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REPUBLIC OF GHANA

SCIENCE TRAINING MANUAL

Common Core Programme (CCP) Curriculum

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**NATIONAL COUNCIL FOR
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FOREWORD

The National Council for Curriculum and Assessment (NaCCA), on behalf of the Ministry of Education, has developed this Training Manual for the orientation and preparation of teachers towards the roll-out of the Common Core Programme (CCP) Curriculum.

The CCP curriculum is carefully designed to provide learners in Basic 7 to Basic 10 (JHS 1 – SHS 1) with a holistic learning experience to prepare them for post-secondary education, the world of work, or both. This curriculum is a sequel to the Kindergarten to Primary Standards-Based School Curriculum implementation which commenced with the 2019/2020 academic year.

The Manual is designed to guide facilitators provide quality training for JHS classroom practitioners and other education managers. The training will provide teachers with adequate information about the curriculum to make them reflective practitioners, with the requisite knowledge, skills and experiences to implement the CCP curriculum with fidelity.

I have no doubt that with effective nationwide training, implementation of the CCP curriculum will be a success.

Dr. Prince Hamid Armah
Director-General (Ag.)

ACKNOWLEDGEMENTS

The National Council for Curriculum and Assessment (NaCCA) would like to express its appreciation to the many educationists and curriculum experts, who contributed to the development of the Common Core Programme (CCP) Curriculum and the development of this training manual.

NaCCA would also like to acknowledge the contributions of members of the Training Manual Template Team (TMTT):

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INTRODUCTION

The National Council for Curriculum and Assessment (NaCCA) has developed this Training Manual for the preparation of JHS classroom practitioners and other education managers, to implement the Common Core Programme (CCP) curriculum (Basic 7 to Basic 10) (JHS1 – SHS1). This Manual has been developed to facilitate the training teachers for the implementation of the CCP curriculum.

The Manual covers four key training sessions. The first session focuses on generic areas namely: the National Pre-tertiary Curriculum Framework (NPCF), the National Pre-tertiary Learning Assessment Framework (NPLAF), the CCP concept and the Professional Learning Communities (PLC).

The second session highlights the contents of the subjects-curricula. These include Introduction to the CCP Subject-Curricula, Front Matter and Changes in the Curricula.

The remaining two sessions concentrate on pedagogy and assessment. There are slots for Assessment in the CCP Curriculum, Teaching and Learning Resources, Barriers to Learning, Creative Pedagogies and demonstrations.

Structure of the Training Manual

The Manual 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 CCP curriculum, to follow the sequence and progression of learning areas in the curriculum.

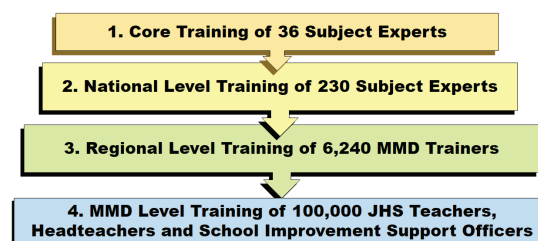
Training Plan

The training plan is as follows:

- 1. National Core Trainers:** There will be 36 subject experts; three from each of the 12 subject areas.
- 2. National Level Training:** This team will constitute 230 subject experts selected from the 12 subject areas.

- 3. Regional Level Training:** There will be 6,240 Metro/Municipal/District (MMD) Trainers made up of 24 Trainers from each of the 260 MMDs.
- 4. MMD Level Training:** Nationwide training of 100,000 JHS Teachers, Headteachers and School Improvement Support Officers (SISOs).

NaCCA TRAINING MODEL FOR CCP CURRICULUM



This initial training shall be followed by regular in-service training, refresher courses at the school, cluster and circuit levels through Professional Learning Communities (PLCs) and Continuous Professional Development (CPD) sessions.

Aims of the Training Manual

These are to:

- equip facilitators with the necessary guidelines, skills and experiences for training teachers, headteachers, school improvement support officers (SISOs) and other stakeholders for the effective implementation of the CCP curriculum;
- enable trainees understand the concept of the CCP curriculum and its importance in the education, growth and development of the Ghanaian learner.

How to Use the Manual

Facilitators should:

- thoroughly read every activity captured under the various sessions to ensure a conceptual understanding embedded in each activity;
- consult officials of NaCCA for any clarification and support;

- ensure that the recommended training resources are available in their right quantities;
- note that the approaches suggested for effective delivery of the training are not exhaustive;
- use other creative strategies that can help achieve the goals of the training.

Note: Facilitators should ask themselves these critical questions at the planning, facilitation and reflection stages.

1. *Planning:* What do my trainees need to know, understand and be able to do?
2. *Facilitation:* How do I teach effectively to ensure trainees are learning?
3. *Reflection:* How do I know trainees are learning? What do I do to ensure that participants have mastered what they are expected to do?

Among other things, facilitators should therefore consider the following:

1. what trainees 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.

The programme is laid out in three columns labelled: time/duration, activity and resources. The column for resources gives a summary of key resources required by facilitators and participants to ensure an effective orientation programme. For example:

Time/duration	Activity	Resources
9:00am – 10:00	Session 2.2: Group Activity: Learning Styles Expectations - Move into breakout sessions - Make group presentations	Flip Charts Markers Sticker notes Teacher Resource Pack

TRAINING GOALS

The training is designed to provide trainers and trainees with the opportunity to:

1. understand major learning gaps for which the CCP curriculum has been designed to address;
2. develop an awareness of the importance of the National Pre-tertiary Curriculum Framework (NPCF);
3. understand the Common Core Programme (CCP) concept and explain how the National Pre-tertiary Learning Assessment Framework (NPLAF) can improve performance outcomes;
4. appreciate the process of establishing and engaging in Professional Learning Communities (PLCs) as a tool for promoting reflective practice and whole school/department development;
5. study the Front Matter of the Science curriculum and describe the changes in the contents, pedagogies and core competencies;
6. explore the contents of the Science curriculum to identify the necessary resources and support structures needed to ensure smooth implementation of the curriculum;
7. understand 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 Science curriculum (Goal 4);
8. examine the Learner and Teacher Resource Packs to see how they can support teachers in their preparation to implement the curriculum, particularly in designing lesson plans and assessment tasks;
9. engage in curriculum planning activities for the implementation of the Science curriculum including the use of essential tools for lesson planning, assessment, monitoring and reporting on learners' progress;
10. show understanding of inclusive, creative, learning-centred pedagogies and assessment for learning (AFL) strategies in the Science curriculum through demonstration lessons; and
11. examine the assessment reporting tools and record-keeping system for monitoring progress in SBA.

