TEACHING PRACTICE HANDBOOK

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CHAPTER FOUR

The Subject to Teach: Content, Mastery and Versatility

Alademerin, Edwards A.

Learning Objectives

By the end of this chapter, the readers or students should be able to:

i. understand the meaning of subject matter or contents and ways of imparting knowledge through the use of curriculum;
ii. understand the criteria for the selection of subject matter or content of the curriculum;
iii. explain the components of the contents to be taught by the teacher;
iv. appreciate versatility as a concept in teaching; and
v. determine what constitutes mastery in the teaching of a subject.

Introduction

The major purpose of teaching is for learning to occur, although some learning may occur without any teaching at all. There is evidence to show that the knowledge of concepts and facts, human fulfilments, as well as ability to recall what has been taught are largely dependent on how well and why teaching was carried out in and outside the school setting. The assumptions that learning necessarily follows teaching underscore the pre-eminence of instruction in our educational institutions. Other factors are:

- Ability of the learners
- Previous experience and knowledge
- Assessment methods, etc.

According to John Collum, an English educationist, "the

application of knowledge is where learning occurs: telling is not teaching, listening is not learning".

The knowledge gained during teaching can be appropriately utilised in the form of:

- Creative thinking
- Speed and accuracy
- Entrepreneurial skills
- Risk taking skills
- Patriotism
- Thinking and processing habits

Teaching is a preconceived idea and the urge about what to teach or how it is to be done is usually premeditated. The act of teaching cannot be spontaneous as it requires prior planning and sequencing. A good teacher must have previously been a good learner and it is by so doing that he can now teach, to impart knowledge on what he knows. As the saying goes "you can only give what you have".

In order to impart knowledge for the benefits of mankind a teacher has to go through five stages, viz:

1. **Read about the subject matter** - It is vital for whoever is to impart knowledge to have a good knowledge of the depth of the subject matter and particularly the area to be covered in the classroom. To be a good teacher, one must have the ability and the urge to read wide on diverse areas of the discipline. Reading wide expands one's horizon as well as the latitude on the variety of information at one's disposal.
2. **Understand the subject matter** - The ultimate goal of reading wide is to appropriately understand all the concepts contained therein. A good understanding of the concepts leads to its mastery and gives one the opportunity of having a thorough analysis in one's own way. Having a proper understanding of the concept will

help one to be able to explain it in one's own way during subsequent class lessons.

3. **Write down information about the subject matter** – In the course of reading, there is the need to make some jottings on the facts that have been read. This is to enable the reader to have information readily which can be passed on to others. Writing down vital information is a way of creating a pool of information whenever the need arises. This is the stage for analysis and sequencing of facts related to what the subject matter is all about. All information so obtained will be well ordered to allow for a sequential presentation to the learners. Information to be used in a classroom situation must be documented to the teacher.
4. **Impart knowledge through teaching and go from known to unknown** – This is the actual class presentation during the teaching exercise. It is good to present variety of information from simple to complex. It is very essential that whoever is to be a teacher must be very knowledgeable.
5. **Assess** – No matter how it is done, it is very important that the teachers assess the level of understanding of the concepts that they have taught the learners. This is done to ensure and subsequently appreciate a positive change in the behaviour of the learners for a better society. Knowledge that does not add value to humanity is worthless. The assessment in this case can be formative, that is, while the teaching is being done or summative, that which comes up at the end of the exercise which in this case can be terminal, semester or sessional.

Imparting knowledge through the curriculum – What, how and why?

Teaching a lesson on a subject matter to students is usually designed based on the end goals, that is, the skills and knowledge the students should be able to achieve by the end of

the class, module or programme. It is usually well planned and well directed for the overall goals to be achieved. The learning environment also plays a critical role on the part of the teacher as well as the learners. The idea of what and how to teach is usually associated with the learning outcomes or what is expected of the students at the end of the lesson.

The main theoretical underpinning of the outcome-based curriculum is provided by Biggs (2003). He calls the model *constructive alignment. This* can be defined as: *...coherence between assessment, teaching strategies and intended learning outcomes in an educational programme* (McMahon and Thakore, 2006).

The intended learning outcomes, what the student does in order to learn and how the student is assessed are critical areas where the teachers need to be cautious and committed to in the classroom. This will determine other vital areas of the student's future career development.

