Ministry of Education
Republic of Ghana
April 2019
ORIENTATION OF PRIMARY SCHOOL TEACHERS TOWARDS THE IMPLEMENTATION OF THE REVISED COMPUTING CURRICULUM FOR B4–B6
Computing Training Guide

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Foreword

The curriculum for Kindergarten (KG) and Basic Year 1 to 6 (B1 – B6) was revised and approved by the Cabinet of the Republic of Ghana in March 2019. The revision done through a comprehensive consultative process, led by the National Council for Curriculum and Assessment (NaCCA) is Government’s action towards providing equitable, quality, inclusive education and lifelong learning opportunities for all. This action of Government is in line with national priorities and the United Nation’s Sustainable Development Goals, especially Goal 4.

The revised Primary School curriculum is Phase one of government’s plan to review and revise the entire pre–tertiary education curriculum with a deliberate focus on the 4Rs of Reading, Writing, Arithmetic and Creativity. The revised curriculum is also intentional to equipping all learners from Ghana’s schools with core competencies, essential skills and values necessary for the learners to become creative, honest and responsible citizens — nationally and globally. It is expected that by going through the learning opportunities provided by the revised curriculum, teachers will ensure that all learners — at any point of their exit from formal education — are critical thinkers, numerate, digital literates, problem solvers with enormous leadership, communication and interpersonal skills.

Critically, the revised primary school curriculum is aimed at ensuring that all learners in Ghana's schools receive quality education with improved learning outcomes. The revision replaces the content-focused objectives-based curricula used in the country in the last three decades with the standards-based curricula that emphasise both the development of subject content and core competencies. This revision provides every school and teacher with adequate information on what to use to measure 'what each learner learns, understands and is able to do' at the various levels of academic progression. The adoption of the standards-based curriculum model requires that accountability in Ghana’s schools is enhanced, that teachers use creative pedagogical approaches and that a culture of continuing professional development for teachers is created. As a first step, Professional Learning Communities (PLC) will be institutionalised across the country. Teachers who are the gatekeepers to the effective implementation of the revised curriculum therefore need to be oriented and trained.

It is for this reason that the Ministry of Education through NaCCA has developed this Guide for the orientation and preparation of teachers to start teaching the revised curriculum. The guide is to help facilitators and educational experts provide quality training for every teacher through in-service training. The training for in-service teachers based on the Guide will provide participants with detailed information about the content of each subject and the associated core competencies. The participants will become reflective practitioners, with the requisite knowledge, skills and experiences needed to hit the ground running when the curriculum arrives in the classrooms across Ghana.

I have no doubt that by working together to effectively implement the revised curriculum, Ghana will become a Learning Nation.

Dr. Prince Hamid Armah
Executive Secretary (Ag.)
Introduction

The National Council for Curriculum and Assessment (NaCCA) has developed this Training Guide to support the preparation of in-service teachers to implement the primary school curriculum. In-service teacher preparation approaches will include training workshops, seminars and classroom support to ensure that teachers develop the conceptual understanding of the subjects and general learning and teaching approaches at each basic year level and phase. The guide has been developed by the individuals who will be facilitating the training of classroom teachers for the implementation of the revised primary school curriculum.

The guide is divided into four modules. Module one exposes teachers to the rationale for revising the school curriculum and what is new in the primary school curriculum. The remaining three modules have a special focus on pedagogy — creative approaches — for learner centred teaching that is required for improving learning outcomes in Ghana’s schools. The modules emphasise the approaches needed to support the development of global core competencies and highlight assessment strategies required to enable the improvement in learning outcomes. The four modules have been field-tested in urban, peri-urban and rural classroom settings with positive outcomes.

The guide is arranged in sessions. Each session has a catalogue of activities for both participants and facilitators. These are carefully packaged to help the teacher — who is the focus of the implementation of the revised curriculum — to follow the sequence and progression of learning areas in the curriculum. It is to enable teachers to understand the content of the curriculum; strands, sub-strands, standards, indicators and exemplars and related lesson planning, identification and use of resources, creative pedagogic approaches and assessment.

Also captured in the Guide is the plan for the initial national training to include the training of trainers at national, regional and district levels and the preparation of classroom teachers on the revised curriculum so that they are better positioned to implement it. The training involves upstream training for 157 National Trainers, Midstream Training of 4,320 Regional and District Trainers and downstream training of 151,886 teachers across the country. This initial training shall be followed by regular in-service training, refresher courses at both school and cluster level through time-tabled continuous professional development sessions and Professional Learning Communities (PLC).
Therefore, the guide aims to:

- provide facilitators with the necessary tools and guidelines for training kindergarten and primary school teachers for the effective implementation of the revised curriculum;

- enable facilitators to understand the concept of the new standards-based curriculum and its importance in the education, growth and development of the Ghanaian learner for national development;

- provide guidelines to experts who are directly or indirectly involved in activities aimed at improving the quality of education in Ghana.

To use the guide, facilitators:

- should read thoroughly every activity captured under the various sessions to ensure that they have a conceptual understanding and imbedded meaning of each activity.
- should consult the NaCCA training team for required clarification and support.
- are to ensure that the recommended training resources are available in their right quantities
- are to note that the approaches suggested for an effective delivery of the training are not exhaustive
- are encouraged to use other more creative strategies that can help achieve the goals of the training

As a guide, all participants in the various nationwide training programs and in the implementation of the curriculum should daily ask the following critical questions:

1. What do my learners need to know, understand, and be able to do? (Plan)
2. How do I teach effectively to ensure learners are learning? (Do)
3. How do I know learners are learning? (Reflect)
4. What do I do when learners are not learning or are reaching mastery before expectation? (Revise)

Users of this guide (facilitators) should therefore consider among other things:
1. what teachers must know and be able to do,
2. what supports/facilitates effective educational practices,
3. what evidence demonstrates teaching effectiveness, and
4. what steps can be taken to continuously improve and build upon effective classroom instruction.

Table 1, Materials Required, gives a summary of the content of the Training Guide as captured in the various sections of the Guide. It also provides details on the references, resources and materials required by facilitators and participants to ensure an effective orientation programme.