LEARNING OUTCOMES

At the end of the training, the participants will be able to:

1. describe the major learning gaps the Common Core Programme (CCP) Curriculum is designed to address (Goal 1);
2. explain features that shape the Common Core Programme (CCP) Curriculum and how these can lead to the development of the common core learner attributes to meet the career and tertiary education ready standards set by the curriculum (Goal 2);
3. demonstrate an understanding of the Pre-tertiary Learning Assessment Framework (NPLAF), explain the component of assessment in the CCP and the amount of emphasis to be given to the various forms of assessment in the CCP (Goal 2);
4. 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 in their subject area (Goal 3);
5. explain the roles and responsibilities of the key actors¹ in the PLC (DDE, SISO, HT, CL/Coach and teachers) in your subject area (Goal 3);
6. simulate a PLC Coaching Session, where the team/staff have agreed to have a colleague do a demonstration lesson on how to teach a difficult topic in CCP Science curriculum (Goal 3);
7. explain common core learner attributes and the core competencies in the CCP Science curriculum (Goal 4);
8. explain the major differences between the standards-based curriculum and the existing Science syllabus (Goal 4);
9. describe the changes in the content and pedagogies of the Science curriculum (Goal 4);
10. 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 Science Curriculum (Goal 6);
11. identify the necessary resources and support structures needed to ensure smooth implementation of the CCP Science curriculum (Goal 5, 6 and 7);
12. use various tools for lesson planning and assessment to plan demonstration lessons that will employ inclusive, creative learning-centred pedagogies in the Science curriculum (Goals 7 and 8); and
13. carry out demonstration lessons that are planned to use creative learning-centred pedagogies and assessment for learning (AFL) strategies in the Science curriculum (Goals 8).

1 DDE – District Director of Education; SISO - ; HT – Head teacher; CL – Curriculum Leader.

TRAINING SCHEDULE

Activity Time/ Duration	DAY 1:	DAY 2	DAY 3	DAY 4	DAY 5
0. 8:00 – 8:20am. [20 min.]	Session 1.0: Registration	Session 2.0: Registration and Protocols	Session 3.0: Registration and Protocols	Session 4.0: Registration and Protocols	Session 5.0: Registration and Protocols
1. 8:20 – 9:00am [40 min.]	Opening Ceremony: Welcome, Introductions Overview, Norms & Expectations	Review of previous day's work & overview of day's work	Review of previous day's work & overview of day's work	Review of previous day's work & overview of day's work	Review of previous day's work & overview of day's work
2. 9:00 – 10:00am [1 hr]	Session 1.1: National Pre- Tertiary Curriculum Framework (NPCF)	Session 2.1: Introduction to the CCP Science Curriculum	Session 3.1: Assessment in the CCP Science Curriculum	Session 4.1: Lesson Planning for Demonstration (by participants) on Creative Pedagogies	Session 5.1: Review of PLC Concept & Planning PLC Simulation
3. 10:00 – 11:00am [1 hr]	Session 1.2: The Concept of the Common Core Programme (CCP)	Session 2.2: Study of the Front Matter and the changes in CCP Science Curriculum	Session 3.2: Assessment in the CCP Science Curriculum	Session 4.2: Lessons Demonstration (by participants) on Creative Pedagogies and Discussions	Session 5.2: Simulation of PLC Session
4. 11:00 – 11:30am	SNACK BREAK				
5. 11:30 – 12:30pm [1 hr]	Session 1.3: Pre-tertiary Learning Assessment Framework (NPLAF)	Session 2.3: Group discussion and presentation on the Front Matter and changes in CCP Science Curriculum	Session 3.3 Teaching and Learning Resources for the CCP Science Curriculum	Session 4.3: Lessons Demonstration (by participants) on Creative Pedagogies and Discussions	Session 5.3: Simulation of PLC Session
6. 12:30 – 1:30pm [1 hr]	Session 1.4: Plenary Discussions on the NPCF, CCP and NPLAF	Session 2.4 Features and use of the TRP & LRP in CCP Science Curriculum	Session 3.4 The Barriers to Learning CCP Science Curriculum	Session 4.4: Micro Lesson Planning for Demonstration (by participants) on Assessment for Learning and Discussions	Session 5.3: Fidelity of Implementation (Fol)
7. 1:30 – 2:30 p.m.	LUNCH BREAK				
8. 2:30 – 3:30 p.m. [1 hr]	Session 1.5: Professional Learning Community (PLC)/ School-Based In- service (SBI)	Session 2.5 Features and use of the TRP & LRP in CCP Science Curriculum	Session 3.5 The Barriers to Learning CCP Science Curriculum	Session 4.5: Micro Lessons Demonstration (by participants) on Assessment for Learning and Discussions	Session 4.5: General Plenary Evaluation Next Steps & Closing



Activity Time/ Duration	DAY 1:	DAY 2	DAY 3	DAY 4	DAY 5
9. 3:30 – 4:30p.m. [1 hr]	Session 1.6: Plenary Discussion on the PLC/SBI	Session 2.6: Yearly and Termly Scheme of Learning (SoL) for the CCP Science Curriculum	Session 3.6 Demonstration (by facilitators) on the use of Creative Pedagogies in the CCP Science Curriculum and Discussions	Session 4.6: Micro Lessons Demonstration (by participants) on Assessment for Learning and Discussions	DEPARTURE
10. 4:30 – 5:30p.m. [1 hr]	Session 1.7: General presentation on the roles of stakeholders in the PLC	Session 2.7: Lesson Planning Format and Phases of a lesson in CCP Science Curriculum	Session 3.7: Demonstration (by facilitators) on the use of Creative Pedagogies in the CCP Science Curriculum and Discussions	Session 4.7: Plenary discussion of Demonstrated Lessons	
11. 5:30 – 5:40pm	End of Day Checks	End of Day Checks	End of Day Checks	End of Day Checks	
12. 6.00 - ...	SUPPER				



DAY I: OPENING, PRESENTATIONS AND DISCUSSIONS ON NATIONAL EDUCATIONAL POLICIES

Day I Learning Outcomes

1. Describe the major learning gaps for which the CCP curricula have been designed to address (Goal 1).
2. Explain features that shape the Common Core Programme (CCP) and how these can lead to the development of the common core learner attributes, to meet the career and tertiary education ready standards set by the curricula (Goal 2).
3. Demonstrate understanding of the Pre-tertiary Learning Assessment Framework (NPLAF), explain what assessment involves in the CCP and the amount of emphasis to be given to the various forms of assessment in the CCP (Goal 2)
4. 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 in their subject area (Goal 3).

Day I Agenda

Time	Activity	Resources
0. 8:00 – 8:20am [1 hr]	Registration ^{<?>} and Protocols	
1. 8:20 – 9:00am. [40 mins]	Session 1.0: PLENARY: Opening, Overview, Norms & Expectations - Opening Ceremony - Training Environment and Workshop Norms - Participants Expectations & Self-assessment - Overview of Role & Responsibilities of Facilitators	Appendix A
2. 9:00 – 10:00am. [1 hr]	Session 1.1: PLENARY: National Pre-Tertiary Curriculum Framework (NPCF) - Presentation (40 min) - Discussion (20 min)	PPT 1
3. 10:00 – 11:00am. [1 hr]	Session 1.2: PLENARY: The Concept of the Common Core Programme (CCP) Curriculum - Presentation (40 min) - Discussion (20 min)	PPT 2
4. 11:00 – 11:30am.	SNACK BREAK	
5. 11:30 – 12:30pm [1 hr]	Session 1.3: PLENARY: Pre-tertiary Learning Assessment Framework (NPLAF) - Presentation (40 min) - Discussion (20 min)	PPT 3
6. 12:30 – 1:30pm [1 hr]	Session 1.4: PLENARY: Questions and Discussion on NPCF, CCP and NPLAF	
7. 1:30 – 2:30pm.	LUNCH BREAK	



