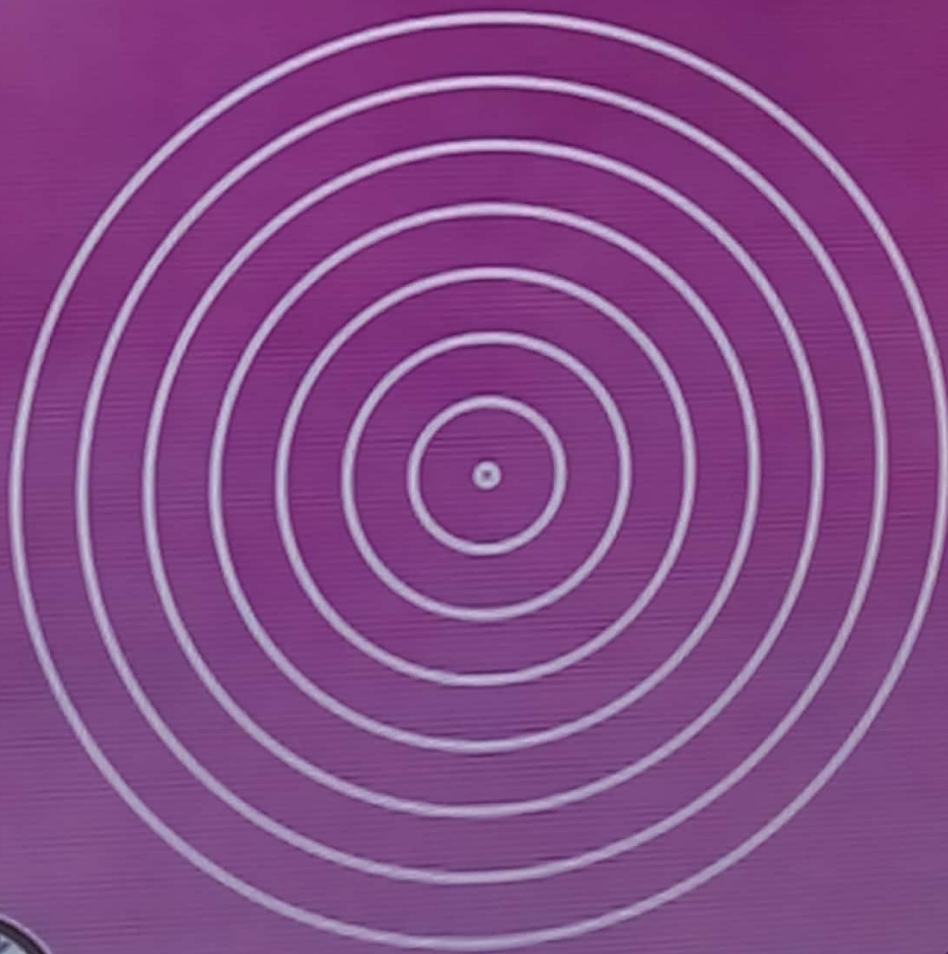


A Book of Reading in

INSTRUCTIONAL PEDAGOGY



**School of Science &
Technology Education,
Federal University of Technology,
Minna, Niger State.**

A BOOK OF READING IN INSTRUCTIONAL PEDAGOGY

Compliment of the Dean SSTE
~~Abimbola~~ 11/3/2021

~~T.M. SABA~~

School of Science & Technology Education,
Federal University of Technology,
Minna, Niger State.

A Book of Reading in Instructional Pedagogy

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FOREWORD

It is with great delight that I write a foreword to this maiden copy of the Book of Reading of the School of Science and Technology Education, Federal University of Technology, Minna, Niger State. The School is a teacher education school that produces quality teachers in the science and technology programmes at the Bachelor, Master and Doctoral levels. The programmes which currently include Biology, Chemistry, Geography, Mathematics and Physics in the sciences, and Automobile, Building, Electrical/Electronics, Metalwork and Woodwork in industrial technology are staffed with skilled manpower that are very experienced in their various programmes and professionally trained in education. The scope of the reach of these well-equipped, seasoned and dedicated staff has been limited to the enrolled students of the various programmes over the years. It is in a bid to increase the scope of reach and impact of these specialised and experienced teachers that a compendium of their rich resource materials have been compiled into this Book of Reading so that improved knowledge, skill and attitude can be brought into the door steps of teachers.