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TRAINING GOALS

The training is designed to:

1. provide trainers/teachers with opportunities to understand the major learning gaps the curriculum revision is intended to address and provide understanding of the primary features of a standards-based curriculum;
2. provide trainers/teachers with opportunities to understand and practice new pedagogical models associated with standards-based curriculum;
3. expose trainers/teachers to the process of establishing, and engaging in, Professional Learning Communities (PLCs) to promote reflective practices and whole school development;
4. provide trainers/teachers with opportunities to identify the necessary resources and support structures needed to ensure smooth implementation of the reforms;
5. expose trainers/teachers to the processes and tools involved in lesson planning as well as monitoring and reporting on learners’ progress.

LEARNING OUTCOMES

At the end of the training, the trainers/teachers will be able to:

- describe the major learning gaps the new Computing curriculum is designed to address (Goal 1);
- explain the major differences between the standards-based curriculum and the existing Computing syllabus (Goal 1);
- identify the primary features of the Computing standards-based curriculum and explain what is new in teaching it primary schools (Goal 1);
- explain the nature and rationale of the subject is taught in school and the differences between the pedagogies used in lessons in the objectives-based curriculum and the revised standards-based curriculum (Goal 2);
- explain what core competencies are and explain the differences between the assessment strategies used in the implementation of the objectives-based curriculum and the revised standards-based curriculum (Goal 2);
• identify barriers to learning, particularly those related to the cross cutting issues (gender, inclusivity, and resources availability), and explain how they will be addressed in lessons in the revised standards-based curriculum (Goal 2);
• demonstrate a variety of teaching/learning and assessment strategies that a Computing teacher can use in a lesson period to ensure the learners are developing the intended learning outcomes and core competencies in a lesson (Goal 2);
• describe how to write lesson plans and schemes of learning for a standards-based curriculum.
• explain the basic features of a professional learning community (PLC) and their potential for creating a new teaching culture where teachers will be willing to support each other (Goal 3);
• explain the roles and responsibilities of the Key Actors in the PLC (DDE, CS, HT, CL /Coach and teachers) (Goal 3);
• describe the necessary support structures needed to ensure circuit supervisors and head teachers can assume and sustain their roles effectively (Goal 4);
• explain “fidelity of implementation” and its role in measuring success and impact of new initiatives (Goal 5);
• develop a school action plan to ensure a dynamic ongoing monitoring and reporting of the progress of the implementation of the new curriculum throughout the school year (Goal 5).
## TRAINING SCHEDULE

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<th>7:00 - 8:00</th>
<th>9:00 - 9:20</th>
<th>9:20 - 10:20</th>
<th>10:20 - 11:00</th>
<th>11:00 - 11:15</th>
<th>11:15 - 12:15</th>
<th>12:15 - 1:30</th>
<th>1:30 - 2:30</th>
<th>2:30 - 3:45</th>
<th>3:45 - 5:00</th>
<th>6:30 - 7:30</th>
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<td>20 min</td>
<td>1 hr</td>
<td>40 min</td>
<td>15 m</td>
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### ARRIVAL AND REGISTRATION OF PARTICIPANTS

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<th>Break</th>
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<td>Registration/ Welcome, Introductions, and Overview</td>
<td>Highlights of the National Curriculum Framework</td>
<td>Introduction to the New Computing Curriculum</td>
<td>Understanding the Front Matter in the new Computing curriculum</td>
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<td>Creative Pedagogies used in Computing lessons</td>
<td>Demonstration of Creative Pedagogies used in Computing lessons</td>
<td>Demonstration of Creative Pedagogies used in Computing lessons</td>
<td>Designing Assessment strategies used in computing classrooms</td>
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<tr>
<td>Day 2</td>
<td>BREAKFAST</td>
<td>BREAK</td>
<td>LUNCH</td>
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<td>Teaching and learning resources for teaching Computing</td>
<td>Use of Instructional Time: Phases/Stages of a lesson in Computing</td>
<td>Writing Scheme of Learning in Computing</td>
<td>Lesson Planning and Demonstration</td>
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<tr>
<td>Day 3</td>
<td>RECAP</td>
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<td></td>
<td>Monitoring &amp; Evaluation, Reporting on Progress, Planning</td>
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<td>Reflective Practice: PLC/SBI</td>
<td>Roles and responsibilities of the Key Actors in PLC</td>
<td>Coaching Sessions</td>
<td>Coaching Sessions</td>
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<td>Day 4</td>
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<tr>
<td>Day 5</td>
<td>TEACHING SCHEDULE</td>
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<tr>
<td>DEPARTURE</td>
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### DAY 1

**Module 1: Introduction, Opening and Training Overview**

**AGENDA**

| Session 1.0: Registration/Opening | 8.00 – 9.00 am  
1.00 hour |
| Session 1.1: Welcome, Introductions, and Overview | 9.00–10.00 am  
1.00 hour |
| **Overview of Role, Responsibilities of Trainers** | **Overview of Role, Responsibilities of Trainers**  
**Self-assessment:**  
**Workshop Norms/Participants expectations** |
| Session 1.2: Highlights of the National Pre–Tertiary Curriculum Framework (NPCF) | 10.00am–11.00am  
1 hour |
| **Presentation and Discussion** | **Presentation and Discussion** |
| Snack Break | 11.00am – 11.15pm |
| Session 1.3: Introduction to the New Computing Curriculum | 11.15am – 1.30pm  
2 hours 15 minutes |
| **Discussion on current problems in learning teaching and assessment of Computing** | **Discussion on current problems in learning teaching and assessment of Computing**  
**Presentation on the new Computing curriculum focusing on the key features, definitions, organisation, scope and sequence, etc.**  
**Group discussion (questions based on the key features)**  
**Group presentations**  
**Highlights of differences with old and new curriculum (Group discussion and presentations)** |
| Lunch Break | 1.30pm – 2.30pm |
| Session 1.4: Understanding the Front Matter of the Computing curriculum | 2.30pm – 3.30pm  
1 hour |
| **Discussion on elements of the Front Matter including the rationale, teaching philosophy, learning philosophy, general aims, core competences, and instructional expectations etc** | **Discussion on elements of the Front Matter including the rationale, teaching philosophy, learning philosophy, general aims, core competences, and instructional expectations etc** |
| Health Break | 3.30pm – 3.45pm |
| Session 1.4: Understanding the Front Matter of the Computing curriculum (CONT’D) | 3.45pm - 5.00pm  
1 hour 15 minutes |