Time	Activity	Resources
8. 2:30 – 3:30pm. [1 hr]	Session 1.5: PLENARY: Professional Learning Community (PLC)/ School-Based In-service (SBI) - Presentation (60 min)	PPT 4 Appendix C
9. 3:30 – 4:30pm. [1 hr]	Session 1.6: PLENARY: Professional Learning Community (PLC)/ School-Based In-service (SBI) - Questions and Discussion on PLC/SBI (60 min)	Appendix C
10. 4:30 – 5:30pm. [1 hr]	Session 1.7 PLENARY: The Roles of Stakeholders in the PLC - Presentation (40 min) - Discussion (20 min)	PPT 5 Appendix C
11. 5:30 – 5:40pm	End of Day Checks	



DAY 2: INTRODUCTION TO THE CCP SCIENCE CURRICULUM

Day 2 Learning Outcomes

1. Explain common core learner attributes and the core competencies in the CCP Science curriculum (Goal 3).
2. Explain the major differences between the CCP (standards-based) curriculum and the existing Science syllabus (Goal 4).
3. Describe the changes in the content and pedagogies of the CCP (standards-based) Science curriculum (Goal 4).
4. Identify the necessary resources and support structures needed to ensure smooth implementation of the Science curriculum (Goal 5 and 6).

Day 2 Agenda

Time	Activity	Resources
0. 8:00 – 8:20am [20 min]	Registration and Protocols	
1. 8:20 – 9:00am [40 min.]	Session 2.0: Review of previous day's work & overview of day's work	
2. 9:00 – 10:00am [1 hr]	Session 2.1: PLENARY: Introduction to the CCP Science Curriculum Introduction to the new Science curriculum highlighting the changes in content, pedagogies, 4Rs, core competencies and cross-cutting issues including gender, inclusion, etc.	PPT 6
3. 10:00 – 11:00am [1 hr]	Session 2.2: GROUP WORK: Study of the Front Matter and changes in the CCP Science Curriculum	Curriculum document
4. 11:00 – 11:30am	SNACK BREAK	
5. 11:30 – 12:30pm [1 hr]	Session 2.3: GROUP PRESENTATIONS: The Front Matter and changes in the CCP Science Curriculum	
6. 12:30 – 1:30pm [1 hr]	Session 2.4 PLENARY: Features and Use of the TRP & LRP	PPT 7 Teacher's & Learner's Resource Pack Curriculum document
7. 1:30 – 2:30 p.m.	LUNCH BREAK	
8. 2:30 – 3:30 p.m. [1 hr]	Session 2.5 GROUP WORK & PRESENTATIONS: Features and Use of the TRP & LRP	PPT 7 Teacher's & Learner's Resource Pack Curriculum document
9. 3:30 – 4:30pm. [1 hr]	Session 2.6 PLENARY: Yearly and Termly Scheme of Learning (SoL) for the CCP Science Curriculum	PPT 8 Teacher's & Learner's Resource Pack Curriculum document
10. 4:30 – 5:30pm. [1 hr]	Session 2.7 PLENARY: Lesson Planning Format and Phases of a lesson	PPT 9 Teacher's & Learner's Resource Pack Curriculum document



Time	Activity	Resources
11. 5:30 – 5:40pm	End of Day Checks	
6.00 ...	SUPPER	



DAY 3: PEDAGOGY & ASSESSMENT IN THE CCP SCIENCE CURRICULUM

Day 3 Learning Outcomes

1. 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 Science curriculum (Goal 4).
2. Identify the necessary resources and support structures needed to ensure smooth implementation of the Science curriculum (Goal 5 and 6).
3. Use essential tools for lesson planning and assessment to plan demonstration lessons to practice creative and learning-centred pedagogies and assessment for learning (AFL) strategies in the Science curriculum (Goals 7).

Day 3 Agenda

Time	Activity	Resources
0. 8:00 – 8:20am [20 min]	Registration and Protocols	
1. 8:20 – 9:00am [40 min.]	Session 3.0: Review of previous day's work & overview of day's work	
2. 9:00 – 10:00am [1 hr]	Session 3.1 PLENARY: Assessment in the CCP Science Curriculum	PPT 10 Teacher's & Learner's Resource Pack Curriculum document
3. 10:00 – 11:00am [1 hr]	Session 3.2 GROUP WORK & PRESENTATIONS: Assessment in the CCP Science Curriculum	PPT 10 Teacher's & Learner's Resource Pack Curriculum document
4. 11:00 – 11:30am.	SNACK BREAK	
5. 11:30 – 12:30pm. [1 hr]	Session 3.3: PLENARY: Teaching and Learning Resources for the CCP Science Curriculum	PPT 11 Teacher's & Learner's Resource Pack
6. 12.30 – 1.30pm [1 hr]	Session 3.4: PLENARY: The Barriers to Learning Science Curriculum	PPT 12 Teacher's & Learner's Resource Pack Curriculum document
7. 1:30 – 2:30pm.	LIUNCH BREAK	
8. 2:30 – 3:30pm. [1 hr]	Session 3.5: GROUP WORK & PRESENTATIONS: The Barriers to Learning Science Curriculum	PPT 12 Teacher's & Learner's Resource Pack Curriculum document
9. 3:30 – 4:30pm. [1 hr]	Session 3.6: DEMONSTRATION of Creative Pedagogies in the Science Curriculum <i>Subject Facilitators plan and carry out demonstration lessons to illustrate the inclusive, creative learning-centred pedagogies</i>	Teacher's & Learner's Resource Pack Curriculum document



Time	Activity	Resources
10. 4:30 – 5:30pm. [1 hr]	Session 3.7: DEMONSTRATION of Creative Pedagogies in the Science Curriculum <i>Subject Facilitators plan and carry out demonstration lessons to illustrate the inclusive, creative learning-centred pedagogies</i>	Teacher's & Learner's Resource Pack Curriculum document
11. 5:30 – 5:40pm	End of Day Checks	
6.00 - ...		



DAY 4: PLANNING AND PRACTISING THE CREATIVE LEARNING-CENTRED PEDAGOGIES AND ASSESSMENT FOR LEARNING STRATEGIES IN SCIENCE

Day 4 Learning Outcomes

1. Use essential tools for lesson planning and assessment, to plan demonstration lessons to practise inclusive, creative and learning-centred pedagogies and assessment for learning (AFL) strategies in the CCP Science curriculum (Goals 7).
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 CCP curriculum (Goal 4).
3. Carry out demonstration lessons that are planned to use inclusive, creative, learning-centred pedagogies and assessment for learning (AFL) strategies in the CCP Science curriculum (Goals 8).