The Book is a hybrid of materials that will equip teachers with appropriate cognitive, psychomotor and affective requirements in teaching methods, strategies, resources, assessment, evaluation, internet platforms and management in the teaching/learning environment. The fact that teaching is a professional career for which there should be appropriate training is no longer in doubt. Proofs abound that exceptionally intelligent people abound in the teaching profession whose approach to imparting knowledge on students leaves either or both of teacher and learner frustrated with loss of interest or zeal in course(s) of study. The teaching profession is majorly to transfer knowledge, skill and attitude. This Book is an outcome of the effort of School of Science and Technology Education to bring about maximum derivative of improved knowledge, skill and attitude of learners. The Book will also fully equip teachers to carry out their duties with more professionalism, less stress and more effectively. Here, in this Book of Reading are twenty-one rich papers.

authored by eminent and seasoned lecturers that you will be glad you have at your reach.

I, therefore, commend the Book to you for your professional development and ease at teaching that will greatly improve your results, impact and influence.

Professor Bernard Nungwo Atsumbe
Dean, School of Science and Technology Education,
Federal University of Technology, Minna

PREFACE

The twin factors of content and pedagogy are principal issues in the teaching and learning situation. The hue and cry about poor quality of education can be traced largely to these factors among others. Whereas other factors like infrastructural facilities, materials, manpower, learners' attributes, *et cetera* yet account for degree of learning, it may be safely argued that the factors of content and pedagogy are more overriding than the others in teaching/learning situation being factors at the disposal of serving teachers and which, when duly mastered and applied can improve learning considerably in spite of other limitations. The concerns for quality education can be very effectively addressed by these two critical factors. Graduates of our Teacher Training Institutions are getting numbered among non-employable products of our educational institutions due largely to poor content knowledge, attitude and pedagogy. Retraining opportunities for remedying these deficiencies and upgrading teachers are not readily available to practicing teachers. The School of Science and Technology Education of the Federal University of Education, Minna, Niger State, Nigeria, in a bid to redress this challenge, has pulled together carefully authored papers by reputable and experienced lecturers into this Book of Reading. This Book can serve as refreshing and learning resource and motivating material to teachers serving on the field. It richly addresses methods, strategies, resources, assessment, evaluation, internet platforms and management in teaching/learning environment. It is hoped that the contents of this Book will greatly enrich its readers with knowledge, skill and attitudes that will further enhance their efficiency and effectiveness at teaching.

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Chapter 8

Effective Instructional Presentation and Strategies: Some Essential Considerations

Idris, A.M.;

Umar, I. Y. & Ardu, R.

Aim

To provide teachers, students and educational administrators with the clear understanding of different instructional strategies

Learning Outcomes

The reader should be able to;

- Draw a lesson plan
- Identify teacher's professional problem
- Determine teacher effectiveness
- Differentiate between teacher training and teaching practice

Introduction

This paper discusses effective instructional strategies and some essential considerations. It is aimed at sensitizing on the concept of teaching, nature and status of teaching profession with due attention to teaching/learning techniques. It also provides action guidelines and teaching/learning strategies that will be effective in attaining educational objectives in the three learning domains of (cognitive, affective and psychomotor). It also gives insight into effective instructional planning, its implementation, and evaluation.

Content

Lesson Planning

Objective

Introduction

Application
Recapitulation/conclusion/summary/revision

Teacher Professional Problem

- Individual difference
- Motivation
- Method of instruction
- Evaluation
- Classroom management
- Mental health
- Teacher Effectiveness
- Teacher Training and Teaching Practice
- Criteria for Assessing Student Teachers on Teaching Practice
- Some Strategies of Practical Training of Teachers
- Simulation Teaching
- Micro Teaching

Introduction

An individual who plans to be a teacher must have a good understanding of the process of teaching and be acquainted with the major processes that influence the success of teaching and learning. Teaching involves helping students and individuals to learn; the teacher leads the students to knowledge. In teaching, the teacher is not merely teaching a subject, but more importantly he is dealing with a mind and a personality. The teacher is the most powerful person in the classroom and his ability to reward and punish is usually greater than that of any individual in the classroom. He sets the pace and also takes the initiative. The teacher's power is such that even when he does nothing, he is doing something in the class. He even has an effect on the class when he is not there.

