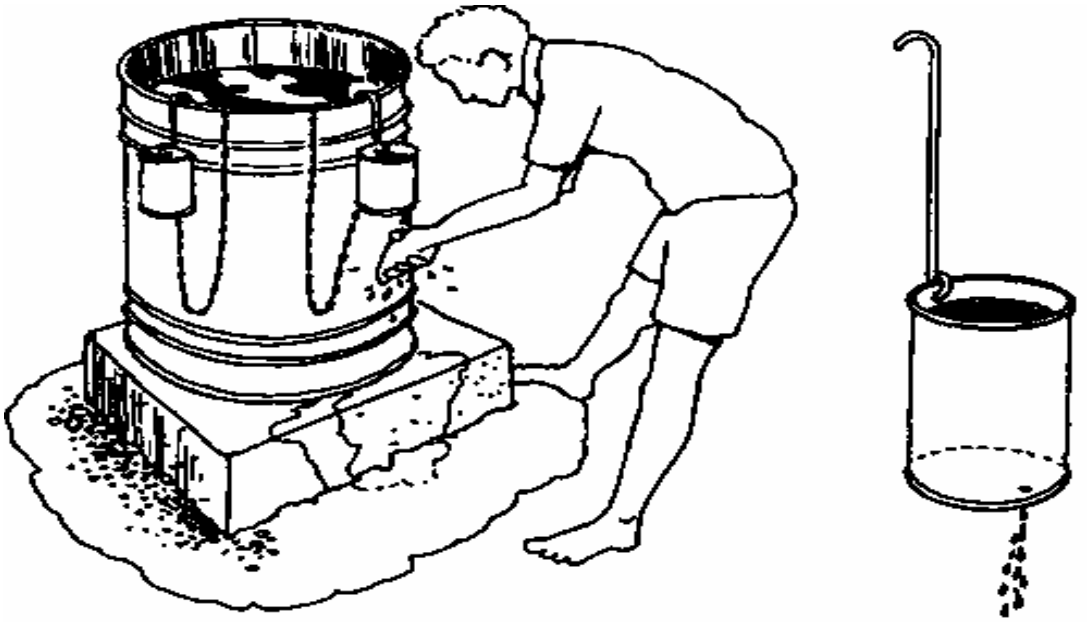


Figure 3. *A hand-washing arrangements with a "leaking tin", made of an oil-drum placed on a stone footing over a drainage pit filled with gravel. The small leaking container is made of a recycled tin with a handle of steel wire.*

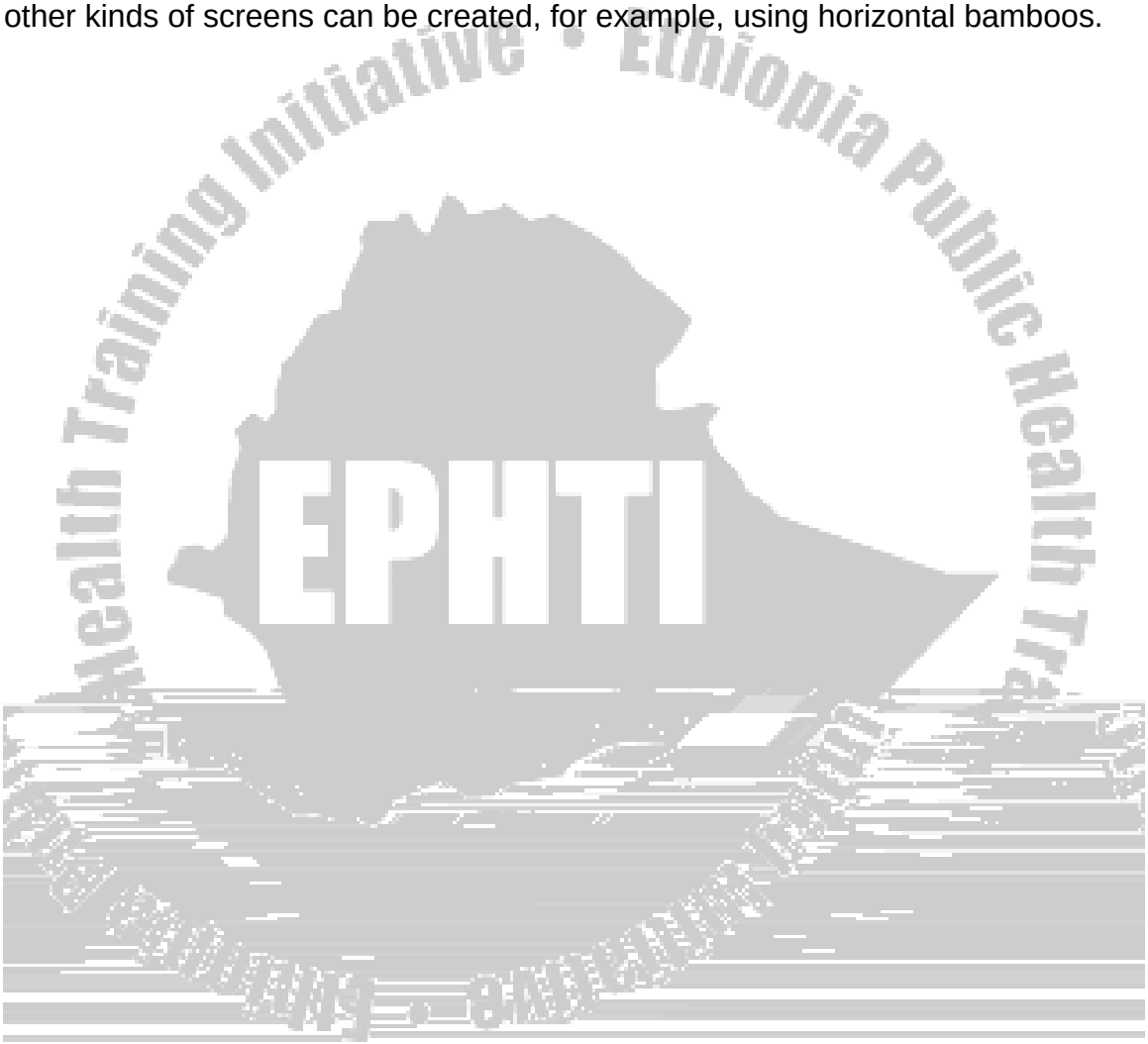
A number of studies have shown that the use of soap, sand or ash for hand-washing can make a significant difference to hygiene levels. (10, 11) Moreover, as well as its purely functional value, the provision of soap can become a means of focusing attention on the issue of hand-washing. For example, teachers may need to start a small fund to raise money from parents to pay for a regular supply of soap. This in itself can help to raise awareness among both pupils and parents.

D. Well-lit learning spaces

Many teaching spaces depend on natural light. Good lighting is especially important if resources for school books are limited and learning depends on the children seeing the blackboard clearly.

