MODULE 4 APPLICATION AND UTILISATION OF LEARNING MATERIALS IN THE CLASSROOM

Unit 1 Planning and Preparation of Lesson Notes

Unit 2 Effective Use of Neighbourhood and Environmental Resources

UNIT 1 PLANNING AND PREPARATION OF LESSON NOTES CONTENTS

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1.0 INTRODUCTION

In module 3, you learnt the theories of learning materials design. You also applied the basic principles of learning materials design into a usable reality. By so doing, you realised that indeed the systematic approach entails analyses and planning at every stage. It is important to note that all through, from the conception of an idea, to the designing, the developing, and the production of the learning materials, planning is of the essence. So, in this unit, you will be able to see that even in the classroom, when you use the systematic approach to plan and present your lessons, you will also be engaged in analysis and planning, preparation and evaluation. It is the only way to the effective achievement of your objectives.

2.0 OBJECTIVES

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

- plan a lesson linking content to the approved curriculum/syllabus
- prepare the learning environment adequately to enhance the achievement of learning objectives

• describe how to integrate learning materials into the learning activity to meet the different needs of your pupils

• evaluate the success/effectiveness of learning material.

HOW TO STUDY THIS UNIT

Read through this unit carefully. Study the unit step by step as the points are well arranged.

NOTE: All Answers to Activities and Assignment are at the of end this Book.

3.0 WORD STUDY

Lesson: - This is a preparation notes on the subjects to be taught on a daily basis. It is a layout of how you intend to present the lesson from the beginning to the end.

Formative Evaluation: - This is type of evaluation is done within the lesson. The teacher observes the progress made by the learner as the lesson takes place.

Summative Evaluation: - This refers to the evaluation done at the end of the lesson, which is to help the teacher find out what has been learnt.

4.0 MAIN CONTENT

4.1 Plan the Lesson

You are going to apply all that you've learnt previously in units 2, 3, and 4 of Module 1, and in Module 3, particularly. Each of the steps you use in planning an integrative lesson is a micro approach of the development and production of learning materials. Your ability to organise and structure the learning situation is very essential. You need to systematically plan to integrate instructional/learning materials with your overall lesson plans right from the beginning.

Lesson plan is the preparatory notes on the subjects to be taught on a daily basis. It is the layout of how you intend to present the lesson from beginning to the end. A lesson plan is one of the tools that promote communication of learning in the classroom. As a good teacher, you are expected to plan your lesson, stating the steps you will follow to achieve the stated objectives. It is often said that if you fail to plan, then you have planned to fail. This is very true in teaching and learning.

4.2 Important Consideration before Preparing a Lesson Plan

According to Olutade (2006), preparation of a lesson plan is not an easy task for a neophyte (new/inexperienced) teacher. Certain conditions must be fulfilled in order to make the task easy.

Stating this condition, she itemised the following.

- Consult the current curriculum/scheme of work for the topic
- Think out the objectives of the lessons
- Consult reference books and textbooks for more information and content
- Organise and assemble learning contents needed for the lesson in logical sequence
- Decide on the teaching and learning aids to use
- Think of the most suitable methods of teaching to use
- Think of the subject matter and questions required at each stage of the lesson
- Ensure accuracy and adequacy of facts

Think of the individual differences of your learners and make provision to accommodate them; when you do this, you will have a very clear mental picture of the lesson and planning becomes easy.

Lesson planning is very important. When assessing a good lesson plan, you will generally consider the followings.

- every lesson plan has a beginning, a middle and an end.
- lesson plans are proposed details of the work to be done in one lesson. (objectives, contents and evaluation)
- lesson plans are meant to guide the teaching methods to be selected to deliver the learning points and the activities to be engaged in the lessons (i.e. organisation of learning environment).

So, your assessment should be able to identify what extent the plan will show those considerations mentioned above.

4.3 The Lesson Plan

There are 7 major elements in a good lesson plan. These are:

- information about your class and the pupils
- the objectives of the lesson
- the content of the lesson
- the teaching learning materials/methods
- organisation of the class
- presentation of lesson plan
- evaluation

4.3.1 Explanation of the Elements in a Lesson Plan

• Class: you are already familiar with the pupils in your class (See Module 1, Units 2 & 5 and Module 3, Unit 2, to refresh on what to consider further) to bring out those characteristics and background of your pupils that might affect how the lesson is to be handled.