The discussion in this chapter will be based on the following areas:

- i. Lesson Planning
- ii. Teacher Professional Problem
- iii. Teacher Effectiveness
- iv. Teacher training and teaching practice

Lesson Planning

Lesson plan is undeniably the foundation of good teaching. According to Alcorn, Kinder and Schunert (1970), neither ingenuity nor experience can serve as a substitute for thorough planning. Proper planning facilitates learning. A daily lesson plan consists of four minimum essentials. These include: Objective, Activities, Materials and Evaluation. *Objective* refers to the intended outcomes of lesson plan. Stated in another form, objectives are statements of specific behaviour which the teacher expect his students to achieve or demonstrate after taking them through a lesson. Objective provides the rationale for any instructional undertaking; they indicate why any lesson should be undertaken. Activities refer to all the things that the teacher and students do to achieve the objectives. Activities answer the question "how". *Materials* relate to teaching aids which means printed, visual, audio and audio-visual materials, apparatus, and equipment for implementing the activities. *Activities* answer the question "what". *Evaluation* is an attempt to answer the question "how much" or "how well." It consists of the criteria and the procedure used by the teacher and his class to determine to what extent the objective has been achieved (Alcorn, et al. 1970).

Lesson plan is a detailed plan prepared in advance for the teaching of the daily lesson. The elements of a lesson plan include the following: Subject, Lesson topic, Class, Ability, Average age, Date, Number in class, Time/duration, Objectives, Teaching aid/Instructional materials, Introduction, Development/presentation (usually in phases or steps), Application including generalization, performance and conclusion-feedback, evaluation, assignment. Some of the features of lesson format merit some elaborations or comments. Those to be discussed are objectives, introduction, presentation, application and conclusion.

Objectives

The teacher must first of all settle the question of objectives. He should have a clear purpose for undertaking each and every lesson. It is after he has established a purpose or goal for the lesson that he will attempt to state in behavioural terms. A behavioural objective specifies the behaviour which the teacher expects the student to exhibit after taking them through a lesson. This behaviour must be visible, overt and quantifiable. In framing objective the teacher should avoid the use of such words or phrases as "know", "appreciate",

"understand" *et cetera* as they are too general. In order for the teacher to state objectives in behavioural specification, words or phrase as "write", "list", "select", "distinguish", "define", "state", *et cetera* are considered appropriate. Objectives are statements indicating achievement within specified time limit- they guide the teachers' decision on content, methodology and evaluation.

Introduction

Introduction in a lesson plan is also as important as stating the objectives. It can be said that the success or failure of any lesson depends to a large extent on what happen here. It is here that the teacher stimulates his student's interest in the subject or topic of the lesson. There are many ways in which the teacher can start his class or lesson. One way is to tell the class the objective(s) of the lesson; the teacher describes clearly for the students what they will be able to do at the end of instruction. It should be observed that where the present topic has some connection with the past learning, the teacher might engage in some kind of revision for the purpose of integrating the past learning with the present. Revision exercise also has the added advantage of assuring the teacher that the previous topic has been sufficiently mastered and therefore further progress can be made in terms of the course or lesson to be taught by the teacher.

Presentation

This is the stage at which the teacher introduces new topic or presents materials to the students. He exposes the students to the learning experience or activities for the day. That is to say, the teacher brings out facts or skills or concepts to be learnt through methods, strategies and techniques that are appropriate for achieving the set objectives. The teacher also ensures that the material is properly sequenced to enhance interest and understanding on the part of the students/learners. The role of the teacher at this stage is essentially that of involving the students in some mental and physical activities that are structured and channelled to the stated educational objective.