The perforated screen wall can be used to provide good lighting. This is a solid masonry wall punctured by numerous closely-spaced holes through which light can filter. If the wall is built of bricks the perforation effect can be achieved by

simply leaving spaces between the bricks at regular intervals. If it is made of concrete (or earth-cement) blocks, special moulds can be used to produce blocks with decorative holes. If the inside surfaces of the holes are made light in colour, either by painting them or by using plain white cement for the blocks, the amount of light reflected through the holes is considerably increased. Where masonry is not used for construction, or where there are existing large window openings, other kinds of screens can be created, for example, using horizontal bamboos.



significant amounts of money to solve, a simple but systematic safety audit can reveal hazards which have simple remedies

In many societies, communal work sessions are traditional. If parents can be persuaded to work together, even just for one day once a year, then such a labour force, which will inevitably include people with specialist skills, can tackle much of the heavier structural repair work. Working together, parents can accomplish tasks such as clearing away broken concrete, rebuilding eroded steps, replacing rotten fence posts, re-laying roofing sheets and repairing furniture and play equipment.

Structural safety plays an important part in good sanitation. Children are often scared that a toilet may collapse, sometimes with good reason. A toilet's squat platform or slab should be well made and protected from the elements. It must also be clearly seen to be safe. The interior of a pit toilet should generally be lined to prevent its sides from collapsing. Surface water from rain should be directed in channels away from toilets, to avoid any erosion of the pit.

For too long the provision of schools has been seen as an issue of construction. Certainly, new schools are required. But a school environment is like a living organism, and therefore requires continuous sustenance. The construction of the school building should be seen as the birth of a "living school", rather than as an end in itself. A living school has many components (children, parents, staff) and needs (the supply of water, the removal of waste). Again, like any living organism, its relationship with the outside world is highly important. If the school is seen as being apart from the community, rather than integral to it, it will soon become neglected.

F. Adequate cleaning and maintenance

Problems of structural safety can often be avoided through careful routine maintenance. Dealing with broken roof tiles or undermined foundations straightaway, as soon as they occur, minimizes the need for expensive structural repairs later. Often, where a capital budget is available for construction but resources for routine upkeep inadequate, the result is dilapidated buildings which need to be replaced far earlier than should be necessary.

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2.7. Post-tests

Answer the following question on a separate answer sheet

2.7.1, post-test for all categories of health professionals

2.7.1.1. Choose the best answer from the given alternatives:

1. Which one of the following is true about the location of the school?
    A. the location of the school isn't important in school health
    B. schools built near to the road aren't associated with any danger to the students
    C. all sites are equally good to build a school
    D. the distance of the school should be near to the community being served
    E. c and d
2. One of the following infectious diseases may affect school children by spreading through faecal-oral route
    A. amoebic dysentery
    B. cholera
    C. malaria
    D. a and b
    E. all
3. Which of the physical aspects of the school environment influence the physical and mental health of the school children?
    A. sanitation
    B. hazardous location
    C. inadequate furniture
    D. dangerous structure
    E. all
4. The principles which must be considered as priority issues to equip healthy school environment are
    A. keeping the compound clean of faecal material and waste;
    B. providing or restoring toilets and keeping them clean;

C. providing convenient hand washing facilities and encouraging their use;

D. providing safe drinking-water.

E. all

5. To make the physical environment of a school healthier, one needs to have:

A. informed and responsible pupils

B. regular supervision of young children

C. a fence, to stop animals and outsiders from defecating in the compound

D. conveniently located toilets

E. all

2.7.1.2. Say "true" or" false" for the following questions

1. The physical and mental health of school children can be influenced by the sanitation of the school environment.
2. High level of noise may cause irritation and reduces the physical and mental performance of pupils.
3. Hand washing arrangements should be available in schools
4. School could provide the most cost-effective means to improve the health of children.
5. The structural design of a school building has no influence on the health of children.

2.7.1.3. Give short answers for the following questions:

1. What is the goal of school health service?
2. Why school health service is essential?
3. What are the possible healths related problems encountered in schools?

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4. Pre-test

1. Which one of the following is not true about the influence of Indoor air quality on the health of schoolchildren,
   A. airborne bacteria can cause cross-infection in a crowded environment
   B. viruses can cause cross-infection in a crowded environment.
   C. fine dust causes acute respiratory infections and asthma.
   D. not important to maintain indoor air quality.

2. High levels of noise in a school environment can cause
   A. irritation, B. encourage aggressiveness,
   C. reduce physical and mental performance,
   D. cause discomfort and headaches
   E, all

3. In a school environment, if rainwater or floodwater is allowed to stand in puddles, it leads to the transmission of diseases like
   A. tuberculosis B. HIV
   C. malaria D. Schistosomiasis
   E. c and d

4. Excessively warm conditions of a school microclimate may lead to
   A. fatigue B. reduced learning capacity
   C. has no effect on child health D. a and b
   E, none

5. Many children spend much of their schooldays seated on possibly damp or contaminated mud floors or cold concrete floors due to shortage of furniture in primary schools, theses may pose them to,
   A. furniture may become damaged, causing injury
   B. the attendant risk of cross-infection due to overcrowding (e.g. Scabies)
   C. infections from hookworm and urinary tract infections

D. problems with joints.

E. all

5. Learning objectives:

1. Identify the role and responsibility of public health officers in the evaluation of children's health the school environment
2. Identify the importance of a health service provision
3. Identify the basic situations needed to be fulfilled in the establishment of healthy environment in the school
4. Identify and manage the common diseases acquired in the unhealthy school environment

6. Significance and brief description of the problem

Most schools in Ethiopia including those locating in the major cities don't fulfil the basic necessities. Considering a school being the first opportunity for many

children to defecate in and around the school compound. In such situations the school and its surroundings are likely to become infested with parasitic helminthes. The availability of convenient hand washing facilities is as important as safe disposal of urine and faeces. Staff and pupils must be able to wash their hands after defecation as well as before eating food. Children dipping their unwashed hands into a shared drinking-water supply are a typical route of contamination infectious diseases which can be spread via the faecal-oral route including hepatitis A, diarrhoea caused by Escherichia coli, amoebic and bacillary dysentery, cholera and typhoid. Besides this a collection of water could also be a site for multiplication of vectors like mosquitoes, snails etc.

Poorly nourished and inadequately clothed pupils are particularly vulnerable to acute respiratory infections. Conversely, excessively warm conditions may lead to thermal stress, fatigue, reduced learning capacity and, in extreme cases, heat stroke. Whereas in a crowded environment, airborne bacteria and viruses can cause cross-infection, in addition dust particles could also accumulate to make the children susceptible to acute respiratory infections and asthma. High levels of noise can cause irritation, encourage aggressiveness, reduce physical and mental performance, and cause discomfort and headaches.

In many cases the most dangerous aspect of a school is its location. (refer to core module).As well as protecting children and staff from the elements, the structure and location of a school building is intended to enhance health and well-being. But badly designed or poorly maintained structures may in fact threaten health. With a widespread shortage of furniture in primary schools, many children spend much of their school day seated on possibly damp or contaminated mud floors or cold concrete floors. This can lead to infections from hookworm, urinary tract infections and problems with joints. Overcrowding in classrooms may be followed with the attendant risk of cross-infection, for example from scabies.

7. Prevention and control of problems in the school

The public health officer plays a leading role in the school health activity. She/he is expected to coordinate the other health professionals and get a maximum effect out of the campaign.