At a more complex level, constructive alignment requires a balance and synergy between:

- the professional goals of the teachers;
- the wants and needs of the students;
- the curriculum;
- the teaching methods used;
- the assessment procedures used and the method or report results;
- the psychological and social climate of the classroom (learning milieu);
- the psychological and social climate of the institution;

Each of these components needs to work towards a common goals. Imbalance in the system will lead to poor teaching and surface learning. Non- alignment is signified by inconsistencies, unmet expectations and practices that contradict what we

preach (Biggs 2003).
For good teaching of the contents, the following must be in place:

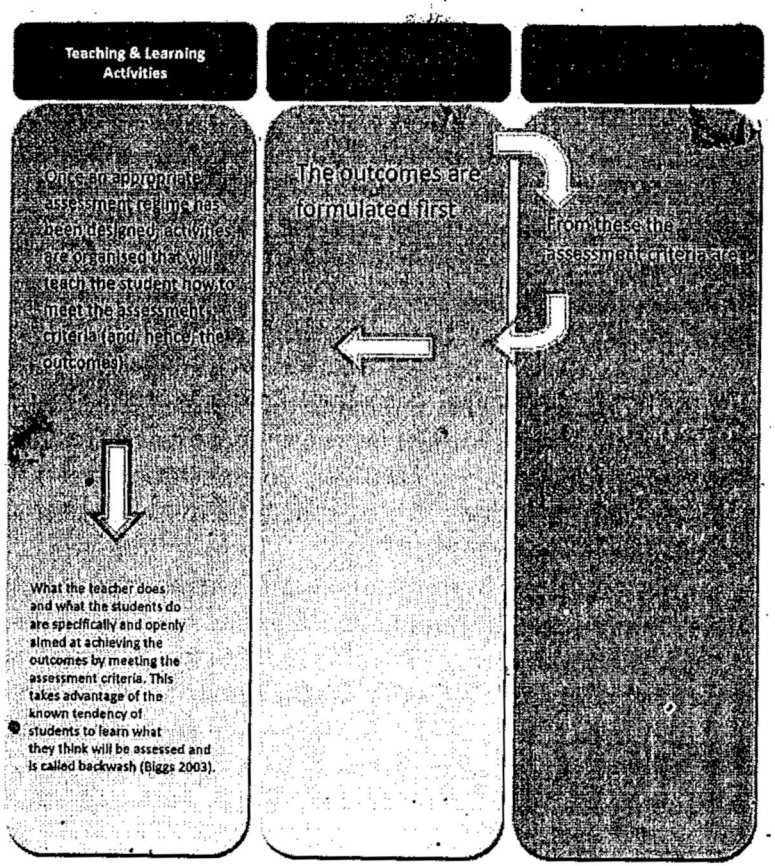

***Fig. 1**: A Basic Model of an Aligned Curriculum*
Source: Biggs(2003, 1999)

- Teachers and students must be able to share their experiences.
- The students need to know the concepts and be able to use them right away.
- From the lesson taught and experiences learnt, the students should be able to discover a new thing for

themselves – **"to know is to do".**

- They should serve a need to change.
- A good learning environment which is supportive, caring and accepting to all and which is free from threat of punishment or ridicule.
- Opportunities for the learners to speak out and participate by expressing their ideas.

In addition, the teachers should

- encourage the students to question and challenge things
- vary activities in the classrooms
- use laughter in tasks and teaching occasionally
- encourage trips and excursions
- use local inexpensive and appropriate regalia. (Alademerin, 2008).

Criteria for Selecting Subject Matter or Content of Curriculum

In most countries, the teachers in primary and secondary schools are not directly involved in the development and selection of subject matter which are in the form of topics because there are already lesson plans made by the Ministry of Education or related departments. All they have to do is to follow it and teach in line with in the appropriate time allocated. However, from personal experiences, it is advisable that teachers customise the lessons if their department heads or principals would allow them. This should be done with utmost caution so that the topics do not deviate considerably from the original curriculum.

Good teaching will occur when teachers identify and give the learners the opportunity to acquire and demonstrate the

objectives of education as and when needed. Opportunities are usually in the form of developing and using appropriate content materials and in a pedagogical integrated manner so as to ensure the acquisition and demonstration of clearly defined outcomes.

The term "curriculum" is viewed in two different ways- the micro and the macro. The micro curriculum refers to subjects, while the macro curriculum refers to curricular programmes. For example, the following subjects: biology, English, Religious studies, Yoruba or agricultural science are of micro curriculum while a degree programme in Theatre Arts, Language Education or Sociology is a macro curriculum.

The following criteria explain the contents of these two levels or types of the curriculum.