Application

This stage entails the involvement of students in further activities to ensure that they properly master the material under decision beyond the point of hesitancy - over learning or automatic response is the goal. It is also at this stage that the students are given the opportunity to demonstrate or "apply" what they have learned. The teacher guides the students to use the newly acquired knowledge and leads them to transfer the knowledge learnt to new situations. One other

feature of this stage worthy of mention is evaluation. The teacher "tests" or assesses the students' mastery of the topic. Whatever he does by way of evaluation is for the purpose of determining whether or not the students can demonstrate mastery of the significant aspect(s) of the content of the lesson taught. The outcome of this will give a feedback to the teacher whether to repeat the lesson or correct faulty learning on the part of the students. Evaluation is a feedback system which enables the teacher to determine whether teaching/learning has taken place. This enables the teacher to make necessary adjustments for the purpose of improving teaching/learning.

Recapitulation/Conclusion/Summary/Revision

A number of things come into play during this phase. Of great importance is what we may call "evaluation". The students are likely to be given a written exercise which the teacher evaluates; he then draws the attention of the students to their strengths and weaknesses. This stage may also witness an attempt to summarize the main points of the lesson. The students are asked to state what they consider to be relevant or the value of the lesson. The teacher guides the students to this end by means of structured questions. After the students have tried to summarize the lesson, the teacher then relates "bits and pieces of facts, figures, concepts and information to one another to ensure that the material learned forms a structure in the mind of the learners (Obanya, 1980). One other thing the teacher may do is giving the students assignment which will give them further practice in the concept taught and as a way of ensuring that the students keep thinking about the day's lesson in a constructive manner. The assignment should be designed to contribute to the achievement of the objectives of the lesson.

Teacher Professional Problem

The prospective teacher may have begun to gain in-sight into the complex nature of teaching/learning process. Teaching, to face the fact, is a difficult skill; the intension is not to frighten the prospective teacher, but to emphasize the fact that it is a job that requires specialized knowledge. There are certain problems that often arise in connection with the practice of teaching profession. It is necessary that the prospective teacher becomes aware of certain characteristics in teaching so as to prepare him accordingly. Some of these characteristics are: individual differences, motivation, methods of instruction, evaluation, classroom management, and mental health.

Individual Differences: One of the issues that a classroom teacher has to grapple with is providing for individual differences among his students. A prospective teacher should be aware that no two students are exactly alike. Some are more motivated, better adjusted socially, more stable emotionally, neater, and healthier than others. Besides, the students may probably come from differing social, economic, religious or cultural backgrounds. They may also have differences in their interests, aspirations and needs. All of these variables influence the learning of each student. The question is how the teacher would design his instructional technique to cater for all differing and sometimes conflicting, needs and interests. A method that appeals to some may leave others confused; an explanation or demonstration that is readily understood by a good number in the class may be meaningless to the rest of the group. And yet each student is entitled to profit from the teacher's instruction. How does the teacher plan, organize and execute his lesson in a way that gives all the students opportunity to learn in their own way and at their own pace?

Motivation: This characteristic relates to the following classroom realities: no two learners are motivated to achieve the same goals; no two learners are motivated to achieve the same degree; no two learners are ready to learn at the same time. The teacher is conscious of the fact that no meaningful learning takes place in the absence of motivation. The problem is compounded by the fact of individual differences. No two learners are motivated using the same techniques. Some students may not even respond to any motivational device. And yet it is the teacher's responsibility to create in his student the desire to learn and to device ways and means of capturing and sustaining their attention. It is the teacher's task to arouse student's interest and inspire their attention.

Method of Instruction: The teacher must be grounded in teaching methods/instructions as well. Subject matter mystery is not the ultimate of education, methods of teaching is also very important and have bearing on effective teaching. There is no single correct method use in teaching a class. The problem here is deciding which of the many teaching methods/instructions available to the teacher is suitable to teach the class. Since a method which fails with one student may be very helpful to another, the teacher may need to employ several methods during a single lesson. These suggest that a teacher should be acquainted with a variety of teaching methods/instructions.