The public health officer should actively involve in the establishment of school clinics and provision of an adequate health care to school children. He is sch( )hool chil

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    A. furniture may become damaged, causing injury
    B. the attendant risk of cross-infection due to overcrowding (e.g. Scabies)
    C. infections from hookworm and

Satellite module for Nursing Degree Students

1. Introduction

School environment is a composition of different groups of people such as students, teachers, and support staff. It also greatly involves parents and community members. This pattern of the institute provides intrinsicable relation among various societal sectors. Therefore, provision of proper and well-organized school health services is not only beneficial to the school community in preventing and control of health problems but also acts as one of the important set points in addressing health promotion activities. To achieve the objectives of school health services, the focus of school health nursing services should be on meeting the health need of each school community. Services should readily be accessible and acceptable to all and involve full school community participation. An effective partnership, which calls for an imaginative and flexible approach between health care professionals, school personnel (teachers and students) and the community is essential to translate this beliefs in to action.

1. Direction to use the module

The satellite module is the continuation of the core module in the same text, it is very vital to bear in mind that the concepts and ideas stated under the core module are useful for satellite module.

Read thoroughly and link the concepts in the core module to the satellite module

Do the pre-test

Read the learning objectives

Read satellite module content

Attempt the post test questions accordingly

Look answer keys in the appendix

Use additional reference materials to increase scope of your knowledge.

2. Pre- test questions:

1. Which one of the following is not included under the comprehensive school health program?
   a. Health education
   b. Clinical services
   c. Community co-ordination
   d. Ensuring safe school environment
   e. None
2. The role of nurse in school health program include:
   a. case management
   b. family counselling
   c. primary health care services
   d. primary and secondary prevention
   e. all of the above
3. The role of nurse on the school health team include all **except**
   a. case finder
   b. health counsellor
   c. advocator
   d. consultant
   e. none
4. Mention some of the standards of school health nursing practices
5. State the principles of school health nursing

4. Learning objectives:

Up on completion of the satellite module, the nurse students should be able to:

Mention the underpinning principles of school nursing

List components of comprehensive nursing school health services

Apply nursing process in school health services

State the important role of nurse in the team of school health program

6. **Statements underpinning the principles of school nursing:**

The following should be clearly shared by nurse during their school health practice:

Health is a valued asset. School-age children, as well as adults, have a right to the best possible state of health and equal access to health care.

The health of school –age children benefits from a specialist school nursing service.

The school –age child's individual ability to take responsibility for making his or her own decisions should be respected.

A school age child should be supported in identifying his or her own health needs.

Sense of worth depends equally on a child's concept of body image, physical well-being and academic learning achievement.

The school health nursing service should be extended to include the development of a health- promoting a school community.

6. Type of services provided by community health nurse at school

Physical examination for screening for vision and hearing

Immunization

Identification of abuse and neglect

Nutritional

School Health gives an environmental framework for school children

Nurses can provide information regarding illness and injury prevention for child care providers and teachers to improve health and safety.

Schools need assistances in devel

x

Health education should be incorporated in to school curriculum for older children and adolescents

Participate student in school health programs, partly in teaching topics related to services

- Education of families of the children may focus on coping strategies, such as division of responsibilities, identification of a frustrations, and dealing with behaviours that signifies stress and tension. Nurses are in key position to consult with these populations and serves as a resource for program development.

7. Modified nursing process application in school health using three levels of prevention

I. Primary prevention

1. Objective:

To promote health and welfare

To provide specific protection from health and safety hazards

Common health problems in most schools include:

In elementary school age children:

Injuries (burn, puncture, poisoning fracture soft tissue trauma etc…)

Respiratory tract infections such as common cold, influenza pneumonia and acute bronchitis.

Malnutrition, dental problems,

Eye infections (conjunctivitis, trachoma)

Intestinal parasotosis

Skin infections including scabies, ringworm and impetigo etc.

In secondary schools

Sport injuries

Sexually transmitted infections

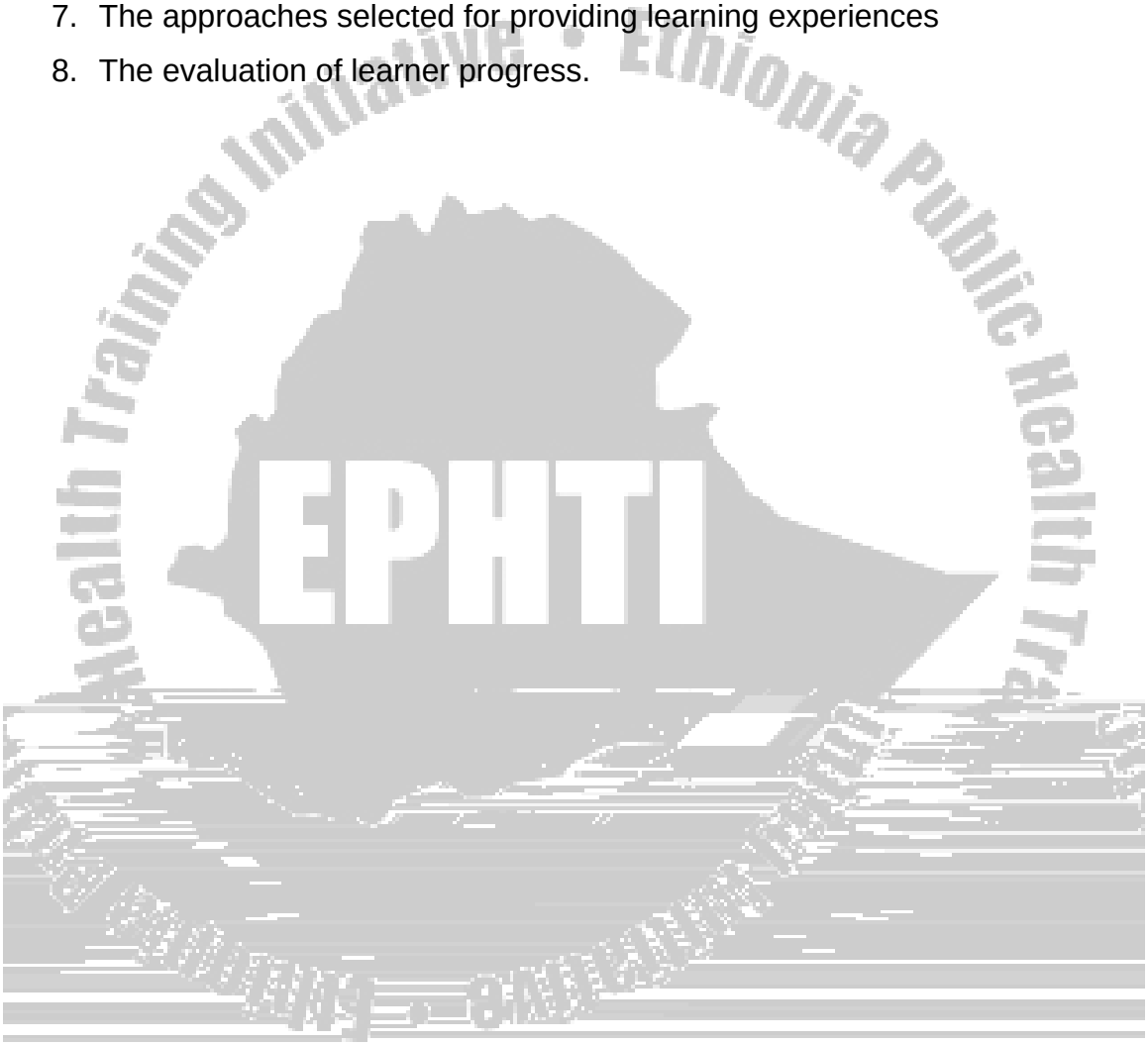
Substance abuse commonly chat followed by cigarette smoking ad alcohol abuse.