1. **Self-sufficiency-** The main guiding principle for subject matter or content selection is to help the learners to attain maximum self-sufficiency at the most economical manner (Scheffler, 1970 as cited by Bilbao *et al.*, 2008). Economy of learning refers to less teaching effort and less use of educational resources, but students gain more results. They are able to cope with the learning outcomes effectively. This means that students should be given opportunity to experiment, observe and do field study to enable them to learn independently. Allowing students to participate actively during lessons improves learning. Identifying areas that are self-sufficient for students in curriculum of a subject improves learning outcomes considerably.
2. **Significance-** The content or subject matter should be of value and worthwhile. The subject matter or content is significant if it is selected and organised for the

development of learning activities, skills, processes and attitude. The students should be able to benefit maximally as it will help to develop the three domains of learning, namely the cognitive, affective and psychomotor skills, and consider the cultural aspects of the learners. For example, students from diverse geographical areas in Nigeria should be adequately exposed to natural resources they are familiar with. The subject matter must be culture-sensitive and capable of accommodating diversities so as to achieve the overall aim of the curriculum.

3. **Validity-** Validity refers to the authenticity of the subject matter or content that is selected and is of contemporary relevance. Topics that are old and obsolete, which are not in line with modern world regarding educational development, should not be included at all. Curriculum experts should be conscious of current trends, relevance and authenticity of the curriculum. For example, typewriting should not be included as a skill to be learnt by college students. Rather, it should be computer or Information Technology (IT) which is current and can be more engaging for the students.
4. **Interest-** Learners' attention can only be got when their interests are aroused. This criterion is true to learner-centered curriculum. Students learn best if the subject matter is meaningful and interesting to them. It only becomes meaningful to them if they are interested in it. But if the curriculum is subject-centered, teachers have no choice but to finish the pacing schedule religiously and teach only what is in the book. This may somehow explain why many fail in the subject. This goes further to explain why students rely so much on textbooks as a

better means to prepare for examinations to the detriment of other learning experiences outside the classroom.

5. **Utility-** Another criterion is the usefulness of the content or subject matter. Students have various attitudes towards school subjects; they see some as being useful and others as not too useful or, at best, useless. On the other hand, some think that a subject matter or some subjects are not important to them. Science-inclined students abhor some art subjects and vice versa for the art students, as a result, they would not study. Here are some questions that students often ask themselves: Will I need the subject in my job? Will it give meaning to my life? Will it develop my potentials? Will it solve my problem? Will it be part of the test? Will I have a passing mark if I learn it? Students only value the subject matter or content if it is useful to them.

6. **Learnability-** This is about the difficulty level of the students to learn appropriately. The subject matter or contents must be within the schema of the learners. It should be within their age, experiences, ability, capability, etc. Teachers should apply theories on psychology of learning in order to know how subjects are presented, sequenced and organised to maximise the learning capacity of the students.

7. **Feasibility-** It means that before the subject matter can be fully implemented it should consider the real situation of the school, government and society, in general. Students must learn within the allocated time and resources available. Do not give them a topic that is impossible to finish. For example, you have only one week to finish the

unit but then, the activities may take a month for the students to complete it. This is not feasible. Do not offer a computer subject if there is no power in the area to power the system or there are no computers at all. Further, feasibility means that there should be teachers who are experts in that area. For example, do not offer English for Business Communication or studies if there is no teacher to handle it. Also, there is the need to consider the nature of the learners; the organisation and design of the subject matter or contents must be appropriate to the nature of the students.

Planning the components of the contents to be taught by the teacher

Lesson planning is at the heart of being an effective teacher. A good teacher knows that planning is important. Teachers engage in many different types of planning to ensure a hitch-free lesson. It is a creative process that allows teachers to synthesise their understanding of the subject matter or contents and then impart the knowledge into others. It is the time they envision the learning they want to occur and analyse how all the pieces of the learning experience should fit together to make that vision a classroom reality.

A teacher with a plan, then, is a more confident teacher (Jensen, 2001). The teacher is clear on what needs to be done, how and when. The lesson would tend to flow more smoothly because all the information has been gathered and the details have been decided upon beforehand. The teacher would not waste class time flipping through the textbook, thinking of what to do next, or running to make photocopies. The teacher's confidence

would inspire more respect from the learners, thereby reducing discipline problems and helping the learners to feel more relaxed and open to learning.

On the other hand, let us think of a time we entered a class with a hastily written lesson plan or no plan at all.

- How did you feel during and after the lesson?
- How would the lesson have been improved with more thorough planning on your part?
- What did you notice from the countenance of the students during and after the lesson?