Evaluation: Evaluations entails a careful analysis of quantitative record, qualitative evidence, and fairly subjective impression to arrive at value judgment on the extent to which stated goals have been attained or the types of

outcomes realized. Evaluation relates to anything the teacher does to determine the extent to which the students learning process is succeeding. The persistent worrisome problem here is that of objectivity and fairness on the part of the teacher in the grading of his students. Is he fair in scoring Mustapha "A" in Technical Drawing? Is the teacher influenced by certain considerations other than the merit of work under consideration?

Classroom Management: It cannot be denied that without proper classroom management, teaching/learning cannot take place. The question is: how does the teacher control his class in such a way as to maximize learning in his student? For effective classroom management, a teacher must have a good understanding of the reason for a student's misbehaviour, of principle for preventing such misbehaviour, and of the way of correcting such behaviour when it occurs.

Mental Health: The teacher is not only concerned with scholastic achievement of his student; he is also involved in helping his student to adjust both socially and emotionally. This is of importance because mental health is a means towards academic achievement. A student that is withdrawn or is worried will probably not achieve to his full potential. The teacher should therefore give thoughtful consideration also to ways and means of helping his students meet his social and emotional needs.

Teacher Effectiveness

The assumption underlying most research effort aimed at investigating teacher effectiveness, that is, do good teachers exist and can they be identified? After a review of research on the personal characteristics of "good" versus "poor" teachers, Hamacheck (1975) concluded that: "Effective teachers appear to be those who are, shall we say, "human" in the fullest sense of the word. They have a sense of humour, fair, empathetic, more democratic than autocratic, and apparently are more able to relate easily and naturally to student on either a one-one or group basis. The classroom seems to reflect miniature enterprise operation in the sense that they are more open, spontaneous, and adaptable to change. Ineffective teachers apparently lack a sense of humour, they are impatient, ego-reducing comment in the class are well integrated, authoritarian, and are generally less sensitive to the need of their students."

With regard to classroom behaviour, interaction patterns, and teaching styles, effective teachers, according to Hamacheck, seem to reflect more of the following behaviours:

- a. Willingness to be flexible to be direct or indirect as the situation demands;
- b. Ability to perceive the world from the student's point of view;
- c. Ability to personalize their teaching;
- d. Willingness to experiment, to try out new things;
- e. Skilled in asking questions (as opposed to seeing self as a kind of answering service);
- f. Knowledge of subject matter and related areas;
- g. Reflection of an appreciative attitude (evidenced by nods, comment, smile, *et cetera*); and
- h. Use of conversational manner in teaching- informal, easy style.

Shipley (1968) gave a list of desirable characteristics which distinguish a good teacher from a poor one. These characteristics include:

Emotional stability and sound mental health.

This relates to a teacher's sense of personal worth, security and self-respect. It also involves sociability, adaptability, reasonableness and a sense of humour.

Physical Health and Dynamic Personality

This is demonstrated in a teacher's zest for life, passion for knowledge, a spirit of adventure.

Above Average Intelligence.

These have to do with teacher's good grasp and understanding of the subject he teaches. It also relates to his continued professional growth.

Creativity, Imagination and Resourcefulness

This has to do with the teachers' use of several approaches, trying out new methods and inventing new ways of illustrating ideas.

Good Grooming, Poise, and Refinement in Voice and Action.

The basic requirements here are a tasteful appearance, grace of manner and pleasing voice, courtesy, kindness, sympathy, and tact.

Patience.

A good teacher is willing to re-teach a lesson when necessary; he is patient with slow learners and deals with understanding with cases of problem children in his class.

Sincerity and Honesty.

This relates to the teachers genuine desire to help his students intellectually and socially. It also has to do with making and fulfilling promises.