Day 4 Agenda

Time	Activity	Resources
0. 8:00 – 8:20am [20 min]	Registration and Protocols	
1. 8:20 – 9:00am [40 min]	Session 4.0: Review of previous day's work & overview of day's work	
2. 9:00 – 10:00am [1 hr]	Session 4.1: LESSON PLANNING for Demonstration/ Discussion (Creative Pedagogies) <i>Participants plan demonstration lessons to illustrate the inclusive, creative learning-centred pedagogies</i>	Curriculum document Teacher's & Learner's Resource Pack
3. 10:00 – 11:00am [1 hr]	Session 4.2: LESSON DEMONSTRATION/ Discussion (Creative Pedagogies) <i>Participants carry out demonstration lessons to illustrate the inclusive, creative learning-centred pedagogies</i>	Curriculum document Teacher's & Learner's Resource Pack
4. 11:00 – 11:30am	SNACK BREAK	
5. 11:30 – 12:30pm [1 hr]	Session 4.3: LESSON DEMONSTRATION/ Discussion (Creative Pedagogies) <i>Participants carry out demonstration lessons to illustrate the inclusive, creative learning-centred pedagogies</i>	Curriculum document Teacher's & Learner's Resource Pack
6. 12:30 – 1:30pm [1 hr]	Session 4.4: LESSON DEMONSTRATION/ Discussion (Creative Pedagogies) <i>Participants carry out demonstration lessons to illustrate the inclusive, creative learning-centred pedagogies</i>	
7. 1:30 – 2:30pm	LUNCH BREAK	



Time	Activity	Resources
8. 2:30 – 3:30pm. [1 hr]	Session 4.5: LESSON PLANNING for Demonstration/ Discussion (Assessment for Learning) <i>Subject Facilitators plan demonstration lessons to illustrate Assessment for Learning strategies</i>	Curriculum document Teacher Resource Pack Teacher Resource Pack
9. 3:30 – 4:30pm. [1 hr]	Session 4.6: LESSON DEMONSTRATION / Discussion (Assessment for Learning) <i>Subject Facilitators carry out demonstration lessons to illustrate Assessment for Learning strategies</i>	Appendix D
10. 4:30 – 5:30pm. [1 hr]	Session 4.7: LESSON DEMONSTRATION / Discussion (Assessment for Learning) <i>Participants carry out demonstration lessons to illustrate Assessment for Learning strategies</i>	Appendix D
11. 5:30 – 5:40pm	End of Day Checks	
6.00 - ...	SUPPER	



DAY 5: BASIC FEATURES OF A PROFESSIONAL LEARNING COMMUNITY (PLC) AND SIMULATION OF PLC COACHING SESSION IN SCIENCE

Day 5 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 in their subject area (Goal 4).
2. Explain the roles and responsibilities of the key actors² in the PLC (DDE, SISO, HT, CL/Coach and teachers) in your subject area (Goal 4).
3. Simulate a PLC Coaching Session, where the team/staff have agreed to have a colleague do a demonstration lesson on how to teach a difficult topic in CCP Science curriculum (Goal 4).

Day 5 Agenda

Time	Activity	Resources
0. 8:00 – 8:20am [20 min]	Registration and Protocols	
1. 8:20 – 9:00am [40 min]	Session 5.0: Review of previous day's work & overview of day's work	
2. 9:00 – 10:00am [1 hr]	Session 5.1: REVIEW OF PLC CONCEPT & PLANNING PLC SIMULATION <i>Participants plan to simulate a PLC that addresses strategies in teaching a new or difficult topic to colleagues</i>	PPT 13 Appendices 'C'
3. 10:00 – 11:00am [1 hr]	Session 5.2: SIMULATION OF PLC SESSION <i>Participants simulate a PLC that addresses strategies in teaching a new or difficult topic to colleagues</i>	Appendices 'C'
4. 11:00 – 11:30am	SNACK BREAK	
5. 11:30 – 12:30pm [1 hr]	Session 5.3: SIMULATION OF PLC SESSION <i>Participants simulate a PLC that addresses strategies in teaching a new or difficult topic to colleagues</i>	
6. 12:30 – 1:30pm [1 hr]	Session 5.4: PLENARY: Fidelity of Implementation (Fol)	PPT 14 FOI Instruments and Guidelines
7. 1:30 – 2:30pm	LUNCH	
8. 2:30 – 3:30pm [1 hr]	Session 5.5: CLOSING CEREMONY General Plenary Evaluation Next Steps	Questionnaires, Posting arrangements, etc.
9. 3.30pm	DEPARTURE	

² DDE – District Director of Education; SISOs; HT – Head teacher; CL – Curriculum Leader.

Materials Developed for the Training of JHS Teachers, Headteachers and School Improvement Support Officers (SISOs) toward the Implementation of the Common Core Programme (CCP) Curriculum

Day 1/ Time	Resources
8:20 – 9:00am	Session 1.0: <ul style="list-style-type: none"> • Appendix A: Participants Expectations & Self-assessment
9:00 – 9:30am	Session 1.1: <ul style="list-style-type: none"> • PPT_1: National Pre-Tertiary Curriculum Framework (NPCF)
9:00 – 9:30am	Session 1.2: <ul style="list-style-type: none"> • PPT_2: The Concept of the Common Core Programme (CCP) Curriculum
11:30 – 12:30pm	Session 1.3: <ul style="list-style-type: none"> • PPT_3: Pre-tertiary Learning Assessment Framework (NPLAF)
2:30 – 3:30pm	Session 1.5: <ul style="list-style-type: none"> • PPT_4: Professional Learning Community (PLC)/School-Based In-service (SBI)
3:30 – 4:30pm	Session 1.6: <ul style="list-style-type: none"> • Appendix C: Professional Learning Community (PLC) handout
4:30 – 5:30pm	Session 1.7 <ul style="list-style-type: none"> • PPT_5: The Roles of Stakeholders in the PLC
	Session 2.1: <ul style="list-style-type: none"> • PPT_6: Introduction to the CCP Science Curriculum
Day 2/ Time	Resources
10:00 – 11:00am	Session 2.2: <ul style="list-style-type: none"> • Curriculum document
12:30 – 1:30pm	Session 2.4 & 2.5 <ul style="list-style-type: none"> • PPT 7: Teacher's & Learner's Resource Pack • Teacher's & Learner's Resource Pack, • Curriculum document
3:30 – 4:30 p.m.	Session 2.6 <ul style="list-style-type: none"> • PPT 8: Yearly and Termly Scheme of Learning • Teacher's & Learner's Resource Pack • Curriculum document
4:30 – 5:30pm.	Session 2.7 <ul style="list-style-type: none"> • PPT 9: Lesson Planning Format and Phases of a lesson • Teacher's & Learner's Resource Pack • Curriculum document
Day 3/ Time	Resources
9:00 – 10:00am	Session 3.1 & 3.2 <ul style="list-style-type: none"> • PPT 10: Assessment in the CCP Subject-Curriculum • Teacher's & Learner's Resource Pack • Curriculum document
11:30 – 12:30pm	Session 3.3: <ul style="list-style-type: none"> • PPT 11: Teaching and Learning Resources for the CCP Science Curriculum • Teacher's & Learner's Resource Pack • Curriculum document



Day 1/ Time	Resources
12:30 – 1:30pm	Session 3.4 & 3.5 <ul style="list-style-type: none">• PPT 12: The Barriers to Learning CCP Arabic Curriculum• Teacher’s & Learner’s Resource Pack• Curriculum document
3:30 – 4:30pm	Session 3.6 & 3.7 <ul style="list-style-type: none">• Lesson Plans in Teacher’s Resource Pack
Day 4/ Time	Resources
9:00 – 10:00am	Session 4.1, 4.2, 4.3 & 4.4 <ul style="list-style-type: none">• Teacher’s & Learner’s Resource Pack• Curriculum document
2:30 – 3:30pm	Session 4.5, 4.6 & 4.7 <ul style="list-style-type: none">• Teacher’s & Learner’s Resource Pack• Curriculum Document• Appendix D: (Guidelines for Classroom Assessment)
Day 5/ Time	Resources
9:00 – 10:00am	Session 5.1: <ul style="list-style-type: none">• PPT 13: Review of PLC Concept & Planning PLC Simulation• Appendix C: (PLC Guidelines)
12:30 – 1:30pm	Session 5.4: <ul style="list-style-type: none">• PPT 14: Fidelity of Implementation (Fol)• Appendix G: Fol Instruments and Guidelines
2:30 – 3:30pm	Session 5.5: <ul style="list-style-type: none">• Evaluation Questionnaires• Posting arrangements, etc.