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### Session 1.1: Welcome, Introductions, and Overview

<table>
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<tr>
<th><strong>Opening/Welcome (15 mins)</strong> (see Opening Programme)</th>
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<tbody>
<tr>
<td><strong>Introductions (20 mins)</strong></td>
</tr>
<tr>
<td><strong>Say:</strong></td>
</tr>
<tr>
<td>- Welcome everyone! How are you doing? Before we begin today’s work, it is important to introduce ourselves.</td>
</tr>
<tr>
<td><strong>Do:</strong></td>
</tr>
<tr>
<td>- Start with your name and then ask each person to introduce him/herself.</td>
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<tr>
<td>- Let each person say their name, their school and the class or level they teach or district.</td>
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<table>
<thead>
<tr>
<th><strong>Participants expectations/Workshop Norms (5 mins)</strong></th>
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<tr>
<td><strong>Do:</strong></td>
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<tr>
<td>- Ask participants to think–pair–share their expectations for the training workshop.</td>
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<tr>
<td>- Ask participants to write down their expectations on a sticky pad and share in a plenary.</td>
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<tr>
<td>- Ask participants to paste their written expectations on the wall.</td>
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<tr>
<td>- Ask participants to come out with working norms/routines to help achieve the training goals.</td>
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(At the end of the session, they will revisit the expectations to find out whether they have been met.)

| **Note to facilitator:** The norms should promote an environment where people feel comfortable to share ideas and to ask questions, with the goal of helping one another understand and support one another to become better trainers. |
### Overview of the training (15 mins)

**Do:**
- Take participants through the following:
  - Goals of the training (see page 1 of training guide).
  - Learning outcomes for the training (see page 1 of training guide).
  - Schedule for the training (page 3 of training guide).

### Roles and Responsibilities of Trainers (5 mins)

**Do:**
- Review the main responsibilities of trainers (See appendix).
- Lead participants to share thoughts on the question below:
  What do participants think will be the most challenging responsibility?

### Self-assessment (15 mins)

**Say:**
- You will complete self-assessment sheet.
- The assessment is not an examination but a means of measuring the level of your understanding of the key concepts of the curriculum.
- The feedback that will be gathered through the assessment will be used to frame the objectives to better meet your needs.
- You will complete the same self-assessment at the end of the training.
- The post-training assessment feedback will help measure the success of the training.
DO: 

- Give out the assessment tools to participants.
- Explain the scale that they should use:

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Not at all confident</td>
<td>Slightly confident</td>
<td>Somewhat confident</td>
<td>Confident</td>
<td>Very confident</td>
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- Ask participants to complete the Self-Assessment Exercise.
- After 15mins, collect the completed assessment sheets.
## Session 1.2: Highlights of the National Pre-Tertiary Curriculum Framework (NPCF)

### Highlights of the NPCF

1. **Presentation (40 mins) PPT 1**
   
   **Do:**
   
   - Ask participants to brainstorm and answer the questions below:
     i. What is a framework?
     ii. What is a curriculum framework?
   
   - Record participants’ answers on the flip chart.
   
   - Present PPT 1 participants.
   
   - Invite one or two questions from participants

2. **General discussion on the presentation (20 mins)**
   
   **Do:**
   
   - Ask participants in small groups to discuss these questions:
     i. What do you know about the Curriculum Framework?
     ii. What do you need to know about the Curriculum Framework going forward?
     iii. What are the essential features of the Curriculum Framework?
   
   - Invite participants to present their work.
Session 1.3: Introduction to the New Computing Curriculum

1. Discussion on current problems in learning, teaching and assessment of Computing in Ghana (20 mins)

Say:

Recent learning assessments have revealed that there are significant gaps between what pupils know and can do in computing, and what we would like them to know and be able to do. What gaps have you noticed? What needs to improve in terms of pupils' learning?

- Turn to the person next to you to share ideas on the following questions:
  - What knowledge gaps do children have?
  - What gaps in skills do they have?
  - What gaps in attitudes and values do they have? (their attitudes and values about Computing)

Do: ⭐

2. Group presentations on the discussion (30 mins)

- Invite groups to share their views with the large group.

3. Presentation on the new Computing curriculum focusing on the challenges the curriculum is addressing and the organisation of the contents — strands, sub-stands, standards, etc. and changes in pedagogy and content (30 mins) PPT 2

Do: ⭐

- Present PPT 2.
4. Group Work on the new curriculum

Do: ★

- Ask participants to pair up with their partners to develop ideas to answer the following questions:
  i. Why revise the Computing curriculum? (Link to gaps identified in previous activity).
  ii. Which other change do you see in the revised curriculum — highlights of differences with old and new Computing curriculum?
  iii. What do we mean by a standards-based curriculum?
  iv. What are five components of the standards-based curriculum?
  v. What are key features of the computing curriculum?
  vi. What support will teachers need in implementing the new curriculum?

5. Group presentations on the discussion (40 mins)

Do: ★

- Let groups present their work.
Session 1.4: Understanding the Front Matter of the Computing curriculum

Say:
- Let participants spend two minutes to think-pair-share their views on:
  i. What is the Front Matter of a curriculum?
  ii. Why is it important to read the Front Matter of a curriculum?
- Ask about four participants to share their views with the whole group.
- Summarise participants’ responses.

Do:
- Put them into groups of five (5).
- Ask participants to open to the Front Matter of the new Computing curriculum (see also Teacher Resource Pack).
- Have groups identify, study and discuss the target sections of the Front Matter:
  A.
  i. the rationale.
  ii. teaching philosophy.
  iii. learning philosophy.
  iv. general aims.
  v. core competencies.