Other characteristics of a good teacher include:

- Firmness
- Promptness, efficiency and ability to organize;
- Positive and encouraging attitude; and
- Democratic leadership

Teacher Training and Teaching Practice

In most teacher training programmes the world over, a lot of importance is attached to teaching practice. Learning experiences often include opportunity for practical activities in which teacher trainees assume the role they will play once they have successfully completed their training. It may be necessary to state briefly some of the reasons for practice teaching so as to correct the misconception some people have about it. Teaching practice, contrary to the view most student teachers hold, is not a trial period for students. Rather, it gives student teachers a unique opportunity of turning theoretical insight into actual classroom behaviour. Teaching practice, offers the students the opportunity to translate into practice, under guidance and supervision, the theory encountered in all areas of his course work. Thus, through appropriate clinical experiences, the prospective teacher will assume with confidence and competence the multifarious tasks and duties of his calling.

Prospective teachers will be able to:

1. Exercise and experiment creative approach towards their work;
2. Use with skill the appropriate means of assessing the effectiveness of their teaching as well as the progress of their students;
3. Diagnose the scholastic difficulties of the students and provide guidance and remedial instruction to those who need them;
4. Study objectively and deal with the behavioural problem of students;
5. Acquire skills in democratic classroom management and conduct of student activities;

6. Participate actively and effectively in the various instructional and non-instructional programmes and activities of the school in which they will be serving;
7. Carryout effectively the duties and responsibility involved in school organization and management;
8. Establish good human relation with parents and other members of the community;
9. Acquire desirable professional attitude; and
10. Use their experience for continuous reappraisal of the educational ideas and practices for self-development.

Criteria for Assessing Student Teachers on Teaching Practice

Many student teachers often complain that their supervisors are unnecessarily strict and stingy with marks. At other times, the complaint is that they (the student-teacher) don't even know what the supervisors expect of them. This section serves to explain to student teachers some basic requirements which they will be expected to fulfil while on teaching practice.

Basically, the criteria used can be classified under six heading. This include

- Objectives
- Preparation
- Presentation
- Interaction/class control and management
- Audio-visual aids/Equipment and
- Conclusion.

Objectives

The objective here is whether the objectives are stated clearly enough. The supervisor will also want to know whether the lesson objectives are behaviourally stated and achievable. Again, objectives will be assessed for relevance, desirability and appropriateness in terms of the needs of the student.

Preparation

The concern here is essentially with selection and organization of content and learning experiences. Two basic skills that will readily attract attention here are the teacher's knowledge of the subject matter and the ability to reduce the

content to learnable specifications. The choice, organization and appropriateness of the material and equipment will also be assessed. In short, the supervisor is interested in finding out whether the teacher knows what to teach and how to teach it. Does the teacher have planned to follow?

Presentation

The element to be assessed under presentation include:

Lesson Introduction

Does he arouse the interest of his student? Does he integrate the past with the present learning?

Lesson Development

Is it a sequence or haphazard or muddled up?

Techniques

Are the techniques appropriate? Does he vary his instructional techniques as informed by the class needs? Is he aware that his class is a conglomeration of varied needs?

Voice and Speech

Does he speaks clearly and distinctly, but does not shout? Does he vary his speed, tone and emphasis from time to time to avoid monotony?

Timing/Place of Lesson

Is it too fast or too slow? Does he start and finish in time? Is pace of the lesson dicey by the feedback the teacher get from the class? Is he sensitive to the feel, actions and reactions of the class? Does he vary his methods according to the nature and difficulty of the subject matter and in response to the class reaction?

Clarity and intelligibility in explanations;

Flexibility and variety of Activities

Interaction/class Control and Management

A lot of variables go into class control and management. The following are of importance:

- whether the teacher is fair, firm and friendly
- class participation/ involvement; establishment of an atmosphere of orderliness in the classroom;
- keeping the class occupied and interested;

- exhibition of fair, friendly, co-operative but firm attitude;
- sympathetic and approachable skill in question asking;
- recognition of and provision for student difficulties.

Audio-Visual Aids/Equipment

The student will be rewarded for appropriate use of relevant teaching aids. The questions often asked are: does the teacher employ audio-visual aids that are relevant to topic under discussion and the needs of the students? Does he introduce the teaching aids at the appropriate time?