Dental diseases, mental and emotional problems

Preparing survey instruments can do epidemiological survey and case finding about health problems in the school. The instrument should include important variables that can properly address the problems under consideration.

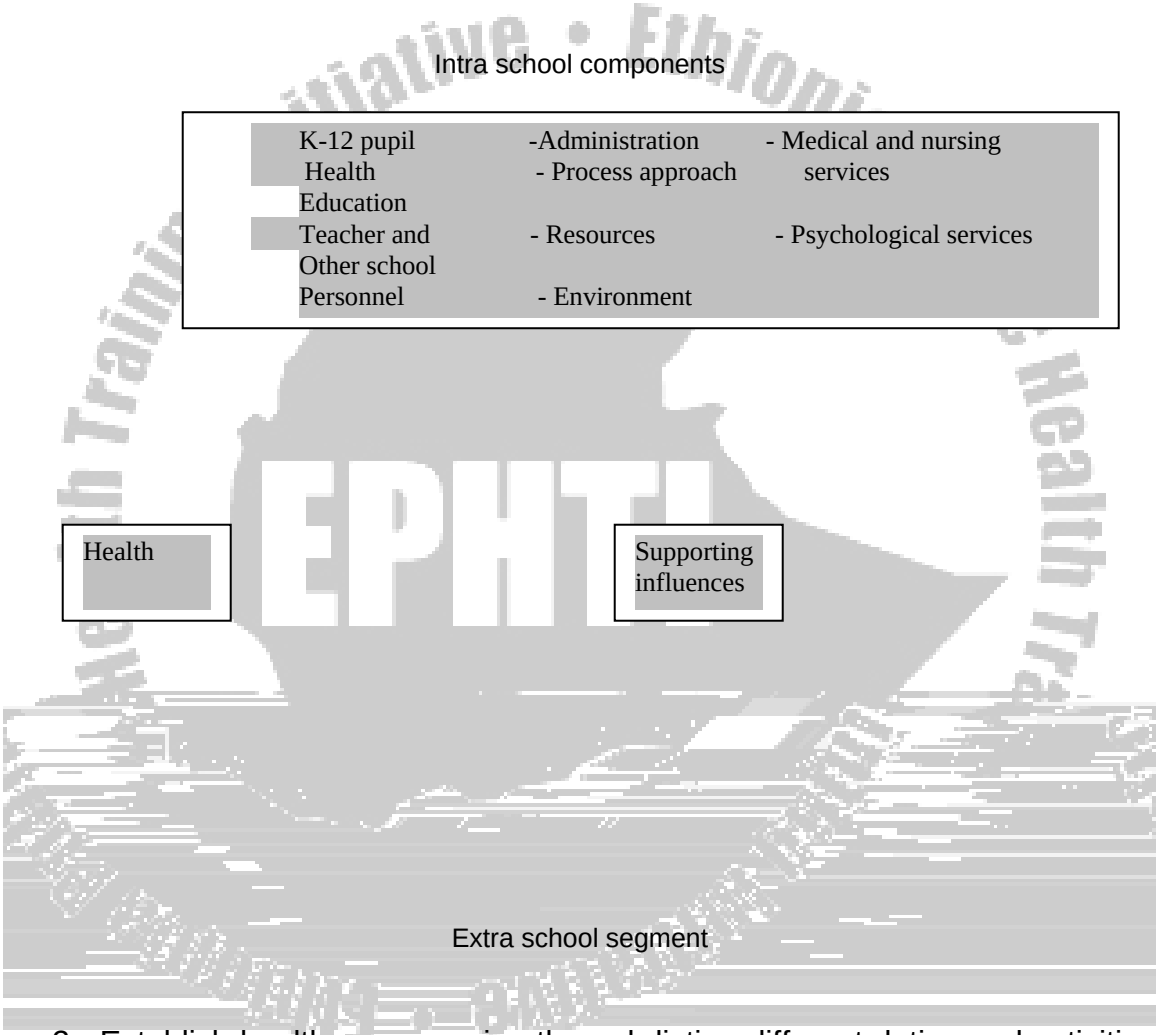
3.

1. The nature of learners
2. The quality of health educators
3. The quality of learning environment
4. School and community support
5. The quality and availability of learning resources
6. The organizational structure
7. The approaches selected for providing learning experiences
8. The evaluation of learner progress.



Elements of school health program

The school health program should extend in to the community (extra school). The success of school health efforts will depend on the quality of health education and services available and the quality of the supporting influences.



2. Establish health programming through listing different duties and activities such as coordinating similar activities for objective accomplishment. These include promotive and preventive activities (creating safe environment at school, immunization program and psychological support).
3. Conduct program evaluation: Three general levels of evaluation are necessary for a comprehensive evaluation of health service programs:

Process evaluation

Control of insect vectors

Quarantine

Reporting of the disease to the local health authority

7. Developing skills of health team and take active role in this regard:

   To establish good relation with school health team, the nurse follows the following steps:

   Listen, learn and understand

   Talk, discuss and decide

   Encourage, organize and participate

   The nurse establish health team in school through:

   Setting and sharing objectives with members

   Motivating team members to get the best out of people

   Providing technical & material support

   Evaluating the team progress

8. Facilitate utilization of preventive services and resources
9. Create environmental adaptation for special needs.

II. Secondary prevention

1. Objective

   To facilitate early identification of health problems

   To provide/ facilitate prompt intervention in presence of problems

2. Interventions

   Health interview/ history taking

   - Bear in mind that taking information form school children is not an easy thing
   - Give attention to the impact of school health problems on psychosocial, cultural, ethnic pattern on the personal health, their age, educational level, illness and health promotion behaviours.
   - The interpersonal and physical environments, as well as the student, and school personnel life styles and activities of daily living are explored in depth.

- During history taking the nurse is also responsible for obtaining detailed history of student current health problems, past medical history, family history, and review of the functional status or body systems.