1. Discussion of the key elements of the Front Matter including the rationale, teaching philosophy, learning philosophy, general aims, core competencies, and instructional expectations (110 mins)
B.  
  i. instructional expectations. 
  ii. learning domains (expected learning behaviours). 
  iii. attitudes and values. 
  iv. suggested time allocation. 

- Have groups record their understanding of the target sections of the Front Matter findings on flip charts. 
- Invite each group to share a specific aspect with the whole groups.

2. Presentation on the Front Matter (10 mins)
Do: ★
- Present PPT 3 to summarise the discussions.

End of Day Check-in

End of Day Check-in (10 mins)
Say: ☃️
- What are the key lessons you have learnt today? 
- What was your favourite part? Why? 
- What do you think will be the most challenging thing for you as a trainer/teacher? 
- Write one thing you already knew, one thing that you have learnt today, and one question you still have on sticky notes. After that, share one thing you have learnt with your partner.

Facilitator’s Note: Give out three (3) different colours of the sticky notes: One colour for what they already knew, one for what they learnt, and one for a question they still have.
Do: ★
- Invite a few participants to share one thing they have learnt with the whole group. 
- Ask participants to post their sticky notes on the wall 
- Thank participants for their contributions and hard work.
# DAY 2

## Module 2: Pedagogy and Assessment

### AGENDA

| Session 2.1: Review of previous day’s work and Overview of Module 2 | 9.00 – 9.20 am  
20 minutes |
| --- | --- |
| **Session 2.2: Creative Pedagogies used in Computing lessons**  
- Discussion of creative pedagogies in teaching Computing  
- Discussion of learning-centred pedagogies in new Computing curriculum | 9.20–10.20 am  
1 hour |
| **Session 2.3: Demonstration of Creative Pedagogies used in Computing lessons**  
- Demonstration of a lesson in the new Computing curriculum  
- Discussion of creative and learning-centred pedagogies in a lesson demonstration | 10.20–11.00 am  
40 minutes |
| **Snack Break** | 11.00 am – 11.15 am |
| **2.3 Demonstration of Creative Pedagogies used in Computing lessons**  
- Role playing learning-centred pedagogies in the new Computing curriculum | 11.15 am – 12.00 pm  
45 minutes |
| **Session 2.4: Assessment strategies used in the Computing classroom**  
- Discussion on current assessment strategies in teaching Computing  
- Presentation on standards-based assessment highlighting assessment “for”, “as”, and “of”, learning. | 12.00 am – 1.00 pm  
1.00 Hour |
| **Lunch Break** | 1.00 pm – 2.00 pm |
| **Session 2.4. Assessment Strategies used in the new Computing curriculum**  
- Designing assessment tasks for a content standard in new Computing curriculum (Group discussion and presentations) | 2.00 pm – 3.30 pm  
1 hour 30 minutes |
| **Health Break** | 3.30 pm – 3.45 pm |
| **Session 2.5: Barriers to learning**  
- Brainstorming on barriers to learning  
- Discussion on how barriers (such as gender, inclusivity, and resources availability, etc.,) could be addressed in lessons | 3.45 pm – 5.00 pm  
1 hour 15 minutes |
Module 2: Learning Outcomes

At the end of this module, the learners are expected to:

1. Explain what core competencies are and explain the differences between the assessment strategies used in the implementation of the objective-based curriculum and the revised standards-based curriculum (Goal 2).
2. Identify barriers to learning, particularly those related to the cross cutting issues (gender, inclusivity, and resources availability), and explain how they will be addressed in lessons in the revised standards-based curriculum (Goal 2).
3. Demonstrate a variety of teaching/learning and assessment strategies that a Computing teacher can use in a lesson to ensure the learners are developing the intended learning outcomes and core competencies in a lesson (Goal 2).

Session 2.1: Review of Previous Day’s Work and Overview of Module 2

<table>
<thead>
<tr>
<th>Plenary</th>
</tr>
</thead>
</table>

1. **Review of previous day’s work and Overview of Module 2 (20 mins)**

**Say:**
- Welcome to today’s session. Let’s do a warm-up exercise.

**Do:**
- Ask participants, in turns, to state any one thing they remember from the previous day’s sessions (Whole subject-group review).
- Give an overview of Module 2.
  - Pedagogies used in Computing lessons.
  - Assessment strategies used in Computing lessons.
  - Barriers to learning.
Session 2.2: Pedagogies used in Computing lessons

**Creative and learning-centred pedagogies**

**Say:**
- We are going to talk about creative and learning-centred pedagogies that we use in computing lessons. What are creative pedagogic approaches? Can you share with me the creative pedagogic approaches you use your computing lessons?

**Do:**
- Ask participants to write down in their jotters their own definitions creative pedagogies with examples.
- Ask participants to pair-share their works and agree on a common definition for creative pedagogies with examples.
- **Group Work:** Ask four pairs of participants to share their works to agree on a common definition for creative pedagogies with examples, and ask the groups to share their work.
- **Group Work:** Ask participants in the groups to go to pages xii – xvi of the computing curriculum document to read about the creative pedagogies and answer the following questions:
  - i. The revised curriculum is aimed at equipping each child with the 4Rs. What are the 4Rs?
  - ii. Describe one creative pedagogy and state how its use can lead to the development of the 4Rs in all learners.
  - iii. What is inclusion? What creative pedagogies can be used to achieve inclusion in the Computing classroom?
  - iv. What is differentiation?
  - v. What is scaffolding?
- **Group Work:** Participants in groups present their findings. (The acceptable responses should be written on a flip chart/chalkboard).
- Present **PPT 4** on creative pedagogies.
- Let participants work in small groups to discuss the presentation.
Session 2.3: Demonstration of new Pedagogies used in Computing lessons

**Creative and learning-centred pedagogies**

**Say:**
- I am going to demonstrate some of the creative and learning-centred pedagogies discussed in session 2.2 in a Computing lesson.
- During the demonstration, you will participate as learners. At the same time, observe the lesson critically because you will practice it.