Conclusion and Feedback

- Does he draw the student attention to the main point of the lesson?
- Does he lead the students to the generalizations about the lesson content?
- Does he ask thought-provoking question as a way of determining student depth of understanding of the content?
- Does he monitor the students' progress as the lesson progresses?
- Does he ask higher level question?

Some Techniques of Practical Training of Teacher

This section examines some of the techniques often employed in the practical training of teachers. Those to be discussed include

- Peer teaching,
- Simulation teaching,
- Micro-teaching,
- Competency-based training.

Peer Teaching

Peer teaching according to Lee (1973) predates teaching practice. It is often used as a preparation for practice teaching. Procedure is that prospective teachers take turns teaching lessons to their fellow students in the presence of a lecturer. Each lesson is evaluated against certain criteria- statement of objectives, introduction, presentation, conclusion, classroom interaction, *et*

cetera. Suggestions for improvement are then made. Peer teaching would appear to be one of the easiest to organize as it requires no special arrangement.

Simulation Teaching

Simulation involves the reproduction of a real life situation as accurately as possible. Applied to education it implies that the prospective teacher pretends to be teaching in a real classroom situation. His course mates also pretend to be learners; they ask questions that primary or secondary school learners would normally ask. In simulation therefore the trainee participates in a simplified representation of a real life classroom environment which he is expected to manipulate. The good things about using simulation to prepare teacher is that different classroom situations that a teacher is likely to find himself in can be role-played. For example, a situation such as disciplining a recalcitrant child/learner or answering a complaining parent. The student role-playing the teacher is expected to respond to these situations in an educationally sound manner; that is expected to try to bring educational principles to bear on the solutions he proffers to the problem.

Simulation teaching offers prospective teachers opportunity to grow professionally and in confidence. They have the opportunity to put into practice skills and principles of teaching that they have acquired in their various courses.

Micro Teaching

Micro teaching is a training technique in which the trainee teacher teaches for a short time to a small number of learners (about three or four). The teacher receives a lot of feedback from his performance. The lesson is usually concentrated on a specific teaching skill-acquisition, demonstration, beginning and ending lessons, recapitulation and eliciting student participation, *et cetera*. The trainee receives feedback from the supervisor and learner.

The advantage of Micro teaching

- Identifying and making relevant to trainee, the specific and limited skills that are common to good teaching;
- Providing training in actual teaching-learning situations.

- The atmosphere is not threatening; the pupils are there to help the teachers, not to cover course materials.
- Analysis is immediate and is used at once (Allen & Ryan, 1969).

According to Lee (1973), micro teaching does not exclude teaching practice. It seeks to provide a gradual controlled entrance into the classroom with the hope that the practicing teacher will synthesize his skills developed by micro teaching experience, and come o with a better performance. It may reduce the need for long-duration periods of school practice, a factor most attractive to programmes hard-pressed for time or having difficulty in securing places in school.

Revision Questions

Who is a teacher? Discuss the characteristics of a good teacher.

Comment briefly on 3 major professional problems off a classroom teacher.

What is lesson plan? Either comment generally on the procedure for an effective lesson plan or develop a lesson plan with reference to a particular teaching subject.

Give five justifications for the lesson plan. (See appendix 1).

What are the interacting factors in the practicing of teaching? Why is it necessary for student teachers to do teaching practice?

Write a short note on each of the following:

- Peer teaching
- Simulation teaching
- Micro teaching
- Comment briefly on the major considerations for a good classroom management.

Summary of the Content

The chapter dwells on effective instructional strategies: some essential consideration. In order to achieve this, the content of the paper emphasized on lesson planning, teacher professional problems, teacher effectiveness, teacher training and teaching practice. Criteria for assessing student teacher on teaching practice, strategies of practical training of teachers, simulation teaching and micro teaching were also address in the work.

Self-Assessment Exercise (SAE's)

What is a lesson plan?

Give four justification for the lesson plan

Discuss the nature and status of teaching profession in Nigeria with reference to current events.

Write note on the following

- a. Peer teaching
- b. Simulation teaching
- c. Micro teaching
- d. Comment briefly on the major considerations for a good classroom management and teaching.

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