3. Conducting physical assessment

The key to obtaining appropriate data in the least possible amount of time is an organized and systematic examination. Such an approach refines physical assessment skills and encourages cooperation and trust on the part of patient. The complete physical examination usually proceeds in a logical head-to-toe sequence as follows:

Skin
Head and neck
Thorax and lungs
Breasts
Cardiovascular system
Abdomen
Rectum
Genitalia
Neurological system

Four fundamental processes employed in physical examination are:

Inspection
Palpation
Percussion, and
Auscultation

4. Screening and testing

Screening is needed in school, if some diseases cannot be prevented, as the next best strategy for early detection of disease in symptomatic, apparently healthy individuals. Screening in school can be conducted at regular basis or as an ad hoc basis. It should be noted that screening differs from diagnosis, which is the process of confirming an actual case of a disease. A number of criteria must be considered carefully before a

11. First aid and emergency care
12. Crisis interventions like counselling

Tertiary prevention

1. Objective

To prevent complication and limit disability

To promote rehabilitation and maximal adaptation

2. *Intervention*

b. Clinical services
c. Community co-ordination
d. Ensuring safe school environment
e. None

2. The role of nurse in school health program includes:
   a. case management
   b. family counseling
   c. primary health care services
   d. primary and secondary prevention
   e. all of the above
3. The role of nurse on the school health team include all **except**
   a. case finder
   b. health counselor
   c. advocate
   d. consultant
   e. none
4. Mention some of the standards of school health nursing practices
5. State the principles of school health nursing

Satellite module for Environmental Health officers

1. Introduction

The future development and welfare of any country depends on the wellbeing of its current young generation such as school children. Children are constantly undergoing physical, mental, emotional and social changes. The impressions formed by the children in their first experiences of childhood are deep and long lasting. It is therefore; of paramount importance that young population are educated under sanitary and wholesome environment, that largely supports the mental, social and physical wellbeing of the children. Hence, it is critically important to establish and render basic health services in schools. Basic learning activities and information that are equally important to different categories of health professionals expected to implement health services in schools have already been covered in the core module. This satellite module focuses on the roles more specific to Environmental Health Professionals in school health services.

2. Directions for using this module

Before studying this satellite module, be sure that you have completed studying the core module.

Do the pre-test.

Continue studying this satellite module.

Identify specific tasks relevant to your profession in school health services.

Do the post-test and evaluate your knowledge.

3. Pre-test

1. One of the following statements is **not** true about school building?

   A. The doorways should open towards the outside.
   B. Each block should have a separate staircase.
   C. 150 ft^3 space per pupil is needed.
   D. Rectangular rooms are not good.
   E. a and c

2. Schools should be situated at:

A. Close to the cinema house.

B. Adjoining the public park.

C. Near large trees.

D. At least 60 ft away from the main road.

E. b and d

3. Of the following one choice is **not** true about school furniture.

A. Seats should hold two-third of the thigh.

B. single seats are the best.

C. The front edge of the seat should be rounded.

D. Students should seat at a fixed place through out the year.

E. All

4. Poorly ventilated rooms may lead the students to:

A. Eye-strain

B. Fatigue

C. Infections

D. All

E. None

5. Take the wrong statement out.

A. Artificial lights are not good for the students.

B. Natural lighting should be provided to the school building.

C. In the classrooms the main natural light should come from the left.

D. Glaring should be avoided in the classrooms.

E. None

4. Learning Objectives:

After completing this module the reader will be able to:

1. Select appropriate site for the school buildings
2 Describe the objective of school health services
3. Evaluate the physical features of schools
4. List potential health threatening factors in school compounds.

5. Physical features:

1. Site of the school:

Site selection for new school building has to involve team of professionals including environmental health personnel. During site selection, the Environmental Health Officer has to check the following parameters:

The school should be centrally located and easily accessible to students.

It should be situated at a distance of at least 60 feet (18.28meters) from the main street or road to eliminate the nuisance of noise.

The site should be elevated, well drained and should not be overshadowed by tall buildings or trees.

The area of the school should be 1 acre (0.4 hectar) for 1,000 students

A playground of 20 square ft. (1.86 sq. meters) per child should be provided.

The school site needs to be at least 1 km away from marshy area.

2. The School Building:

The building structure is another important factor that should draw the attention of Environmental Health professionals both during the construction phase and regular inspections periods of the school.

School buildings are recommended to be

The school premises should have a proper boundary wall and should be kept free from all hazards. Corridors should be 6-8 feet (1.83-2.44 meters) wide and the width of the staircase should be about 4 feet(1.22 meters) with a doorway opening to outside, provided at the bottom of the staircase as it facilitates the escape of children in case of an outbreak of fire.

There should be a separate staircase for each block and it should be protected on the open side. Staircase has to be fireproof and its width may vary from 4-6 feet (1.22-1.83 metre.)

All parts of the school building should be constructed fireproof.

A minimum of 150 cubic feet (4.247 cubic metres) per pupil is recommended. The floor space of 10-15 square feet (0.93-1.39 sq. metre) per pupil is recommended so that a 1500-1800 cubic feet (42.47-50.17 cubic metres) circulation of fresh air per head is attained. The height of classrooms

Windows are to be placed on the opposite sides of the room should be made to open, if possible, to the external side.

3. Lighting and Temperature:

Vision is a tool of learning. Natural lighting should be provided to the school buildings by the provision of adequate number of windows since ideal lighting enables the students to sit anywhere in a classroom with visual comfort. One of the responsibilities of environmental health officer in school health service therefore includes making sure that:

The proportion of the glass area provided in the walls should not be less than one- sixth of the floor area. The main light should come from the left side or from above because when one writes with the right hand, his shadow should not fall on the book. Extremely brilliant light is dazzling to eyes and should therefore be avoided by providing sun blinds.

A wet and dry bulb thermometer should be fixed in every classroom to monitor the room temperature. A permissible range of dry bulb should be 15.6^0 C to 18.3^0C and wet bulb 14.4^0C to 16.1^0 C is required.

4. Furniture:

The most important items of furniture of the classrooms are seats and desks. Single seats are considered to be the best in schools. Moreover, providing single seats to students can check the spread of infectious diseases and vermin's conditions. The Sheffield type of continuous desk with six separate seats is preferable to a long common seat and a desk.

The seat should hold two-thirds of the thigh. The front edge of seat should be rounded and its height from the floor should be such that when the child's feet are resting on the ground, the legs are in the vertical position and the thighs in the horizontal position. In other words, the height of the seat should

be such that the feet should not remain suspended in the air and the scholar should be able to rest his elbows without raising or depressing the shoulders.

There should be a provision for back rest suitably curved to the body reaching the level of the shoulder blade. Desks should be from 15-18inches (0.38-0.46metre) broad, and slope at an angle of 15^0 and 45^0 for writing and reading respectively. It should be vertically distant from the seat. The edge of the writing surface should almost fall in a straight vertical line with edge of the seat. The slight minus overlap is better than plus gap, seat. The slight minus overlap is better than plus gap, so that the student may read or write on the desk without undue leaning forward and without entirely losing the support of the back. Desks are classified into three varieties depending upon their relationship to the seats:

(1) Zero Desk. When edge of the desk is vertically in line with the edge of seat.
(2) Minus Desk. When it overhangs.
(3) Plus Desk. When there is a gap between the two.

Zero and minus desks are suitable for reading and writing. Seats and desks should be adjusted to requirements of students twice a year for the prevention of the eye-stain, fatigue and to eliminate the risk of developing orthopaedic defects. As girls grow most between the ages of 12 to 14 and boys between 14 to 19 so special care should be taken during these ages. Black boards should have dull surface.