**Do:**
- Demonstrate a full lesson on some of the creative and learning-centred pedagogies discussed in session 2.2.
- Ask participants to discuss and comment on the demonstration they observed by identifying the pedagogies observed and the purpose of each one.
- Invite 2-3 participants to demonstrate the pedagogies they observed.

**Practice Time (45 mins)**

**Say:**
- It is now your turn to practise what you observed.

**Do:**
- Assist participants to plan a learning-centred pedagogy in teaching computing (40 mins).
- Have participants (in groups) discuss other pedagogical issues and develop their own teaching strategies/tools.
- Ask groups to carry out the role-play to demonstrate learning-centred Pedagogies Computing lessons.
- Let participants comment on the role plays.
Session 2.4: Assessment Strategies Used in Computing Lessons

<table>
<thead>
<tr>
<th>Assessment in Computing (30 mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Say:</strong></td>
</tr>
<tr>
<td>- The revised curriculum requires that teachers, head teachers, circuit officers and parents to know whether or not their pupils are “on track”. In groups, find out how these stakeholders will know whether or not their learners are “on track.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Do:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ask participants to be in groups of five (5) to:</td>
</tr>
<tr>
<td>i. find out the current assessment practices in schools;</td>
</tr>
<tr>
<td>ii. discuss what should be done for all the stakeholders to know whether or not the pupils are “on track”;</td>
</tr>
<tr>
<td>iii. discuss the types of assessment that can be used to show whether or not their pupils are on track at (i) the lower primary level, (ii) the lower primary level;</td>
</tr>
<tr>
<td>- Invite groups to present their findings. (The acceptable responses should be written on a flip chart/chalkboard);</td>
</tr>
<tr>
<td>- Lead a short exposition to summarise the types of assessment that are used at the primary level.</td>
</tr>
</tbody>
</table>
Assessment strategies performance standards and benchmarks

Do: ★

- Present PPT 5 on assessment in standards-based curriculum highlighting - assessment "for", "as", and "of", learning (30 mins).
- **Group Work:** Ask participants to work in groups to identify parts of a computer and technology tools and use it to write performance standards for content standards in the curriculum document. 30 mins.
- Let groups present their findings. (The acceptable responses should be written on a flip chart/chalkboard.

Use of variety of assessment strategies in the new Computing curriculum

(45 mins)

Say: 

- Now that you can explain "assessment for, as and of Learning, let us see how assessment tasks for these modes look like.

Do: ★

- Ask participants to open to “Sample Assessment Tasks” in the Teacher Resource Pack.
- Discuss the sample assessment tasks with the participants.

Designing Assessment tasks in the new Computing curriculum

Say: 

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• Now, we are going to practise designing assessment tasks for a content standard in the new Computing curriculum.

**Do:**  ★

- Assign each group a particular class. Have each group select a content standard from a specific strand (e.g. group 1 for level 1, strand 1).
- Give each group 15 mins to design sample assessment tasks for the content standard selected.

**Group presentations and discussion.** *(45 mins)*

**Do:**  ★

- Invite groups to present their work.

Thank participants for their participation.
Session 2.5: Barriers to Learning

1. Barriers to Learning

Say:

The standards-based curriculum supports the provision of an inclusive education, i.e. regardless of ability, ethnicity, religion, gender, geographical location, linguistic, social, cultural background. What is inclusive education? Are there barriers to learning?

Do: ⭐

- Lead participants to brainstorm on inclusive education and barriers to learning (10 mins)
- **Group Work:** Ask participants to work in groups of three (3) to discuss how to minimise ANY THREE barriers to learning.
- Ask groups to present their findings. (The acceptable responses should be written on a flip chart/chalkboard.) (30 mins)
- Lead a short exposition to summarise ways of dealing with barriers of learning (PPT 6).

2. Discuss how barriers (such as gender, inclusivity, and resources availability, etc.) could be addressed in lessons

- Let participants be in small groups to discuss how barriers (such as gender, inclusivity, and resources availability, etc.) could be addressed in lessons.
- Have groups share their thought with the large group.
- Summarise participants’ views.
End of Day Check-in

End of Day Check-in (10 mins)

Say:

- What are the key lessons you have learnt today?
- What was your favourite part? Why?
- What do you think will be the most challenging thing for you as a trainer/teacher?
- Write one thing you already knew, one thing that you have learnt today, and one question you still have on sticky notes. After that, share one thing you have learnt with your partner.

Facilitator’s Note: Give out three (3) different colours of the sticky notes: One colour for what they already knew, one for what they learnt, and one for a question they still have.

Do: ★

- Invite a few participants to share one thing they have learnt with the whole group.
- Ask participants to post their sticky notes on the wall
- Thank participants for their contributions and hard work.
# DAY 3

## Module 3: Lesson Planning

### AGENDA

| Session 3.1: Review of previous day’s work and Overview of Module 3 | 9.00 – 9.20 am  
20 minutes |
|---------------------------------------------------------------|--------------------------------------------------|
| **Session 3.2:** Teaching and learning resources for teaching Computing | 9.20 – 10.20 am  
1 hour |
| - Discuss how to determine classroom resources needed in teaching Computing | |
| - Discuss how to access resources needed in teaching Computing | |
| **Session 3.3:** Use of Instructional Time: Phases/Stages of a Lesson | 10.20 – 11.00 am  
40 minutes |
| - Discuss learning activities that go into the Phases/Stages of a lesson in the new Computing curriculum | |
| - Discuss the proportion of instructional time each Phase/Stage takes in the new Computing curriculum | |
| **Snack Break** | |
| **Session 3.4:** Writing Scheme of Learning | 11.15 am – 12.00 pm  
45 minutes |
| - Present and discuss on the new formats for writing scheme of learning | |
| - Hands-on practice on writing new scheme of learning | |
| **3.4 contd.:** Writing Scheme of Learning | 12.00 am – 1.00 pm  
1.00 Hour |
| - Group present and discuss on schemes of learning written in the new format | |
| **Lunch Break** | |
| **Session 3.5:** Lesson Planning and Demonstration | 2.00 pm – 3.30 pm  
1.5 hours |
| - Present and discuss on the new format for writing lesson plan | |
| - Hands-on practice on writing lesson plan (Group work) | |
| **Health Break** | |
| **3.5 contd.:** Lesson Planning and Demonstration | 3.45 pm – 5.00 pm  
1.15 hours |
| - Group Presentations and discussions: Lesson plans written in the new format | |
Module 3: Learning Outcomes

1. Describe the how to write a lesson plans and schemes of learning for a standards-based curriculum.
2. Identify appropriate Teaching and Learning resources for teaching.
3. Demonstrate efficient use of instructional time.