- **Subject**: this is the subject you teach which is guided by the school syllabus and the National Curriculum,
- **Topic**: choose your topic from the scheme of work. You should research the topic to make sure you fully understand it.
- **Duration**: decide whether you will require more than one normal class period to cover the topic, depending on the approach adopted.
- **Content**: having researched the topic you can decide what information and skills are involved. State them and select those that are necessary in achieving the objectives of the lesson.
- **Objectives**: it is important that you state the objectives of the lesson i.e. what the pupils will be able to achieve as a result of their learning efforts and as a result of participating in your lesson.

What are the skills, concepts or attitudes the child should learn? For example, the objective statement of "the child will be able to identify the letter M in a group of other letters" is different from, an objective statement of "given the letter M in a group of other letters on the board, the child will be able to identify the letter M". You can see that statement like "teaching the alphabets M and N" does not tell us what to do. The child can learn to write them, recognise them, make the sounds they represent, say a word that begins with each, differentiate one from the other, etc. The specification or performance word must be indicated. A renowned researcher named Benjamin Bloom prepared the taxonomy of behavioural objectives. This was discussed in Module 3, unit 2 on page 110.

4.4 Elements of Evaluation Instruments

How do we know that learning has taken place as a result of your presentation in the lesson? Usually you ask the learners questions or you test them. You can also ask the learners to do something or create something. The objectives guide you in setting the questions and activities of evaluation. There are two types of evaluations. Evaluation within the lesson (*formative evaluation*) helps you see if the learner is following and progressing; the evaluation at the end of the lesson (summative evaluation) is to help you find out what has been learnt.

4.5 Strategy/Method

The teaching strategies and methods are very important aspects in a lesson plan. You need to select a suitable teaching-learning pattern to achieve the objectives. There are three aspects to consider.

- (i) Class grouping. Are the pupils to work individually with the help of workbook? Are they to work in small groups which you have decided upon? Are you taking them as a whole class? For this lesson, when should they work as individuals, groups, or as a whole class? Remember that working in small groups and as individuals offer the pupil more opportunities to interact with the learning materials and with the teacher. Naturally, children play and interact in small groups. We should therefore explore the advantages of small group learning in the classroom. Help the children to form research, reading or discussion groups to work in learning centers. Small group based learning helps you to achieve the following.
 - reduces teacher talk in the classroom
 - increases pupil participation
 - increases attention given to individual pupils
 - increases pupil-pupil cooperative learning
 - makes learning more relevant to the pupil's situation
 - reduces meaningless rote memorisation of facts
 - increases the pupils' ability to find out for themselves instead of learning about ready-made conclusions.
- (ii) Instructional Materials/Media. What instructional materials are necessary for the learning of the skills, concepts, and attitudes? Think of the different things you can do with each of the materials treated in this workshop of the learning materials listed on page 96. Now do your selection.

Do you need a flip chart, a flash card, the chalkboard or a tape recorder? Can you get the materials readymade, or do you have to make them?

Are they appropriate to the abilities of the pupils and are you able to use them? If your answers to the questions are positive, then you can choose them for the lesson?

4.6 Teaching Technique and Method

Teaching strategies and methods are very important aspects of a lesson. Should you give the pupils the facts straight in a lecture (rote learning): allow them to work with structured materials in groups, to discover, discuss and come up with suggestions; work individually with a structured text; interview their parents and report their findings? You have to choose between rote learning and active participatory discovery learning.

You can see that class grouping, instructional materials, and methods are related, and should be decided on systematically. When this is done, you then arrive at your strategy, which you now state in steps.

Example

Step I. Teacher explains what is to be done to the whole class, making them understand the objectives. He divides the class into groups and supplies them with the necessary materials.

Step II. Children experiment with the materials in groups. Teacher moves from one group to another to observe what is being done and ask helping questions.

Step III. The children write down their findings, and answer follow-up question individually.

Step IV. The whole class come together to ask question, to clarify ideas.

You should try to assign specific time to each of the segments from the available period for the lesson.