APPENDICES

Appendix A: WELCOME, INTRODUCTIONS & OVERVIEW

Opening/Welcome (10 min)										
Introductions Start with your name and ask each person to introduce him or herself. <ul style="list-style-type: none">• Each person should say their name, their school and the grade or level they teach and their district.• The facilitator should note the expectations and relate them to the schedule if possible.• If a participant's expectation is completely beyond the scope of the training, try to find a way to address the expectation.										
Overview of the training (5 min) <ul style="list-style-type: none">• Goals of training (PPT)• Schedule (handout)• Learning outcomes for the training (PPT)• Training environment – we need to promote an environment where people feel comfortable to share ideas and ask questions, goal of helping one another understand, support one another to become better trainers. We are a team.										
Roles and Responsibilities of Trainers (5 min) <ul style="list-style-type: none">• Review the main responsibilities (see Info Sheet 1).• What do participants think will be the most challenging?										
Self-assessment (5 min) Invite the trainers to complete the <i>Self-Assessment Exercise</i> . Tell trainers/teachers that they will complete the same self-assessment at the end of the training. <table border="1"><thead><tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr></thead><tbody><tr><td><i>Not at all confident</i></td><td><i>Slightly confident</i></td><td><i>Somewhat confident</i></td><td><i>Confident</i></td><td><i>Very confident</i></td></tr></tbody></table> <p>Explain the scale that they should use: The assessment is a tool that they can use to gauge their level of confidence with some of the key concepts of the curriculum.</p>	1	2	3	4	5	<i>Not at all confident</i>	<i>Slightly confident</i>	<i>Somewhat confident</i>	<i>Confident</i>	<i>Very confident</i>
1	2	3	4	5						
<i>Not at all confident</i>	<i>Slightly confident</i>	<i>Somewhat confident</i>	<i>Confident</i>	<i>Very confident</i>						

Appendix B: COMMON CORE PROGRAMME (CCP) CONCEPT

Introduction

In the first four years of high school education, learners are expected to take a Common Core Programme (CCP) that emphasises a set of high, internationally-benchmarked career and tertiary education ready standards. Learners need to acquire these for post-secondary education, the workplace or both. The standards articulate what learners are expected to know, understand and be able to do by focusing on their social, emotional, cognitive and physical development. The (CCP) runs from Basic 7 through Basic 10 (JHS1 – SHS1).

The common core attributes of the learner, which describe the essential outcomes in the three domains of learning (i.e. cognitive, psychomotor and affective), are at the centre of the CCP (see Figure 1). Inspired by the values which are important to the Ghanaian society, the CCP provides an education of the heart, mind and hands in relation to the learner's lifetime values, well-being, physical development, metacognition and problem-solving abilities. Ultimately, this will produce character-minded learners who can play active roles in dealing with the increasing challenges facing Ghana and the global society.

The features that shape the common core programme are shown in Figure 1. These are

- learning and teaching approaches – the core competencies, pedagogical approaches and 4Rs
- learning context – engagement service and project
- learning areas – Mathematics, Science, Computing, Languages (English Language, Ghanaian Language, French and Arabic), Career Technology, Social Studies, Religious and Moral Education, Creative Arts and Design and Physical and Health Education.

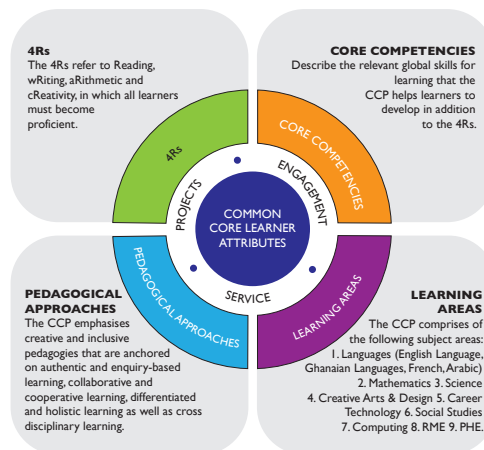


Figure 1: Common Core Learner Attributes

Learning and Teaching Approaches

- **The core competencies:** These core competencies describe the relevant global skills for learning that the CCP helps learners to develop, in addition to the 4Rs. The global skills for learning, allow learners to become critical thinkers, problem-solvers, creators, innovators, good communicators, collaborators, digitally literate and culturally and globally sensitive citizens, who are life-long learners with a keen interest in their personal development.
- **Pedagogical approaches:** The CCP emphasises creative and inclusive pedagogies that are anchored on authentic and enquiry-based learning, collaborative and cooperative learning, differentiated learning and holistic learning, as well as cross-disciplinary learning.
- **The 4Rs across the Curriculum:** The 4Rs refer to Reading, wRiting, aRithmetic and cReativity, which all learners must become competent in.

Learning context

The CCP places emphasis on the engagement of learners in classroom activities and projects (in and outside the classroom). These projects can involve individual or group tasks, which all learners are required to complete by the end of Basic 10. The CCP project provides learners with contexts to demonstrate creativity and inventiveness in various areas of human endeavour. Community service offers opportunities for learners to nurture, love and care for, and solve problems in their community.

Learning Areas

The CCP comprises the following learning areas:

1. Languages (English Language, Ghanaian Languages, French, Arabic)
2. Mathematics
3. Science
4. Creative Arts and Design (CAD)
5. Career Technology
6. Social Studies
7. Computing
8. Religious and Moral Education (RME)
9. Physical and Health Education (PHE)

This document sets out the standards for learning Science in the Common Core Programme (CCP). The standards in the document are posited in the expectation that the CCP (B7 – B10) will offer quality education for all types of learners. The design of this curriculum is based on the features of the CCP, as shown in Figure 1. It emphasises a set of high internationally-benchmarked career and tertiary education ready standards. Learners need to acquire these competencies in Science for post-secondary education, workplace training or both. The curriculum has been designed to be user friendly because it provides a detailed preamble that covers the rationale, philosophy, aims, profile of expected learning behaviours (i.e. knowledge, skills, attitudes and values), pedagogical approaches, core competencies and the 4Rs, assessment practices and instructional expectations.