Session 3.1: Review of Previous Day’s work and Overview of Module 3

<table>
<thead>
<tr>
<th>Review of previous day’s work and Overview of Module 3 (20 mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Say:</strong></td>
</tr>
<tr>
<td>• Welcome everyone! Let’s play a game to warm up.</td>
</tr>
<tr>
<td><strong>Do:</strong></td>
</tr>
<tr>
<td>• Lead participants to play a game to warm up.</td>
</tr>
<tr>
<td>• Ask participants to turn to a person next to share at least one thing they have learnt from the previous day’s sessions.</td>
</tr>
<tr>
<td>• Invite 2–3 participants to share the key things they learnt with the whole group.</td>
</tr>
<tr>
<td>• Give an overview of Module 3 (5 mins).</td>
</tr>
<tr>
<td>✓ Teaching and learning resources.</td>
</tr>
<tr>
<td>✓ Use of instructional time.</td>
</tr>
<tr>
<td>✓ Writing scheme of learning</td>
</tr>
<tr>
<td>✓ Lesson planning</td>
</tr>
</tbody>
</table>
Session 3.2: Teaching and Learning Resources for Teaching Computing

1. Teaching and learning resources

**Say:**

- Do you use teaching and learning resources in your computing lessons? Mention some of them and their uses.

**Do:**

- Ask participants to pair up to answer these questions:
  i. What are teaching and learning resources?
  ii. How useful are they in lesson delivery?

- Let participants share their thoughts with the whole group.
- Present participants with the chart (See Teacher Resource Pack) on how to identify and select classroom resources needed in teaching Computing.
- **Group Work:** Ask small groups to discuss the following:
  i. What are the important things to keep in mind when selecting TLMS for activities?
  ii. How feasible is it to obtain materials from the four sources indicated? (25 mins).
- Ask groups to complete the Teaching and Learning Resources Chart.

2. Group Presentations on how to access resources needed in teaching Computing (15 mins).

- Invite groups to share their responses. Note the teachers' observations.
Session 3.3: Use of Instructional Time: Phases/Stages of a Lesson

<table>
<thead>
<tr>
<th>Use of Instructional Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Presentation on the format/phases of the lesson, e.g. Time allocation, activities, and stages of a lesson</strong></td>
</tr>
<tr>
<td><strong>Do:</strong> 🌟</td>
</tr>
<tr>
<td>- Take participants through the format/phases of the lesson, e.g. time allocation, activities, stages of a lesson (Teacher Resource Pack).</td>
</tr>
<tr>
<td><strong>Pair work</strong></td>
</tr>
<tr>
<td>- Ask pairs of participants to discuss the proportion of instructional time each Phase/Stage takes in the new Computing curriculum (10 mins): time allocation and the activities for each stage. They should compare the new format with the old lesson format and identify similarities and differences.</td>
</tr>
<tr>
<td>- Invite pairs to present the stages of a lesson in the new Computing curriculum.</td>
</tr>
</tbody>
</table>

- **Ask participants to discuss the proportion of instructional time each Phase/Stage takes in the new Computing curriculum (10 mins)**
  i. How did you find this activity?
  ii. What are the important things to keep in mind when planning instructional activity?

Note the teachers’ observations.
Session 3.4: Writing Scheme of Learning

<table>
<thead>
<tr>
<th>Group</th>
<th>Plenary</th>
</tr>
</thead>
</table>

**Scheme of Learning**

1. *Presentation on the new formats for writing scheme of learning (5 mins)*

**Say:**
- Do you write Scheme of Learning? Why do you write it? What is another name for Scheme of Learning? Turn to your partner to share your ideas.

**Do:**
- Invite pairs to share their thoughts on the above questions.
- Take participants through the new format/template for writing scheme of learning in the Teacher Resource Pack.
- Give participants 2 minutes to study the format/template.
- Take them through the process of writing scheme of learning.
- Invite questions for clarification.
2. **Group Work: Activity with Termly Scheme of Learning**

**Say:**
- Be in groups of five (5) to discuss the following questions:
  - What use do you want teachers in your school to make of the weekly schemes of learning?
  - How can teachers use weekly schemes of learning to create daily lesson plans?
  - How do you envision head teachers or circuit officers using the weekly schemes of learning?
  - How will you explain how to use the weekly schemes of learning to the teachers in your school?
- Invite about 3 groups to present their work for discussions

3. **Hands-on practice on using the new format for writing scheme of learning [Group work]**

**(25 mins)**

**Do:**

- Task groups of participants to develop a 10-minute training activity that shows teachers how to use a weekly Scheme of Learning.

---

**Group Presentations (45 mins)**

1. **Group presentations and discussions on schemes of learning/learning written in the new format/template**

**Do:**

- Let groups present their work for discussions.

**Say:**

- How did you find this scheme of learning activity?
- What are the important things to keep in mind when writing scheme of learning?
- Note the teachers’ observations.
Session 3.5: Lesson Planning

Lesson Planning

1. Presentation on the new format for writing Lesson Plan (5 mins)
   PPT 10

   Do: ★
   Do: ★☆

   - Ask participants to work in pairs with someone who teaches the same year group share ideas on components of the current lesson plan.
   - Have pairs share their answers.
   - Take participants through the sample weekly and daily lesson plans in the Teacher Resource Pack.
   - Give participants time to study and discuss the sample weekly and the daily lesson plans
   - Let participants ask questions for clarification.