The following table will help you decide on class grouping, materials and techniques you could select for your lesson.

Table 1.1: Instructional Strategies/Media

S/N	Teaching	Characteristics	Learning Influences
	Strategy		
1	Demonstration	Impinges on vision	Develops
		Both teacher and learner –centred	psychomotor skills
		Intensive teacher use	and makes abstract
		Less information per unit time	concept concrete
		May involve small or large groups	
		Develops psychomotor skills	
		Teacher–learner contact may or may not	
		be close	
		• Impinges on some of hearing when words	
		are used to explain actions and reactions.	
2	(Deductive	Involve small groups	Develops logical
	dialogue)	Teacher-learner centred	reasoning and
	Questioning	Develops mental operations	encourages
		Less information per unit time	meaningful debates
		Teacher–learner contact very close	
		• Excites learner's inquisitiveness and alert	
		mind	
		Encourage debates	
		Teacher intensively used	
3.	Audio-visual	Involves large /small groups	Improve learning
	aid	Increases visual impression	by improving visual
		Can be used for individualised learning	impressions.

			Ta
		 Encourages redundancy (repetitive) Involves teacher in serious preparation Production cost high because of equipment Releases teacher for other jobs 	Stimulates interest and arrests attention
4.	Program Tutoring	Involves small group Teacher–learner or learner-learner centred Use of hierarchically structured materials Teacher involved in serious preparation Use of fellow learner releases teacher for other jobs	Builds up trust and confidence and problem encountered in learning easily discovered because of close contract.
5	Lecture (talk)	 Involves large group mainly teacher-centred in intensive teacher use Impinges mainly on sense of hearing Encourages rote learning More information per unit time abstract concepts are not concrete 	Encourages use of the library and research.
6.	Audio and video-recorded programme	 Involves small /large group Communicates at the level of the learner Impinges on senses of hearing and sight Encourages redundancy Encourages individual learning thus entering for individual differences Involves teacher in serious preparation Production cost is high because of equipment and materials Releases teacher to supervise and interact with individual pupils/ students 	Learning outcome is comparatively high if learners are adequately prepared for programmes
7	Personalised System of Instruction (P.S.I.)	 Involves use of concrete and realia Involves individual and /or group learning Caters for individual differences Involves heuristic leaning (relating to past experience and reasoning) Whips up special interests Teacher involved in serious preparation and cost of preparation minimal Helps in handling large classes Encourages proper teacher—learner interaction Allows teacher to pay special attention to individual learners Hierarchical approach can be used 	Learning problems are easily observed and learner's confidence in themselves and in the teacher improves.
7	Seminar- Plenary Session	 Involves small/large group Seminar uses small groups and the same or different teachers 	Corrects wrong information an impressions points

			1
8	Computer- assisted Instruction (C.I)	 Plenary uses large groups and pools information and methods from seminars together for increase in information Encourages questions and answers which lead to core explanations and better understanding Requires many teachers. Opportunity for group teaching. Individual/group use Immediate feed back Hierarchical approach redundancy Releases teacher for other jobs Involves teacher in serious preparation Can be costly because of equipment and materials used. 	Halo effect on Learning. Encourages good understanding
9.	Use of Modules	 Divides information into compartments for easy management and understanding Hierarchical approach can be used to manage large groups takes care of individual differences involves teacher in serious preparation 	Simplifies learning and conceptualisation through hierarchical approach
10	Media or Methods Equipment	 Makes equipment and materials easily available Ensures close supervision by technician to avert accidents Encourages individual learning Encourages redundancy Gives immediate feedback Imparts psychomotor skills 	Enhances interest in learning
11	Distance Learning	 Involves large group. Distance poses no barrier Requires minimum infrastructure Individualised learning Use of module strategy Hierarchical approach Involves audio and video use and correspondences Involves many teachers in serious preparations Calls for effective distribution, reception and transmission skills May involve face-to-face contact sessions Encourages working—learning situations Costly to set up in terms of equipment and materials 	Influences learning at minimum cost to the learner. Makes information available to large groups at all levels. Learner –centred.