Appendix C: GUIDELINES FOR THE FORMATION OF PROFESSIONAL LEARNING COMMUNITIES (PLCs)

The National Council for Curriculum and Assessment (NaCCA), as part of the strategies for an effective implementation of the Common Core Programme Curriculum for Basic 7 (JHS1) – Basic 10 (SHS1) has come out with guidelines for the formation of Professional Learning Communities (PLCs).

FORMATION OF PROFESSIONAL LEARNING COMMUNITIES (PLCs)

The focus of education in recent times has been on *transformation*. Currently, most countries are shifting from block scheduling to tele-collaborative projects, from discovery learning to authentic assessment, etc. In realising these transformation agenda, new ideas for efficient education delivery and best performance attainment levels come and fade away or metamorphose into other models. One of these is the concept of Professional Learning Communities (PLCs). This has taken the central stage in most advanced countries in their quest for making education delivery robust and responsive in meeting their developmental needs. Ghana is no exception. An article published by *Glossary of Education Reform* describes the professional learning community (PLC), as a group of educators that meets regularly, shares expertise, and works collaboratively to improve teaching skills and the academic performance of learners.” According to Hord (1997b), “professional learning community is seen as a powerful staff-development approach and a potent strategy for school change and improvement.” A PLC is a learning approach where teachers are activated as learning resources.

Generally, PLCs are considered as collegial groups of administrators and school staff who are united and committed to learners’ learning. They function as an effective strategy for building school capacity around core issues of teaching and learning (Darling-Hammond, 1995). They serve as a mechanism to transform school culture. In other words, PLCs connect teachers with information, strategies, and best practices.

How is PLC formed?

- The head-teacher through consultation with his/her teachers and the major stakeholders (PTA, SMC, school improvement support officer (SISO), the education directorate, etc.) puts a committee in place.
- The committee is headed by a *curriculum lead* who must be a staff of the school.

What are the terms of reference of the committee?

The PLC in consultation with the entire membership and other stakeholders:

- agrees on the PLC session (or meeting) schedules for the term;
- identifies for PLC sessions, individual challenges in effective lesson delivery and innovative practices in teaching;
- creates common platform for members to share ideas, skills, knowledge and experiences;
- Identifies and invites facilitators for each session;
- Ensures that the focus of the school is changed from teaching to learning;
- Sets SMART goals for best practices in the school to meet expected performance outcomes and targets;
- collates data on all issues that relate to teaching and learning in the school for informed decisions;
- keeps records of attendance of members during PLC meetings;
- considers ways of changing the school's climate positively;
- plans and shares best practice lessons and integrated cross-curricular projects to all staff;
- creates a database on learner achievement scores that guides decisions for interventions;
- reviews and reflects on school data to plan instruction across the school curricular;
- considers extra-curricular experiences for learners.

What are some Characteristics of an Effective PLC?

- Shares values and norms.

- Creates time for collaborative work.
- Focuses collectively on learner's learning.
- Encourages collaborative work by creating common work spaces using proximity.
- Ensures leadership support for all PLC activities – school heads must be supportive.
- Respects and trusts one another.

What are the Guidelines for PLC's Activities?

- PLCs should be conducted once every week.
- The session should be for a minimum of one hour and should be set as the last hour of the day.
- The head of school will take the lead role.
- Roles should be assigned to encourage participation.
- The activities must focus on the Common Core Programme (CCP) Subjects-Curricula.
- The agenda for the next meeting should be developed at the end of each meeting for participants to prepare adequately for effective participation.

The minutes for each meeting should be made available after each session and sent to the regional PLC platform for headquarters' validation. The platform will be made up of the following officers from the Metropolitan, Municipal, District and Regional level:

- Training Officers
- Supervision and Monitoring (S&M) Officers
- Basic School Coordinators
- Heads of School
- School Improvement Support Officers (SISOs)
- Curriculum Leads

NB: PLC sessions should be conducted from the second week of the term through to revision week.

Who are the Key Actors in the PLC?

- District Education Oversight Committee (DEOC)
- MMD Director of Education
- MMD Head of Monitoring and Supervision,
- School Improvement Support Officer (SISO)

- Head of School
- Curriculum Lead
- JHS and SHS subject teachers

MMD Education Oversight Committee

- Validates the PLC programmes
- Develops guidelines for the effective implementation of all PLC programmes in the MMD
- Provides a supervisory role for the MMD Education Office in the performance of duties relating to PLC programmes and activities.

MMD Director of Education

- Approves the calendar for the integration of PLC activities into MMD plan
- Provides overall leadership and supervision of all PLC activities in the MMD and assigns targeted roles and responsibilities to subordinates.

MMD Supervision and Monitoring Officer

- Develops, in collaboration with DDE and School Improvement Support Officers (SISOs), a plan for monitoring Fidelity of Implementation (FOI) initiative and the overall evaluation of the success of the PLC initiative.
- Reviews (with support from SISOs) monitoring, evaluation & fidelity of implementation data for each term and implement needed changes. In consultation with the DDE, select/recruit curriculum leads for the PLC for each school.

School Improvement Support Officer (SISO)

- Participates in the selection/recruitment of curriculum leads for the schools.
- Collects, collates, and submits to the MMDEO M&E and FOI data (nature of data and regularity of collection and reporting to be determined by GES in consultation with NaCCA).
- Identifies the training needs of the heads of schools and subject-teachers in partnership with the MMD Training Officer.
- Trains the heads of schools and curriculum leads and refers matters relating to attitudes and behaviours that are detrimental or advantageous to the intervention to the MMD Head of Monitoring and Supervision for moderation,

share/promote the experiences of the various interventions among schools under his supervision.

Head of School

- Attends initial training on PLC programme
- Ensures the support of the School-based Management Committee (SMC), Parents-Teacher Association (PTA) and other stakeholders for the PLC programmes.
- Ensures the active participation of all teachers during PLC Sessions, as well as the implementation of innovative lesson-delivery strategies and best practices discussed at PLC meetings.
- Identifies and puts in place measures to acknowledge teachers who make an effort to implement best practices discussed at PLC meetings.
- Puts in place measures to monitor and report on learners' progress concerning performance indicators and established national performance standards.
- Adopts the FOI of learning for accountability.

JHS and SHS Subject Teachers

- Participate actively in all PLC Sessions (activities and programmes).
- Follow the revised CCP Curriculum, prepare scheme of learning and lesson plans/notes according to specification and keep track of challenges or difficulties encountered.
- Try out new teaching activities, strategies and practices discussed during PLC Sessions.
- Share challenges and successes with teaching colleagues in future PLC meetings.

How Do We Conduct an Effective PLC Session?

Pre-Discussion

- Register and introduce participants and key facilitators if any.
- Nominate a PLC secretary to take note of discussion points.
- Identify and discuss challenging themes, i.e. themes evolving from the CCP Curriculum training and implementation.

- Identify and invite an expert or colleague with in-depth knowledge of the theme identified to facilitate a PLC session or lead the discussions.
- Assign specific themes to different teachers (members of the PLC) to research and lead future PLC sessions.
- Encourage mutual discussions and contributions by all members.

Discussion stage (action)

- The lead facilitator takes participants through the content and demonstration lessons (where applicable) associated with the theme.
- Facilitation should be participatory, engaging and interactive.

