METHODS OF TEACHING AGRICULTURAL SCIENCE IN BASIC SCHOOLS

**Pedagogical Approaches**

These include the approaches, methods, strategies, appropriate relevant teaching and learning resources for ensuring that every learner benefits from teaching and learning process.

The curriculum emphasises the:

1. Creation of learning-centred classrooms through the use of creative approaches to ensure learner empowerment and independent learning;

2. Positioning of inclusion and equity at the centre of quality teaching and learning;

3. Use of differentiation and scaffolding as teaching and learning strategies for of Information Communications Technology (ICT) as a pedagogical tool;

5. Identification of subject specific instructional expectations needed for making learning in the subject relevant to learners;

6. Integration of assessment as learning, for learning and of learning into the teaching and learning processes and as an accountability strategy; and

7. Questioning techniques that promote deep learning

Other Teaches activities

Illustrations

Demonstrations (process & result/product)

Expositions

Giving assignments

Assessment of learning, for learning and as learning

***Learners’ Activities for learning emphasised in the curriculum***

Picture studies

Discussions

Hands-on activities (synthesis and analysis)

Demonstrations (process & result/product)

Projects (Group & individual)

Exposure (field trips, video, exhibitions)

Critiquing

Presentations

Debates

Writing Assignments and Home work

Internet search

Observation

Experimenting

Collection of materials

Drawing/sketching of items

Modelling or creating items/materials/objects

Pair sharing of views or ideas

Watching films/videos

Talking about issues, events and

LEARNING-CENTRED PEDAGOGY

The learner is at the centre of learning. At the heart of the national curriculum for change and sustainable development is the learning progression and improvement of learning outcomes for Ghana’s young people with a focus on the 4Rs – Reading, wRiting, aRithmetic and cReativity. It is expected that at each curriculum phase, learners would be offered the essential learning experiences to progress seamlessly to the next phase. Where there are indications that a learner is not sufficiently ready for the next phase, a compensatory provision through differentiation should be provided to ensure that such a learner is ready to progress with his/her cohort. At the primary school, the progression phases are B1 to B2 and B1 to B6. The Curriculum encourages the creation of a learning centred classroom with the opportunity for learners to engage in meaningful “hands-on” activities that bring home to the learner what they are learning in school and what they know from outside of school. The learning centred classroom is a place for the learners to discuss ideas through the inspiration of the teacher. The learners then become actively engaged in looking for answers, working in groups to solve problems. They also research for information, xiv analyse and evaluate information. The aim of the learning-centred classroom is to enable learners to take ownership of their learning. It provides the opportunity for deep and profound learning to take place.

The teacher as a facilitator needs to create a learning environment that:

1. makes learners feel safe and accepted;

2. helps learners to interact with varied sources of information in a variety of ways;

3. helps learners to identify a problem suitable for investigation through project work;

4. connects the problem with the context of the learners’ world so that it presents realistic opportunities for learning;

5. organises the subject matter around the problem, not the subject;

6. gives learners responsibility for defining their learning experience and planning to solve the problem;

7. encourages learners to collaborate in learning; and

8. expects all learners to demonstrate the results of their learning through a pro

It is more productive for learners to find answers to their own questions rather than teachers providing the answers and their opinions in a learning-centred classroom. INCLUSION Inclusion is ensuring access and learning for all learners especially those disadvantaged. All learners are entitled to a broad and balanced curriculum in every school in Ghana. The daily learning activities to which learners are exposed should ensure that the learners’ right to equal access and accessibility to quality education is met. The Curriculum suggests a variety of approaches that address learners’ diversity and their special needs in the learning process. When these approaches are effectively used in lessons, they will contribute to the full development of the learning potential of every learner. Learners have individual needs and learning experiences and different levels of motivation for learning. Planning, delivery and reflection on daily learning experiences should take these differences into consideration. The curriculum therefore promotes: 1. learning that is linked to the learner’s background and to their prior experiences, interests, potential and capacities 2. learning that is meaningful because it aligns with learners’ ability (e.g. learning that is oriented towards developing general capabilities and solving the practical problems of everyday life); and 3. the active involvement of the learners in the selection and organisation of learning experiences, making them aware of their importance and also enabling them to assess their own learning outcomes.

DIFFERENTIATION AND SCAFFOLDING Differentiation is a process by which differences (learning styles, interest and readiness to learn) between learners are accommodated so that all learners in a group have the best possible chance of learning. Differentiation could be by task, support and outcome. Differentiation as a way of ensuring each learner benefits adequately from the delivery of the curriculum can be achieved in the classroom through i) task ii) support from the Guidance and Counselling Unit and iii) learning outcomes. xv Differentiation by task involves teachers setting different tasks for learners of different abilities. E.g. in sketching the plan and shape of their classroom some learners could be made to sketch with free hand while others would be made to trace the outline of the plan. Differentiation by support involves the teacher giving the needed support and referring weak learners to the Guidance and Counselling Unit for academic support. Differentiation by outcome involves the teacher allowing learners to respond at different levels. Weaker learners are allowed more time for complicated tasks. Scaffolding in education refers to the use of variety of instructional techniques aimed at moving learners progressively towards stronger understanding and ultimately greater independence in the learning process. It involves breaking up the learning task, experience or concepts into smaller parts and then providing learners with the support they need to learn each part. The process may require a teacher assigning an excerpt of a longer text to learners to read and engaging them to discuss the excerpt to improve comprehension. The teacher goes ahead to guide them through the key words/vocabulary to ensure learners have developed a thorough understanding of the text before engaging them to read the full text. Common scaffolding strategies available to the teacher are:

1. Giving learners a simplified version of a lesson, assignment, or reading, and then gradually increases the complexity, difficulty, or sophistication over time;

2. Describing or illustrating a concept, problem, or process in multiple ways to ensure understanding;

3. Giving learners an exemplar or a model of an assignment, they will be asked to complete;

4. giving learners a vocabulary lesson before they read a difficult text;

5. Describing the purpose of a learning activity clearly and the learning goals they are expected to achieve; and

6. Describing explicitly how the new lesson builds on the knowledge and skills learners were taught in a previous lesson.

ORGANISATION OF THE CURRICULUM

The curriculum is organised in five thematic areas as follows:

• First Theme: All About Us • Second Theme: All Around Us

• Third Theme: Our Religions and Our Moral Values

• Fourth Theme: Our Nation Ghana

• Fifth Theme: Our Africa and the Global Community

The themes are integrated with five learning areas (five subjects). These are:

• Religious and Moral Education (RME) xvi

• Civics (CIV)

• Geography (GEO)

• Agricultural Science (AGR)

• Computing (COM)

CURRICULUM REFERENCE NUMBERS

The curriculum has been structured into four columns which are Strands, Sub-strands, Content standards and Indicators and exemplars. A unique annotation is used for numbering the learning indicators in the curriculum for the purpose of easy referencing. The notation is indicated in Table 1.

Table 1: Interpretation of Curriculum Reference Numbers

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| --- | --- |
| Example: OWOP: B1.2.3.4.1 ANNOTATION | MEANING / REPRESENTATION |
| B1. | Basic Year 1 / Class1/ Primary 1 |
| 2. | Strand Number |
| 3. | Sub-Strand Number. |
| 4. | Content Standard Number |
| 1. | Learning / Performance Indicator Number |