12	Games and Simulation	Games use rules and regulations - Use simulator and calculators Involve small groups - Make abstract theories concrete Simulations: no rule or regulations use simulators and may use calculators involve large/small groups make abstract concepts concrete use scenarios as trigger points	Reduce strain inherent in abstract thinking. Lead to proper application of theories to practice. Unless carefully managed, may turn serious learning into play
		Both involve the teacher in serious preparation. They require the presence of the teacher for initial guidance and direction	
13	Case Study	 Involves small/large groups Excites mental operations Encourages individual learning Involves teacher in creative thinking Preparation cost is not much 	Training is decision -making
14	Dramatisation / role playing	 Involves small/large group Involves teacher in creative thinking Character and stage costing may be high Involves imitation of characters created by writer Mimics social events Allows for pupils' writing creativity 	Kills stage fright and develops speech and acting skills
15.	Play	 Popular with nursery and infant primary classes Involves teacher in creative thinking mimics experiences and situations Involves small or large group Involves children's creativity Allows freedom of expression Allows high level of interactions among peers 	Reduces tension of social adjustment. Motivates learning through enjoyment. Develops self confidence and communication skills. Makes learning memorable.

In the actual delivery of the lesson, you need to remember what was mentioned before. This is that each lesson has a beginning, a middle and an end. The time allocation for each lesson must be well distributed to ensure adequate time for the main learning points. Below is the basic format of a lesson plan.

Sample of lesson plan format

- Name of teacher:
- Subject:
- Class:

- Topic:
- Duration:
- Date:

Objectives: (i)

Previous knowledge: Method of teaching: Table 1.2: Presentation

Time	Teacher's	Students Activities
	Activities	
Introduction (5 minutes)		
Development of lesson in		
steps (25 minutes)		
Conclusion		
Summary (5 minutes)		
Evaluation (5 minutes)		

The timing of the lesson depends on the time allotted to each period per school.

5.0 ACTIVITY

- 1. State the conditions for the preparation of a lesson plan as opined by Olutade (2006).
- 2. Explain the basic elements in a lesson plan.

6.0 ASSIGNMENT

What is class grouping? Discuss the advantages of small groups.

7.0 SUMMARY

In this unit, you have learnt the followings.

- The elements in lesson plan were explained and some pertinent examples given.
- The issue of selecting appropriate and relevant strategies, methods or techniques was addressed and a useful table you could refer to over and over during your career as a teacher was presented.
- In the next unit, you shall be learning another aspect of teaching, which is the presentation of the lesson.. So, look forward to add to your knowledge of good presentation.

8.0 REFERENCES

Beswick, N. (1973). *Resource Based Learning*. London: Heineman Educational Books.

- Institute of Education, Ahmadu Bello University, Zaria (1977). *Activities for Primary School Classes*. Ibadan: Oxford University Press;
- Johnson, H. I. (2001). Effective Use of the Neighbourhood and Environmental Resources. In *Production and EffectiveUtilisation of Teaching Learning Materials:* FGN/UNICEF Primary Education Project. Kaduna: National Educational Technology Centre (NETC). Note: the NETC has been ceded to the National Open University since 2003.

UNIT 2 EFFECTIVE USE OF NEIGHBOURHOOD AND ENVIRONMENTAL RESOURCES

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
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 - 4.2 Guidelines in Effective Utilisation of the Local Environment
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- 6.0 Assignment
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1.0 INTRODUCTION

Have you or your colleagues been complaining that you have no learning materials to teach in your class? Just think again, in fact, what the environment can offer you is far more that you can imagine. All through this course, you have been made to explore the systematic approach to the design and production of learning materials. In the last unit, you were able to discover that the systematic approach, which is also adopted for instructional design, is versatile and can be applied to your lesson planning for effectiveness. One central element in your lesson plan is the selection of learning material. Also crucial are the aspects of integrating, utilisation and application of learning materials in the teaching episode plans. This unit will guide you in the effective use of the environment as learning resources.

2.0 OBJECTIVES

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

- identify local examples of objects, situations, and events in the various subject areas which would qualify your local environment as a learning resources center
- prepare a portfolio of environmental resources in your neighborhood under the headings: people, places, events, and buildings
- describe the steps in planning a successful field trip
- describe a topic for project work based on the environment.