2. Hands-on practice on using the new format for writing lesson plan [Group work] (60 mins)

   - Using the guidelines from the lesson plan format, each pair should develop lessons for a week according to the weekly Scheme of Learning.
     - Each group will need:
       i. Scheme of Learning for Term 1 for their grade level.
       ii. Note paper — or lesson planning book.
   - Ask each pair to:
     Read over the Scheme of Learning for Week 1.
     - Identify the learning outcomes for the week.

     Build a lesson for each day of the week using the Scheme of Learning. Each lesson should include
     (a) - the required starter activities, b - the required main learning activities including assessment task
     and (c) plenary/reflections on new learning activities. You should have 5 lessons.

     Practice leading the activities as you would in class.
<table>
<thead>
<tr>
<th>Do:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>3. Go round the groups to assist them in their planning. **IMPORTANT Develop a 10-minute training activity that shows teachers how to use a weekly Scheme of Learning and how to make a lesson plan with the weekly Scheme of Learning.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Group presentations (75 mins)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Do:</td>
<td>⭐️</td>
</tr>
<tr>
<td>• Ask 2 pairs from each year group to present their lesson plan (i.e. 2 pairs from P1 and 2 pairs from P2 for a total of 4 presentations)</td>
<td></td>
</tr>
<tr>
<td>• Ask others from same year group to say how their plans are different.</td>
<td></td>
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<tr>
<td>• Provide guidance if there seems to be confusion about lesson planning.</td>
<td></td>
</tr>
<tr>
<td>Say:</td>
<td></td>
</tr>
<tr>
<td>• How did you find this lesson planning activity?</td>
<td></td>
</tr>
<tr>
<td>• What are the important things to keep in mind when planning a lesson using the scheme of learning?</td>
<td></td>
</tr>
<tr>
<td>• Note the teachers’ observations.</td>
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</tbody>
</table>

**Demonstration of a Computing lesson**

<table>
<thead>
<tr>
<th>Say:</th>
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<tbody>
<tr>
<td>• I am going to demonstrate a 30-minute Computing lesson.</td>
<td></td>
</tr>
<tr>
<td>• During the demonstration, you will participate as learners. At the same time, observe the lesson critically because you will practice it.</td>
<td></td>
</tr>
</tbody>
</table>
Do: ⭐

- Demonstrate a 30-minute Computing lesson.
- Ask participants to discuss the lesson observed: the starter, main activities and reflection.

Practice Time

Say:

- It is now your turn to demonstrate a 30-minute Computing lesson. Spend a few minutes to prepare TLMs for the lesson you designed in the previous session.

Do: ⭐

- Invite pairs of participants to deliver their lessons.
- Ask participants to comment on the lessons observed: the starter, main activities and reflection.
## End of Day Check-in

### End of Day Check-in (10 mins)

**Say:**

- What are the key lessons you have learnt today?
- What was your favourite part? Why?
- What do you think will be the most challenging thing for you as a trainer/teacher?
- Write one thing you already knew, one thing that you have learnt today, and one question you still have on sticky notes. After that, share one thing you have learnt with your partner.

**Facilitator’s Note:** Give out three (3) different colours of the sticky notes: One colour for what they already knew, one for what they learnt, and one for a question they still have.

**Do:**

- Invite a few participants to share one thing they have learnt with the whole group.
- Ask participants to post their sticky notes on the wall
- Thank participants for their contributions and hard work.
### DAY 4

**Module 4: Professional Learning Community (PLC), Practice and Reflection**

**AGENDA**

<table>
<thead>
<tr>
<th>Session 4.1: Review of previous day’s work and Overview of Module 4</th>
<th>9.00 – 9.20 am</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 4.2: Reflective Practice: Professional Learning Community (PLC)/School-Based In-service (SBI)</td>
<td>9.20–10.20 am</td>
</tr>
<tr>
<td>Present and discuss basic features of the PLC/SBI and its advantages in promoting reflective practices and whole school development</td>
<td>1 hour</td>
</tr>
<tr>
<td>Session 4.3: Roles and responsibilities of the Key Actors in the PLC (DDE, CS, HT, CL/Coach and teachers)</td>
<td>10.20–11.00 am</td>
</tr>
<tr>
<td>- Presentation and discussion on roles and responsibilities of the Key Actors</td>
<td>40 minutes</td>
</tr>
<tr>
<td>Snack Break</td>
<td>11.00am–11.15am</td>
</tr>
<tr>
<td>Session 4.4: Coaching Sessions</td>
<td>11.15am – 12.00pm</td>
</tr>
<tr>
<td>- Presentation on the activities of a coaching session with a focus on reflective practice cycle, i.e. teach, self-assess, consider, practice, teach, etc.</td>
<td>45 minutes</td>
</tr>
<tr>
<td>- Plan to role play a coaching session on how to teach a content standard in the new Computing curriculum</td>
<td></td>
</tr>
<tr>
<td>4.4 contd.: Coaching Sessions</td>
<td>12.00am – 1.00pm</td>
</tr>
<tr>
<td>- Role playing a coaching session and discussion on the session (Group work)</td>
<td>1.00 Hour</td>
</tr>
<tr>
<td>Lunch Break</td>
<td>1.00pm–2.00pm</td>
</tr>
<tr>
<td>Session 4.5: Monitoring and Evaluation, Reporting on Progress, Planning</td>
<td>2.00pm – 3.30pm</td>
</tr>
<tr>
<td>- the need for regular monitoring and evaluation of the curriculum implementation process,</td>
<td>1.5 hours</td>
</tr>
<tr>
<td>- Planning to report on progress and the evaluation tools ( M and E, FOI, etc.)</td>
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</tr>
<tr>
<td>Health Break</td>
<td>3.30pm–3.45pm</td>
</tr>
<tr>
<td>Session 4.6: Next Steps and Closing</td>
<td>3.45pm – 5.00pm</td>
</tr>
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<td></td>
<td>1.15 hours</td>
</tr>
</tbody>
</table>
Module 4: Learning Outcomes

1. Explain the basic features of a professional learning community (PLC) and their potential for creating a new teaching culture where teachers will be willing to support each other (Goal 3).
2. Explain the roles and responsibilities of the Key Actors\(^1\) in the PLC (DDE, CS, HT, CL/Coach and teachers) (Goal 3).
3. Describe the necessary support structures needed to ensure circuit supervisors and head teachers can assume and sustain their roles effectively (Goal 4).
4. Explain “fidelity of implementation” and its role in measuring success and impact of new initiatives (Goal 5).
5. Develop a school action plan to ensure a dynamic ongoing monitoring and reporting of the progress of the implementation of the new curriculum throughout the school year (Goal 5).