Meanwhile, planning a lesson takes a lot of time prior to the actual classroom delivery. It is usually divided into various stages but not limited to the followings:

a) **Preparation:** Here the teacher considers the lesson plan and prepares the lesson notes, behavioural objectives as well as the contents of the lesson in terms of logicality, sequence and adequacy. The lesson objectives are the pillars and foundation upon which all other steps rest during lesson delivery. They must be clearly stated to achieve the set goals.

Constructing Lesson Objectives

Follow these instructions step by step:

i. Identify the aspect of the curriculum document you wish to focus on and plan your learning activity.

ii. Create a stem. Some stem examples:
After completing the lesson, the student will be able to ...
After this unit, the student will have ...
By completing the activities, the student will ...
At the conclusion of the course/unit/study the student will ...

iii. After you create the stem, add a verb, for example analyse, recognise, compare, provide, list, distinguish, understand, etc.

iv. Once you have a stem and a verb, determine the actual product, process or outcome, for example, 'After completing this lesson, the student will be able to: recognise vowels and consonants, understand characteristic features of mammals, explain the significance of old Oyo Empire, etc.'

b) **Presentation** - Here the teacher divides the entire lesson into various steps and allocates appropriate time to each. The objectives will determine the latitude and depth of lesson delivery. One should be mindful of the use of the chalkboard, questioning techniques, instructional materials, class participation, etc. Timing is largely dependent on the delivery of lessons and the classes' characteristics.

These tips should help the teacher, but remember that the teacher's sense of timing will come with more teaching experience and time spent in the classroom, viz:

- Always allow time for an introduction – This links to previous lessons and sets up the current lesson. Five to ten minutes should be enough.
- Activities – Take time to explain the steps and activities one after the other. Appropriate time to each step and take note of the various concepts to be explained.
- Do not plan to cover too many activities; fewer activities in more depth is best.
- Conclusions – (evaluation, assignments, etc.) Always schedule one at the end of the lesson and allow at least

five minutes for this. Evaluation should address each of the objectives in order to be sure they have been well delivered and achieved during the lesson.

- Keep a close watch on time (preferably your wrist watch) somewhere visible -- keep an eye on it and keep the momentum of the lesson going.
- Make timekeeping part of the class activities – This has the added bonus of making the class mindful of the lesson, momentum and what needs to be covered.

c) **Class management** - This refers to control, arrangement and management of the students during the lesson.

d) **Communication skills** - This is about appropriate use of language and tenses, clarity of voice to the students, etc.

Evaluation - Lesson evaluation is largely an activity that occurs as a private speech within an individual teacher. They should be framed to be in line with the behavioural objectives to determine whether the lesson was well delivered or not. One can frame this process around simple frameworks such as:

- What worked?
- What did not work?
- What would I change next time?

Or consider more complex questions such as:

- Did all students learn something related to the lesson objectives? How do you know?
- Did some new learning goals emerge during the lesson?
- Can you evaluate your students' learning via the products/ performances they created?
- What instructional strategies were the most effective?

- What one thing might you have done differently which would have made the lesson more effective?
- What else would you like to change next time you use this lesson?

Alternatively, it can be evidenced via other aspects such as:

- Task completion – Did the class manage to complete the planned tasks? What evidence is there that you can examine, for example completed worksheets, exercise books, performances?
- Questioning – Did questioning the class identify their level of comprehension or difficulties?
- Peers – Did another teacher co-teach with you? Did a peer observe you? If you have teaching assistants, what was their feedback?

f) **Teacher's personality** – Your appearance and pose matter as a teacher. Always dress well and maintain a neat appearance. It is important to prepare your dresses well ahead, particularly during the weekends.

Versatility as a concept in teaching

For a teacher to be versatile, he must always be ready to deliver innovative and exciting teaching to the students. According to Carsten, versatile teaching increases student learning.

"Whatever I'm saying, for example about a certain model, my students will forget faster when they are not activated during the learning process. I could make the point faster and more clearly, but my students understand and remember better when they also contribute.

However, it's important that I structure their active process."

This type of direct and specific feedback is very instructive – not just for the students – but also for Carsten. It gives him an insight into what topics need to be explained in greater details or whether the class is ready to move on to the next topic.

In the words of Glenda Lappan, "Every day in every mathematics classrooms around the world, teachers of mathematics work hard to help students learn. Sometimes their learning excites us and sometimes their lack of it disappoints us. And sometimes we think the students have learned when in reality they have not.

Some of us are much attuned, on a daily basis, to what our students are learning, to what they understand, and to what they can do with their knowledge. Some of us are less so. What makes the difference? Our effectiveness, in large part, is enhanced or limited by the depth and breadth of our understanding of mathematics itself.