HOW TO STUDY THIS UNIT

Read through this unit carefully. Study the unit step by step as the points are well arranged

NOTE: All Answers to Activities and Assignment are at the of end this Book.

3.0 WORD STUDY

Field Trip: - This refers to learning outside the school environment.

Environmental Resource: - This refers to people, places, natural and manmade, events, arts and crafts, Historical/Cultural artifacts and agencies found in the society.

4.0 MAIN CONTENT

4.1 The Importance of the Environment as a Learning Resource

The environment begins from the point we are, in the classroom. The environments can be seen as concentric circles radiating outwards from the classroom and including the school compound, the village, the local government area, the state, the country and the world. You should however be particularly concerned with your immediate environments including your community and extending to the local government area.

The school is often accused of concentrating on book knowledge divorced from the realities of the child's home and community. The child fails to see the relevance of what he is learning in school to his/her everyday life. Do you agree with the statement? By reflecting on your teaching practice or that of your colleagues, how will you attempt to bridge the gap between what is provided and what you need?

4.1.1 Ways of Using the Environment

One sure way of bridging the gap between the home and the school is by making the child see the relevance of learning in school to daily life in the local environment/community. You take the class into the neighbourhood, and bring the neighbourhood into the class. There are several approaches of making use of the environment in the teaching-learning process; these include the following.

Identifying and selecting real examples from the environment to illustrate topics in all subject areas.

The environment constitutes a wealth of resources from which you can choose your examples. By so doing, you will be able to discuss the topic from the real world of the children. Animals, plants, events and conditions, which are familiar to the children,

can be used. You may refrain from citing examples from a different world which the children cannot imagine, such as peaches and snow.

REMEMBER! Learning materials must be relevant to the learners.

Examples abound in the community to illustrate your teaching in Science, in Mathematics, in Social Studies, language/literacy, etc.

In English language, for example, you can make the children talk and write about their own experiences, what they did the previous day, what their parents do, or what happens in their families. The journey from the street where they live to school can be the beginning of map drawing practice in Geography/ Social Studies.

Undertaking field trips: You can visit the site with the children in order to have a planned observation of features in the local environment. You can start with places within walking distance from and around the school. Back at school, they should talk and write about their observations. This could be progressively extended outside the country.

Organising project work: The geography, history, occupation arts and culture of your community are worth studying by your pupils to have a better understanding of the things around them. This will help them develop a greater curiosity about the wider world. There are several everyday places and events in your community which may look ordinary, but which could reveal fascinating information on closer study. This is really the beginning of "local history". The village market, church, mosque, stream, farm, and festivals are some examples.

Learning points: Each of these places could be considered *learning points* in the community. Various learning activities could be developing around each learning point to cover the subjects in the curriculum. Each aspect of the learning point could be explored separately by the whole class over a period of one term, or by groups of pupils, each reporting back its findings to the class.

Resource persons in the community: The people in the community are valuable learning resources which are usually neglected. Parents can be invited to give a talk to the pupils in your class. Parents have acquired, through first hand experiences, a lot of knowledge which could be used by you to make certain lessons come alive. Traders who travel from one part of the country to another, retired soldiers, craftsmen and women, farmers, etc have knowledge to be shared with the children. A short story by a trader can be a good motivating introduction to a Mathematics lesson on profit and loss.

You can persuade the identified resource persons to come to school and talk to the pupils or you can have the pupils interview them in their houses/shops with the help of a tape recorder. The pupils should think of relevant questions to ask the person on the topic, questions that will enable her/ him clarify issues.

4.2 Guidelines on Effective Utilisation of the Environmental Recourses

As a starting point, it is necessary for you to compile a data bank of environmental resource ideas under the following headings.

- People
- Places; natural and man-made
- Events
- Arts and crafts
- Historical/cultural artifacts
- Agencies, etc. We have referred to these aslearning points.

Prepare a card index for each identified "learning point", giving a brief description of its location and the potentials for learning. File this in an empty shoe box for safe storage and easy reference/retrieval when needed. This then becomes your data bank. You can share your port folio/index card with your colleagues to source for ideas.

When you have decided to use any of the identified resources in your data bank, follow the steps below to achieve your aim.