5. Provision of Meals:

Provision of school meals is important because of several reasons:

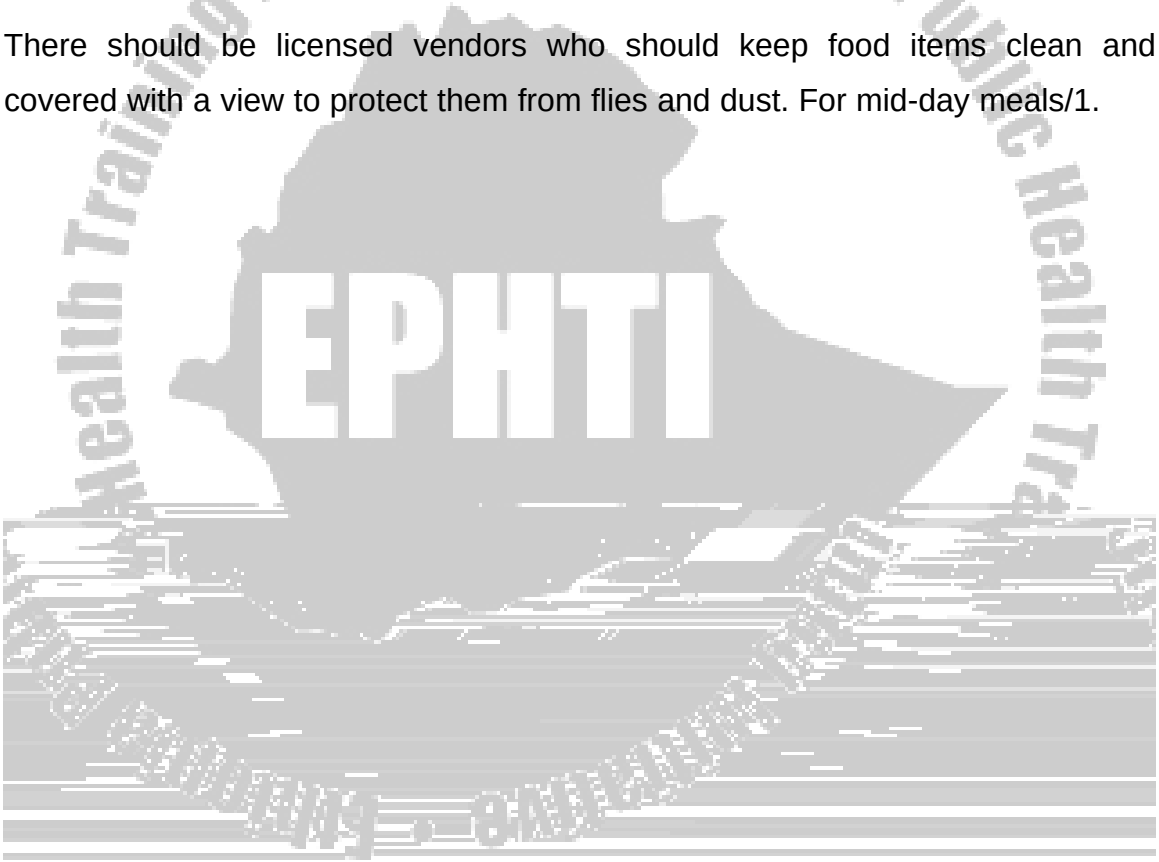
(i) school age population is a vulnerable group; forms a considerable proportion of the total population and being a controlled community can easily be reached

(ii) The school child often gets hungry in school because the child leaves home after a hurried meal and returns late in the afternoon. In rural areas the child may have to walk several miles. Thus school meal will not only correct the malnutrition due to poor diet at home, but would also combat his hunger in the school.

(iii) Educational performance of the child would improve by improving nutrition.

(iv) School meals provide opportunities for nutrition, education, food hygiene and gastronomy.

There should be licensed vendors who should keep food items clean and covered with a view to protect them from flies and dust. For mid-day meals/1.



The disposal of night soil must be regularly attended to. In the case of co-educational schools, provision of sanitary conveniences for the boys and girls must be made separately and at a sufficient distance from each other.

At the end of the days work all the schoolrooms should be swept. Once a week the furniture should be taken out of the room and the floors scrupulously scrubbed and swept. Every effort should be made to prevent a dusty atmosphere in schools.

7. Water Supply.

There should be a provision for the continuous supply of safe and potable water through taps.

In the areas with piped water supply, a small reservoir with one tap for 100 students must be provided.

In places where there is no public water supply, the well or the tank should be periodically inspected and a sample of water taken for chemical and bacteriological examination periodically.

The use of a common glass or a tumbler should be prohibited unless it can be properly cleaned, each time after use.

It is better to drink water directly from the tap. Drinking fountain, which delivers a jet upwards, may be installed where possible. Provision of one fountain for every seventy-five students is the standard aimed at.

8. School Health Service.

School health services are rendered by combined efforts of health team. The environmental health officer is expected to play a key role in the team particularly in making assessments of the school environment and taking an immediate action to tackle the identified problems. Children having medical problems require frequent inspections and follow-ups in order to:

Prevent the spread of any infectious disease.

Protect the children from parasitic infestations

Treat any mental or physical defect, or other abnormalities.

8. Post-test:

1. One of the following statements is **not** true about school building?

   A. The doorways should open towards the outside.

   B. Each block should have a separate staircase.

   C.150 ft^3 space per pupil is needed.

   C. Rectangular rooms are not good.

   E. a and c

2. Schools should be situated at:

   A. Close to the cinema house.

   B. adjoining the public park.

   C. Near large trees.

   D. At least 60 ft away from the main road.

   E. b and d

3. Of the following one choice is **not** true about school furniture.

   rn1aschool furniture. rn1asc T*s TDlTD furn Tw f 16b90.Tj 7.98 0 0 7.98 168.06 1 Tc 0.002

C. In the classrooms the main natural light should come from the left.

D. Glaring should be avoided in the classrooms.

E. None

2. PRETEST

Instruction: - Choose the best answer and write the answer on separate sheet of paper

1. Which one of the following intestinal parasite is identified by presence of the larva in stool specimen?

   A. Ascaris lumbricoids C.Strongloides stercoloris

   58

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4. COMMON LABORATORY TESTS RELATED TO SCHOOL HEALTH SERVICE

Laboratory tests may be needed when indicated by medical professional after carrying out physical examination and/ or taking health history. Most of the tests which help for school health service are performed at a health center level or conducted at the school compound during out- reach activities. The following are common laboratory investigations that are widely applicable in school health service:

Department	Type of investigations
- Parastology	Microscopical Examination of stool
	Blood film examination
- Haematology	Haemoglobin quantitation
- Mycology	Direct microscopy using KOH preparation
- Serology	Pregnancy test

An overview about the above mentioned tests are clearly described in the following subunits, so that Medical Laboratory Technology students should select and use appropriate kind of investigation based on its clinical significance to school health service.