Post-Discussion Stage

- At this stage participants evaluate the content and demonstration lesson learnt and assess the extent of improvement through reflection and debriefing.
- The agenda for the next meeting should be developed (or agreed upon) at the end of each meeting for participants and the PLC lead to prepare adequately for effective participation.
- Participants are expected to improve on their daily teaching skills through leading questions.
- Participants are encouraged to use group platforms strictly dedicated to PLC for professional learning and providing colleagues with useful professional materials.

Who Monitors the Activities of PLC?

- The Ghana Education Service (GES)
 - Headteacher
 - Circuit Supervisor
 - MMD Monitoring Officers
 - Regional Monitoring Officer
- National Inspectorate Board (NIB)
- National Teaching Council (NTC)
- National Council for Curriculum and Assessment (NaCCA)

<http://www.allthingsplc.info/>

<http://www.sedl.org/pubs/change34/2.html>

<http://www.inspiringteachers.com>

CONTINUOUS PROFESSIONAL DEVELOPMENT DAY (CPDD) FOR JHS BEGINNING 2020/21 ACADEMIC YEAR

Teachers in the Public JHS shall observe a Continuous Professional Development Day beginning 2020/21 Academic Year.

The observation of the CPDD shall help the teachers (facilitators) develop and/or adopt new strategies for teaching which will help them overcome identified challenges in their day to day activities as teachers (facilitators). Continuous Professional Development is in two folds:

1. Professional Learning Communities (PLCs)

PLC, as explained earlier, is a group of educators and other stakeholders who meet regularly to share expert knowledge, skills and experiences for the improvement in the performance of learners, through effective lesson delivery and assessment. PLCs serve as an innovative mechanism for transforming the learning culture and social environment of the school. It connects and equips teachers from not only the same school, but from other schools within or outside the geographical location with information, learning and teaching strategies and best practices.

About 50 minutes (one period of co-curricular activities) has been assigned to PLC activities every week on the school's timetable. It can be organised at the cluster or circuit level as well as subject-based. On PLC days, learners will close and go home while teachers meet at PLC sessions to learn and share ideas, concepts, skills, knowledge, and experiences to upgrade and improve themselves.

2. Continuous Professional Development Days (CPDDs)

This will be organised once every quarter – 4 times a year. On these days, learners will be given a holiday to stay at home. Teachers will have a full training day to update their content knowledge, sharpen their lesson delivery and pedagogical skills, as well as share experiences and best practices – leadership for learning, conducive social environment, sustainable learning concepts, etc.

Appendix D: ASSESSMENT IN THE CCP CURRICULUM

The ultimate goal of Assessment is to improve Learner's learning

[This document was prepared by the Assessment Unit of NaCCA led by Antwi Aning]

Introduction: What is Assessment?

Assessment is the process of collecting information or evidence of learning and achievements and using it to improve teaching and learning. It is about getting to know our learners and the quality of their learning. It is an ongoing process for gathering evidence of learning and using it to enhance learners' learning.

Why assess learners in our classrooms?

Assessment is the bridge between teaching and learning and the central process in effective instruction.

Generally, we assess to find out:

- what learners know
- what learners can do, and how well they can do it
- improve learners' learning
- gather evidence of learning
- inform instruction
- yield information about areas of weakness and problems of teaching and learning
- show the strength and weaknesses of learners
- identify individual differences and achievement gaps among learners
- assist teachers in the process of remediation.
- determine whether expected outcomes have been met

The CCP curriculum will be assessed both formatively and summatively but the outcome of both assessments will be used to move learning forward.

Formative Assessment

Formative Assessment is a concept which covers various approaches for using assessment to improve

learners' learning. Two of such approaches are assessment **for** learning and assessment **as** learning. Formative assessment deals with finding out on day-to-day basis, information about learners' progress and difficulties so that immediate measures can be taken.

Any instructional activity that allows teachers to uncover the way learners think about what is being taught and which can be used to promote improvements in learners' learning can serve a formative purpose. Formative Assessment supports learning during the learning process.

Characteristics of Effective Formative Assessment

- Clarifying, understanding, and sharing learning goals and criteria for success with learners.
- Creating effective classroom discussions, questions, activities, and tasks that offer the right type of evidence of how learners are progressing to the agreed learning goals.
- Providing feedback that moves learners forward.
- Activating learners as learning resources for one another.
- Activating learners as owners of their own learning.
- Using varied instructional methods to meet diverse learner's needs.
- Using varied approaches to assessing learner's understanding.

(Thompson & William, 2007)

Summative Assessment

It is an assessment which is generally taken by learners at the end of a unit, a term or semester, end of year or a course to demonstrate the “**sum**” of what they have or have not learned.

- Usually, it is called Assessment of Learning
- It compares learners' knowledge or skills against standards or benchmarks.
- It evaluates mastery of learning and offers information on what learners know and do not know.
- It provides educators with the metrics to know what's working and what's not.



- Usually, it is high stakes, for example when used for promotion, admission, certification, selection, accountability, etc.
- Can also be used formatively if it provides feedback to inform teaching and learning.
- Does not provide teachers with vital information to use in crafting remedial instruction.
- Plays a pivotal role in education by troubleshooting weaknesses in the system despite its shortcomings.
- Provides educators with valuable information to determine the effectiveness of instruction for a particular unit of study, to make high-stakes decisions and to evaluate the effectiveness of schoolwide interventions.
- Works to improve overall instruction.
 - by providing feedback on progress measured against benchmarks,
 - by helping teachers to improve, and
 - as an accountability instrument for continuous improvement of systems (Hart et al., 2015).

Formative Assessment Approaches

1. Assessment for learning (AfL)

Assessment for Learning (AfL) is an approach, integrated into teaching and learning, which creates feedback for learners to improve learning. i.e. occurs when assessment and learning are integrated. AfL is not a means of evaluating schools, teachers or learners, rather it is a feedback mechanism.

It provides learners with rich, meaningful and timely feedback on their learning and progress throughout a programme of study. Assessment for Learning is an ongoing part of teaching & learning in which both teachers and learners share the responsibility for learning. It can take many forms, and may be either formal or informal (Yorke 2003). With AfL, teachers can understand better how their learners are learning and use this to plan what they will do next with a class or individual learners. AfL helps the learner to see what they are aiming for and understand what they need to do to achieve those

aims. AfL therefore focuses on the teacher and the learners' understanding.

Why is AfL important?

Assessment for learning is a key pedagogical tool for:

- establishing where the learners are in their learning
- establishing where they are going
- working out how to get them there

(William, 2009)

2. Assessment as learning (AaL)

In this approach, learners are their own assessors. They monitor their own learning, ask questions and use a range of strategies to decide what they know and can do, and how to use assessment for new learning. AaL helps learners to take more responsibility for their own learning and monitoring future directions. Learners are able to learn about themselves as learners and become aware of how they learn. They reflect on their work on a regular basis, usually through self and peer assessment and decide what their next learning will be.