Preparations

- Make a preliminary visit to the location/person to seek permission for a visit or interview, and to familiarise yourself with the location.
- Seek permission of parent/school authority if the place is far from the school.
- Plan learning activities that will be undertaken before, during, and after the visit.

Pre-visit activities include the following.

- a. Writing letters to the people concerned
- b. Preparing necessary work cards indicating what to look out for or activities to perform
- c. Assigning responsibilities to the children as individuals and in groups
- d. Guiding children to prepare questions for their investigation. These questions could be sent to the resource person or people in advance
- e. Arranging for extra adult assistance to care for the children if the place is far and the class is large
- f. Arranging for transportation and a guide if necessary. Parents may be willing to pay for the trip
- g. Ensuring adequate welfare for everybody- food, first aid, etc.
- Make the actual trip lively, participatory and memorable.
- Encourage children to observe interesting things and places enroute, talk about them as you go.

• Encourage children to ask and get answers to their questions while encouraging courteous participation. Older children should be encouraged to make written notes and sketches of their experiences.

- Use the tape recorder to record events and answers to questions.
- Indicate other subject linkage you have observed which can be a reference point for another lesson e.g. gulley erosion, ant hill, etc.
- Plan well and keep to time.

Carry out follow-up activities.

It is usually in the follow-up activity period that the most important learning may take place.

Encourage the learners to react to their experiences through:

- group reports
- creative writing
- story telling
- modeling and drawings
- acting and bulletin displays.
- a. Discuss and help to clarify pupils' experiences.
- b. Arrange an exhibition of the children's work based on the trip.
- c. Prepare a written evaluation of the trip.
- d. Evaluate the non-curricular aspect of the trip children's behaviour and adequacy of welfare provision.

4.3 Planning and Organising a Class Project

Example of the market project work is an approach of letting the pupils find out and study interesting aspects of their environment for themselves instead of the teacher telling them in the class. If it is planned, it is a way of enabling the children to utilise and apply their knowledge from the different subject areas. An event, a place, an object, or even a person in the community could be the basis for a class project work.

- With the help of the pupils, choose a topic of study, for example, the local market. Find out what the children already know about the local market. The study will confirm, refute or extend the knowledge.
- Choose aspects of the local market to be studied and prepare work cards for each, stating what is to be found out by the pupils e.g. local history of the market, the people that come to the market, what they come to buy or sell, things sold in the markets in the local government area, stories about the market.
- Assign each aspect of study to a group of pupils.

• Help each group to prepare questions and activities. A record is also to be kept by the group.

• Plan to follow up activities in several subject areas.

5.0 ACTIVITY

- 1. Describe the steps in planning a successful field trip.
- 2. Describe five ways in which you can use your local environment as a learning resource material.

6.0 ASSIGNMENT

How do you encourage learners to react to their experiences in their environment?

7.0 SUMMARY

In this unit, you have been reminded that the environment is a wealth of resources for a creative and resourceful teacher. In the process, I believe you have imbibed the following points.

- It is important to making learning relevant.
- Using the local environment as source for learning materials bridges the gap between the home and the school, showing the relevance to what is being taught and learnt.
- You are shown at least five ways in which you can use the environment for teaching and learning.
- There are at least three major steps you must take for effective utilisation of the local environment. You should compile a data bank of as many learning points as possible of people, events, places, arts and crafts, historical/cultural artifacts within the local environment.
- In order to illustrate the use for your understanding, the local market was explored as an example. It is hoped that you have been inspired to use both your imagination and creativity to see your local environment and community as resource-filled and veritable centers for learning.

8.0 REFERENCES

Beswick, Norman. (1973). *Resource Based Learning*. London: Heineman Educational Books.

- Institute of Education, Ahmadu Bello University, Zaria (1977). *Activities for Primary School Classes*. Ibadan: Oxford University Press.
- Johnson, H. I. (2001). "Effective Use of the Neighbourhood and Environmental Resources." In Nwamadi, C. O. (Ed.) (2001). Production and Effective Utilisation of Teaching Learning Materials. FGN/UNICEF Primary Education Project: National Educational Technology Centre, NETC, Kaduna Nigeria. (Note; NETC was ceded to the National Open University since 2003)