4.1 MICROSCOPICAL EXAMINATION OF STOOL

4.1.1 Direct Microscopy with physiological saline and Dobell's Iodine

Principle: Routine microscopic examination of stool specimen with physiological saline and Dobell's iodine solution helps to detect and identify the different stages of most parasites

Materials and solutions

- Dropping bottles containing physiological saline and Dobell's iodine
- Wooden applicator sticks
- Microscope slides with cover slips
- Microscope

Procedure

1. Place a drop of physiological saline (0.85% w/v) in the center of the left half of the slide and place a drop of Dobell's iodine solution in the center of the right half of the slide
2. With applicator stick, pick up a small portion of the feces (approx.2 mg, which is the size of match head) and put it on the drop of saline. Add a similar portion of stool sample to the drop of iodine
3. Mix the feces with drops to form homogenous suspensions
4. Cover each suspension with a cover slip by holding the cover slip at an angle of 30^0 touching the edge of the suspension and gently lowering the cover slip onto the slide so that no air bubbles are introduced.
5. Using the 10x and 40x objectives, examine the saline preparation for motile forms, cysts and oocyst of intestinal protozoa and for any ova or larvae of helminthes
6. Examine the iodine solution preparation using 40x objectives to identify the cyst stages of protozoa. The iodine will stain the nuclei and the glycogen mass of the cyst
7. Report the number of larvae and each species of egg found in the entire saline preparation as follow.

Scanty……..1-3 per preparation
Few …….. 4-10 per preparation
Moderate number ……...11-20 per preparation
Many ……..…… 21-40 per preparation
Very many ……. Over 40 per preparation

4.1.2 Formal - ether concentration technique

Principle ***Formalin acts as both a fixative and preservative of protozoan, eggs, larvae and cysts. The specific gravity of protozoan cysts and helminthes eggs is greater than that of water fecal debris is extracted in to the ether phase so that the parasitic forms can be separated and then segmented by centrifugation.***

Materials and reagents

- 10% formalin
- Ether substitute
- Pointed paper cup or funnel
- Gauze
- 15 ml centrifuge tube
- Normal saline
- Centrifuge

Procedure

1. Using rod or stick, emulsify an estimated 1 g (pea sized) of faeces on about 4 ml of 10% formal water contained in a screw cap bottle or tube
2. Add a further 3-4 ml of 10% formal water, cap the bottle & mix well by shaking
3. Sieve the emulsified faces collected the sieved suspension in a beaker
4. Transfer the suspension to a conical centrifuge tube made of strong glass, & add 3-4 ml of diethyl ether or ethyl acetic
5. Stopper the tube and mix for 1 minute. (It is best use a boiling tube) don't use rubber line cap
6. With a tissue or piece of cloth wrapped around the top of the tube, loosen the stopper (considerable pressure will have built up side the tube)
7. Centrifuge immediate. At 750-1000g (approx 3000 rpm) for 1 minute

8. Using a stick or the stem of plastic bulb pipette, loosen the layer of the faecal debris from the side of the tube and invert the tube to discard the ether, feacal debris and formal water. Then the sediment will remain
9. Return the tube to its upright position and allow the fluid from the side of the tube to drain to the bottom. Tap the bottom of the tube to suspend and mix the sediment. Transfer the sediment to a slide and cover with cover glass.
10. Examine the preparation microscopically using the 10x objective with the condenser iris closed sufficiently to give good contrast. Use the 40x objective to examine small cysts and eggs. (To assist in the identification of cysts run a small drop of iodine under the cover glass). Although the motility of S stercolaris larval not be seen. The none- motile larvae can be easily recognized.
11. If required, count the nomber of each species egg in the entire preparation. This will give the approximate number per gram of faeces

4.2. BLOOD FILM EXAMINATION

Principle: Thick and thin blood film used for to check whether heamoparasites are present or not .In thin blood film the red cells are intact whereas in thick blood film the red cells heamolysed and only the parasites and white cells observed.

Materials

- Slide - methanol - microscope
- Spreader with sharp edge - staining rack - shallow tray
- A piece of gauze - Giemsa stain

Preparation of thick and thin blood film

1. Use a completely clean grease free microscope slide; add a small drop of blood to the center of the slide and a larger drop about 15 mm to the right.
2. Immediately spread the film using a smooth edged slide spreader.

5. Wipe the back of each slide clean and place it in a draining rack for the preparation to air- dry.

Reporting blood film results

1. When the blood film is completely dry, apply a drop of immersion oil to an area of the film, which appears mauve colored (usually around the edges).
2. Select an area that is well stained and not too thick. Change to the 100x objective (if required add a further small drop of oil).
3. Examine for haemoparasites.

4.3. HEMOGLOBIN QUANTITATION

4.3.1. Haemiglobincyanide (HICN) technique

***Principle*:** whole blood is diluted 1 in 201 in a modified drabkin's solution, which contains potassium ferricyanide and potassium cyanide. The red cells are hemolysed and the hemoglobin is oxidized by the ferric cyanide to methaemoglobin. This is converted by the cyanide to stable haemiglobincyanide (HiCN). Absorbance of the HiCN solution is read in a spectrophotometer at a wavelength 540 nm or in a filter colorimeter using a yellow-green filter.

Materials

- Automatic micropipette
- Photometer
- Automatic micropipette tips.
- Haemiglobincyanide
- Drabkin diluting fluid

Procedure

1. Measure carefully 20 µl (0.02ml) of capillary blood or well mixed venous blood and dispense in to 4 ml drabkin's neutral diluting fluid

2. Stopper the tube, mix, and leave the diluted blood at room temperature, protected from sunlight, for 4-5 minutes.
3. Place a yellow green filter in the colorimeter or set the wavelength at 540 nm.
4. Zero the colorimeter with drabkin's fluid and read the absorbance of the patient's sample.
5. Using the table prepared from the calibration graph, read off the patient's hemoglobin value.

4.3.2 Acid- Hematin (sahli- Hellige) Method

Principle: Hemoglobin in a sample of blood is converted to a brown colored acid- hematin by treatment with 0.1N HCl and after allowing the diluted sample to stand for 5 minutes, to ensure complete conversion to acid hematin; it is gradually diluted with distilled water until its color matches with the colour of an artificial standard (tinted glass).

Materials

- Sahli hemoglobinometer
- Sahli pippet
- Stirring glass rod
- Dropping pippet
- Absorbent cotton
- 0.1N HCl
- Capillary blood sample collection materials

Method:

1. Fill the graduated tube to the "2.00" mark of the yellow graduation with 0.1N HCl
2. Draw venous or capillary blood to the 0.02 ml mark of the sahli pippet don't allow air bubbles to enter. With venous blood ensure that it is well mixed by inverting the tube containing it and anticoagulant repeatedly for

about 1 minute immediately before pipetting it. If using capillary blood, don't take the first drop of blood from the finger

3. Wipe the outside of the pippet with absorbent paper. Check that the blood is still on the mark
4. Blow the blood from the pippet into the graduated tube, which contain 0.1N HCl. Rinse, the pippet by drawing and blowing out the acid solution 3 times. The mixture of the blood and acid gives a brownish color. Allow to stand for 5 minutes
5. Place the graduated tube in the hemoglobinometer stand facing a window. Compare the color of the tube containing diluted blood with the color of the reference tube. If the color of the diluted sample is darker than that of the reference, continue to dilute by adding 0.1N HCl or distilled water drop by drop. Stir with the glass rod after adding each drop. Remove the rod and compare the color of the tube with the standard columns. Stop when the color matches.
6. Note the mark reached. Depending on the type of hemoglobinometer this gives the hemoglobin concentration either in g/dl or as a percentage of "normal". To convert percentages to g/dl. Multiply the reading by 0.146.