Our own content knowledge affects how we interpret the content goals we are expected to reach with our students. It affects the way we hear and respond to our students and their questions. It affects our ability to explain clearly and to ask good questions. It affects our ability to approach a mathematical idea flexibly with our students and to make connections. It affects our ability to push each student at that special moment when he or she is ready or curious. And it affects our ability to make those moments happen more often for our students".

We probably can all agree with the importance of content

knowledge at some level. It is easy to develop routines in our teaching so that we simply never get to the parts of the book or topics we do not enjoy or do not feel comfortable teaching. Most teachers skip difficult topics they do not know or understand. This is common in all our schools system, even up to the tertiary level. Our own knowledge or lack thereof can be the stumbling block to our students' learning.

Suggested Solutions

According to Glenda Lappan, one way is to learn from your own text materials. Try starting a math study group (by extension any subject group) around the text materials that you use. A group can be as small as two persons – you and a friend. Meet on a regular basis and together examine the mathematics that you are teaching.

Ask questions about how to teach each lesson more effectively:

- What questions will help students better understand this idea?
- How does this lesson fit with the next?
- Where is this idea going?
- To what is it connected?
- Why is it important?
- What examples or analogies will help students to understand?
- This can be a safe place to even ask such questions as, "Where on earth did this come from?"

What constitutes mastery in the teaching of a subject?

Mastery is an inclusive way of teaching, which is grounded in the belief that all pupils can achieve and excel in the contents of a subject matter. A concept is deemed mastered when learners can represent it in multiple ways, for example communicate

solutions using mathematical language and independently apply the concept to new problems.
Teaching for mastery is in two ways: firstly, there is understanding of the progression in learning for key topics, breaking them down into digestible chapters. Each chapter works as a step-by-step approach to teaching a topic and is ideal for teachers who want to study an area such as fractions or any other topic of interest in any subject in greater depth for their own professional development. Secondly, there is teaching contents which are presented in a simple and sequential manner by the professionals to the students.

This is a model that could promote genuine learning along every step of a course unlike the traditional flow of classes, where we learn materials and study for the upcoming test. And, regardless of our grade, we move on to the next set of chapters, until we are tested on those. We go on to learn more and take the next test and so on, until we are done with the class. Maybe we really learnt what we were taught, or maybe we only learnt a portion, or maybe we barely understood most of the material, and it is reflected in our ending grade.

Mastery learning is unique compared to the traditional method mentioned above. Under this model, a unit of material is taught, and students' understanding is evaluated before they are able to move on to the next unit.
As mentioned earlier, teachers break down their class curriculum into smaller units – about one to two weeks' worth of material – that would be taught throughout the course. After learning the first unit, the students are given what is like a quiz but serves more as an evaluation or assessment. Rather than signifying the end of their time on this unit, the **assessment** is a

guide to the students' level of understanding of the unit. The teacher then identifies their areas of weakness and also the areas where the students may not need help.

Thereafter, a detailed feedback is given to the students. If the students did not do well on the assessment, they are given **corrective activities** to help them to better understand the materials they did not get in the quiz. Students can be given practice exercises, study guides, group work or complementary resources, like information on the web, to help them improve.

Conclusion
Teaching is a highly skilled profession which only those who are well trained should engage in. Informally, the role of a teacher may be taken on by anyone (for example, showing a colleague how to perform a specific task). Also, teaching young people of school age may be carried out in an informal setting, such as within the family rather than in a formal setting such as a school or college.

In schools all over the world, the contents to teach in various subjects are "religiously adhered" to. They are well-organised and structured as they serve as references that detail exactly what one is going to be teaching, when to teach it, and the guiding rules to follow. Technically, one is not supposed to tamper with any portion therein. The question that readily comes to mind is whether this should be so in this modern world that is full of complexities.

The battle to stick to the curriculum brings about cycle of dysfunction for educators across various countries, and this is part of the reason achievement gaps exist. Approaches to teaching, what should be taught and the other situations must engage and motivate students and teachers alike.

For teaching to be appropriate and efficient, it has to be in relation with the characteristics of the learner and the type of learning it is supposed to bring about. Formal teaching tasks include preparing lessons according to agreed curricula, giving lessons and assessing pupil's progress.

This chapter has dealt extensively on the meaning of subject matter or contents. It has hooked at some ways of imparting knowledge through the use of the curriculum. Further, it xrayed the criteria for the selection of subject matter or contents of the curriculum and the components of the contents to be taught by the teacher. In addition, versatility as a concept in teaching and what constitutes mastery in the teaching of a subject were also considered. It is hoped that students, trainees and professional teachers will find the chapter resourceful and handy.

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