Session 4.1: Review of Previous Day’s Work and Overview of Module 4

<table>
<thead>
<tr>
<th>Plenary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Review of previous day’s work (15mins)</td>
</tr>
</tbody>
</table>

Say: 🌟

- Let’s review yesterday’s sessions. But before that, we shall play a game to warm up

Do:🌟

- Lead participants to play a mental computing game (See Teacher Resource Pack) to warm up.
- Ask participant to write at least two things they learnt the previous day on sticky notes.
- Let participants share what they learnt with their partners and then with the whole group.

---

\(^1\) DDE – District Director of Education; CS – Circuit Supervisor; HT – Head teacher; CL – Curriculum Leader.
3. **Overview of Module 4**

Do: ★

- Give an overview of Module 4.
  - Professional Learning Community (PLC)/School-Based IN-SET (SBI);
  - Roles and responsibilities of the Key Actors\(^2\) in the PLC (DDE, CS, HT, CL/Coach and teachers);
  - Coaching Sessions;
  - Monitoring and Evaluation, Reporting on Progress, Planning

\(^2\) DDE – District Director of Education; CS – Circuit Supervisor; HT – Head teacher; CL – Curriculum Leader.
### Session 4.2: Professional Learning Community (PLC)/School-Based In-service (SBI)

<table>
<thead>
<tr>
<th>PLC-SBI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do:</strong></td>
</tr>
<tr>
<td>- Present the basic features of the PLC-SBI and its advantages in promoting whole school development (30 mins).</td>
</tr>
<tr>
<td>- PPT 1</td>
</tr>
<tr>
<td>- Lead a discussion on the presentation (30 mins).</td>
</tr>
<tr>
<td>- Invite questions from participants.</td>
</tr>
<tr>
<td>- Thank participants for their active participation.</td>
</tr>
</tbody>
</table>

### Session 4.3: Roles and Responsibilities of the Key Actors in the PLC (DDE, CS, HT, CL/Coach and Teachers)

<table>
<thead>
<tr>
<th>PLC-SBI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do:</strong></td>
</tr>
<tr>
<td>- Present PPT 2 on the roles and responsibilities of the Key Actors of the PLC/SBI (20 mins) to participants.</td>
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<tr>
<td>- Lead a discussion on the presentation.</td>
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3 DDE – District Director of Education; CS – Circuit Supervisor; HT – Head teacher; CL – Curriculum Leader.
## Session 4.4: Coaching Sessions

### Say:
- With your partner, write down what comes to mind when you hear the word "coach"? What does the coach do? (*5 mins*).

### Do:
- Ask 2–3 pairs to share their thoughts about coaching (*5 mins*).
- Present PPT 13 on the structure of and activities during coaching session with a focus on reflective practice cycle, i.e. teach, self-assess, consider, practice, teach, etc. (*15 mins*).
- Lead a discussion on the presentation (*15 mins*).
- Select a participant to act as a Coach and a class teacher.
- Assist participants plan to role play a coaching session to prepare for teaching with a focus on reflective practice in the Computing curriculum (*20 mins*).

### Role Play

#### Do:
- Invite participants to role-play and discuss lessons and lesson plans written in the format/template provided (*30 mins*).
- Encourage participants to keep comments and observations to the end of the role-play.
- Lead participants discuss the characteristics and values of a Peer Coach.
  - In your opinion, what are the most important characteristics of coach? (*15 mins*)
Session 4.5: Monitoring and Evaluation, Reporting on Progress, Planning

PLC: Monitoring teachers and learners’ progress

Do: ★

- Present PPT 14 on the need for regular monitoring and evaluation of the curriculum implementation process at PLC/SBI meeting (15 mins).
- Lead a discussion on the presentation (15 mins).
- In groups of 5 ask participants to produce a schedule for PLC meetings to be held in a term with agendas. State:
  - the evaluation tools (test, FOI, etc.) that will be used to assess progress,
  - how progress would be reported (30 mins).
- Encourage participants to keep comments and observations to the end of the group presentations for discussion (30 mins).
End of Workshop Review

Say:

- All too soon, we have come to the end of our workshop. Have your expectations been met?
- We need you to complete the same self-assessment sheets that you completed on day one of the workshop.
- You will also answer post-workshop evaluation questions.

Do:

- Distribute the self-assessment sheets and post-workshop evaluation forms to participants.
- Give participants time to complete the questions.
- Collect the both the self-assessment sheets and post-evaluation forms.
- Thank participants and congratulate them for a successful workshop.
Appendix: Roles and Responsibilities of Trainers

All master trainers and regional trainers must:

- Attend and complete a training of trainer course organised by NaCCA. Every trainer must be able to demonstrate proficiency in delivery of training materials by the conclusion of the training.
- Coordinate and create a schedule for all required courses for training at regional and district level with support of Curriculum Developers. Communicate schedule to other trainers to ensure the training needs of all teachers are met.
- Instruct scheduled program sessions using materials, visual aids, and other instructional techniques provided by NaCCA to ensure information delivered is in compliance with NaCCA objectives.
- Administer program evaluations to participants during training sessions and send completed evaluations to NaCCA through the Project Manager.
- Review program evaluation summaries, as provided by the Executive Secretary for potential ways to improve future trainings.
- Additional duties as assigned.
- Write a report on training sessions and submit a soft copy to the Executive Secretary of NaCCA, not later than 24 hours after the close of workshop.
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