4.4. POTASSIUM HYDROXIDE (KOH) PREPARATION

Principle: Fungal elements may be obscured by skin, hair or nail tissue. KOH dissolves keratin in these specimens, facilitating observation of the organism's morphology. KOH preparations are used in the initial examination of keratinized tissue suspected of fungal infection

Materials and reagent

20% KOH solution

Microscope slide with cover slip

Microscope

Pasture pippet (dropper)

Procedure

1. Into one drop of KOH reagent on slide, place a small portion of material (skin scrapings, hair, and nail) to be examined
2. Press cover slip down on sample
3. Warm slide gently to dissolve keratinized cells. Don't boil
4. Allow specimen to clear, approximately 20 minutes
5. Examine under low (10x) and high- dry (40x) magnification

Interpretation

Observe for the presence of characteristic fungal elements, including hypae, budding yeast, and spherules.

For hair specimens determine if infection is ectothrix (outside shaft of hair) or endothrix (inside shaft of hair)

4.5. PREGNANCY TEST

Pregnancy test can be conducted at a level of secondary school health service. The principle, materials required procedure and interpretation of test results is highly depend on the type of kit, which is produced by different manufacturer. The best way to apply these test kits is reading the kit insert before starting any activity.

5. POST TEST

The following post test questions are designed to asses your understanding of the satellite module, attempt all of them and compare your results with the answer key on *page 20.*

Instruction: - Choose the best answer and write the answer on separate sheet of paper

1. Which one of the following intestinal parasite is identified by presence of the larva in stool specimen?

A. *Ascaris lumbricoids*

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3. Learning Objectives:

After completing this module, the reader will be able to:

1. Select appropriate site for the school buildings
2. Describe the objective of school health services.
3. List basic school health services.
4. Evaluate the physical features of schools
5. List potential health threatening factors in school compounds.

4. Basic School Health Services.

4.1 The School Environment:

a) Site:

Each room should be able to accommodate 25-50 children. Rooms should preferably be rectangular, the width being tow- thirds of the length.

Floors should be made of impermeable materials with smooth surface to facilitate easy cleansing.

Classrooms have to be provided with adequate natural light through construction of appropriate windows.

The height of the seat should be such that the feet of the children should not remain suspended in the air.

There should be a provision for backrest suitably curved to the body reaching the level of the shoulder blade.

c) Improving Hygiene and Sanitation Conditions in schools:

Preventable hygiene and sanitation related health problems are more prevalent among children than any segment of population. Fulfilment of the following preventive measures in school compounds is therefore, mandatory to effectively tackle the occurrence of these diseases.

Pit latrines and urinals should be provided in schools.

There should be hand washing facilities so that students after a visit to the latrines or closet.

There should be a provision of at least five closets and an equal number of urinals for every 100 students.

The disposal of solid wastes must be regularly attended to.

In the case of co-educational schools, provision of sanitary conveniences for the boys and girls must be made separately and at a sufficient distance from each other.

All the schoolrooms should be swept at the end of the day's work.

The furniture should be taken out of the room and the floors scrupulously scrubbed and swept once a week. Every effort should be made to prevent a dusty atmosphere in schools.

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8. Immunisation:

Immunization is one method of preventing children from risk of communicable diseases. Schools are therefore, the ideal places where vaccination programs can be conducted effectively.

4. Health Education:

Health education is the processes of helping people make an informed decision about their own health issues. What children do, for instance eating with out washing hands, open defecations, etc determines their health status. Changing and shaping the children towards desirable behaviour right from their childhood is therefore, critically important to promote health in school environment. Health education is one of the best tools to bring behavioural changes. The health extension professionals can largely contribute in the implementation of the following tasks:

1. Provision of health education in schools on regular bases in schools on:
   - personal hygiene
   - sanitation of play grounds
   - sanitary campaigns
   - environmental beautification.

2. Provision of health education to parents (focussing on mothers) of the children especially during household visits/inspections on a regular basis:
   - how to prepare and store children's food in a hygienic way.
   - cleanliness of play and sleeping places.

5. Control of Communicable diseases in schools:

- Detection of early signs and symptoms of infectious diseases
- Referring students with suspected infections to the local health centre and then to make a close follow up.

- o Inspection/visiting homes of the cases and investigating risk factors for health problems.

6. Provision of Meals:

Provision of school meals is important because of several reasons:

(i) school age population is a vulnerable group. The school child often gets hungry in school because the child leaves home after a hurried meal and returns late in the afternoon. In rural areas the child may have to walk several miles.

(ii) Educational performance of the child would improve by improving nutrition.

(iii) School meals provide opportunities for nutrition, education, food hygiene and gastronomy.

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UNIT FOUR

ROLES AND TASK ANALYSIS

At the end of reading thoroughly the module, the health professionals should acquire a basic knowledge, attitude and practice towards school health.

Knowledge

The health officer student should know about:

- the importance of school health
- the role of a proper school location
- the need of a school clinic

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	children. - Believe that regular inspections and follow-ups help identify risk factors in advance and take action. - Agree with the facts that young school children are risk groups and thus need a close care. Laboratory technologists should - Help believe that early detection of school health problems helps in the appropriate management - Promote the importance of screening tests
Practice	A health should regularly practice - coordination and playing a leading role of the team in school health service delivery - undergo regular follow up - identify common diseases and manage accordingly - facilitate immunization programmes toward infectious diseases - proper recording and reporting of cases identified Nurses are responsible to - assess health problems prevalent in school health - list the major health problems and set priority order - established goals based on the identified problems - provide health education - treat common diseases - establish functional referral system - prevent accident and injuries - give first aid measures

Environmental health professionals should

- Identify health-threatening conditions in schools and take appropriate measures.
- Make site selection for construction of new schools.
- Give health education in schools to increase the awareness of the student population about safety of their environment.
- Carry out regular inspections in schools and be actively involved in solving the problems.

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REFERENCES

(1) WHO. WHO Expert Committee on Comprehensive School Health Education and Promotion. Geneva, World Health Organization, 1995.

(2) Leslie J & Jamison DT. Health and nutrition consideration in education planning. 1. Education consequences of health problems among school-age children. 2. The cost and effectiveness of school-based interventions. Food and nutrition bulletin, Vol 12, 1990, 3:191-214.

(3) Winblad U. Education without buildings - a call for a total environment for education. In: Proceedings of the UNESCO-Lok Jumbish Seminar on Rural Schools Architecture,
Jaipur, India, 27 April - 1 May 1993. Jaipur, Lok Jumbish Parishad, 1993.

(4) Spence R et al. Technical guidelines for building for safety. London, Intermediate Technology Publications, 1995.

(5) WHO/UNEP. Indoor environment - health aspects of air quality, thermal environment, light and noise. Geneva, World Health Organization, 1990 (unpublished document
WHO/EHE/RUD/ 90.2).

(6) Sörensson M. School hygiene education and sanitation in 22 primary schools in Madras, India. The Hague, International Water and Sanitation Centre, 1992.

Morgan P. Rural water supplies and sanitation. London, Macmillan, 1990.

(8) Winblad U & Kilama W. Sanitation without water, revised ed. London, Macmillan, 1985.

(9) Monica cheesbrough. District Laboratory Practice in Tropical Countries

For Nurses

1. E
2. E
3. E

For Environmental Health professionals

1. D
2. E
3. D
4. D
5. A

For Medical laboratory technologists

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