The teacher's role in assessment as learning is to:

- model and teach the skills of self-assessment
- guide learners in setting their own goals, and monitoring their progress towards them
- provide examples and models of good practice and quality work that reflect curriculum outcomes
- work with learners to develop clear criteria of good practice

Feedback in Assessment

Feedback is an important component of the formative assessment process. Formative assessment gives information to teachers and learners about how learners are doing relative to learning goals. Giving good feedback is one of the skills teachers need to master as part of good formative assessment. (Ref: Susan M. Brookhart)

For feedback to be effective for learners, they need the following:

- an understanding of the desired learning goal;



- evidence about their present position in relation to that goal;
- guidance on the way to close the gap between the two.

Effective feedback should:

- focus on what is being learned (learning outcomes) and how learners should go about it (success criteria)
- occur as the learners are doing the learning, i.e. be given at a time when the response will help the learner improve their learning
- provide information on how and why the learner has or has not met the criteria
- be phrased so the learner can understand how he/she should respond and;
- provide strategies or act as guidance showing how the learner can improve; and
- encourage a dialogue (where appropriate), so the learner can probe for clarification on next steps needed to progress their learning.

Success Criteria

It is important in the learning cycle that the learners and teacher are all aware of what will show that learning has taken place.

Why Are Success Criteria Important?

- Improve understanding
- Empower learners
- Encourage independent learning
- Enable accurate feedback
- Enhance quality assessment which is totally dependent on the use of success criteria

What Are Success Criteria?

‘... success criteria summarise the key steps or ingredients the learner needs in order to fulfil the learning goal – the main things to do, include or focus on.’ (Shirley Clarke)

Effective Success Criteria

- are **linked** to the learning intention;
- are specific to an activity;
- are measurable;

- are **discussed and agreed** with learners prior to undertaking the activity;
- provide a **scaffold** and focus for learners while engaged in the activity; and
- are used as the basis for **feedback** and peer-/self-assessment

Sample success criteria

B 2.1.2.3.1	Low	Medium	High
Describe a solid-solid mixture and explain how to separate the components	I can correctly identify and give an example of a solid- solid mixture	I can form and describe a solid-solid mixture	I can separate a solid-solid mixture into its components

Assessment for Learning Strategies

The following are samples of activities that you can try in your classroom. These can be adapted to be applied to all subjects and stages of education.

Shared Learning Goals

Promote learner’s autonomy over their learning progression by sharing with them the learning goals, and most importantly the success criteria.

Learners write or ask questions

For example –

- About what they would like to know on a new topic;
- To ask the teacher or other learners in order to assess their learning;
- To demonstrate their learning/misconceptions/areas they would like to further explore.

Lesson Target Setting

- Make the lesson more purposeful for learners by setting targets at the beginning about what you and the class are going to do;
- These can be referred to through the lesson and/or revisited in the plenary;
- Learners could then show how they have met targets in the plenary and/or set targets for next lesson.

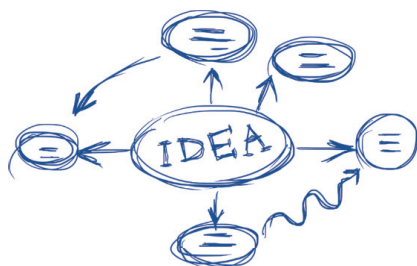
Making Learning Goals Clear



- Put lesson goals on the board at the beginning of the lesson;
- Talk to learners about why they are studying what they are studying;
- Contextualise short-term goals in long-term goals and make real life application clear (e.g. understanding the nature of things in the environment – living and non-living will contribute to our wider understanding of the world around us) and;
- Check with learners whether they understand the goals of the lesson.

Brainstorming

- Brainstorming is a technique used to determine what a learner may already know about a particular topic. Learners often feel free to participate because there is no criticism or judgment.
- Follow this with a clear description of what concepts to be covered in the lesson (to consolidate and clarify understandings)



Devising Questions

Devise questions that –

- Challenge common mistaken beliefs about a topic (misconceptions)
- Create conflict that requires discussion
- Explore ambiguity and encourage discussion and clarification

Wait time

- Wait time allows learners time to think and therefore to produce answers. Also, not everyone in the class thinks at the same speed or in the same way – waiting allows learners to build their thoughts and explore what has been asked.
- 2 types of wait time –

- Teacher speaks and then waits before taking learners' responses.
- Learner response ends and then teacher waits before responding. This gives the learner space to elaborate or continue – or for another learner to respond.

Observations

Teacher observations can be made in the course of delivery, during times of questioning and feedback and when learners are engaged in activities, either alone or with peers or groups. Look out for the look of confusion, nod or spark of understanding etc. We observe to be responsive and adjust to keep the learning going or notice when it is time to stop or recap a concept.

Tell your neighbour

- Learners 'tell their neighbour' as a means of articulating their thoughts.
- Ask a question, give thinking time and then ask learners to tell their neighbour their thoughts.
- This can either prepare whole class for 'hands down' questioning (where teacher asks randomly selected learner to contribute) or can precede a whole class discussion.

Think-Pair-Share

Give learners the opportunity to articulate their thinking before answering:

- Allow 30 seconds – 1-minute silent thinking before any answers
- Ask learners to write some thoughts down before answering
- Ask learners to brainstorm in pairs first for 2-3 minutes
- Then, get learners ready to talk about their own ideas or their group's ideas in a whole class discussion

Think-Pair-Square

- Think-Pair-Square is the same as Think-Pair-Share except that learners share their answers with another pair instead of the whole class.



Debates

- Debates enable the teacher to informally evaluate learners' oral work by assessing their oral presentation skills in terms of their ability to understand concepts and present them to others in an orderly fashion.

Post-It /Slate/ Mini-whiteboard/ Rough-workbook

Use post-it notes (or the other materials above) to evaluate learning. Groups, pairs or individuals can answer:

- Did I meet the success criteria?
- What should be done to improve next time?

Or:

- What have I learnt?
- What have I found easy?
- What have I found difficult?
- What do I want to know now?

K – W – L

- At the beginning of a topic let learners create a grid with three columns –

What They <u>K</u> now	What They <u>W</u> ant To Know	What They Have <u>L</u> earnt
------------------------	--------------------------------	-------------------------------

- They begin by brainstorming and filling in the first two columns and then return to the third at the end of the unit (or refer throughout).
- Variation – extra column 'How Will I Learn?'

Response Partners

- Paired or partnership oral marking. Learners invite a partner or a group to discuss or comment on their work. For it to be effective, learners should be aware of the learning goals and success criteria. They should also appreciate the role of a response partner – to offer positive and constructive feedback around the learning goals.
- Learners could be given prompt questions to ask the person who has done the work.

Exemplar Work

- When setting learners a piece of work, show them examples that make it clear what it is they are being asked to do – and what they need to do in order to meet the assessment criteria.
- Learners could mark exemplar work using the assessment criteria. This will help model what is being asked for and how it relates to the process of assessment.

2 Stars and a Wish

For peer assessment, ask learners to give two stars and a wish.

- Two stars = 2 things that are good about the piece of work.
- A wish = something they can improve to make it even better.

Traffic Lights

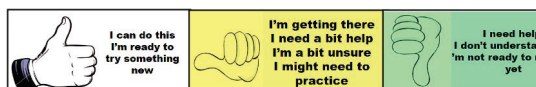
Use traffic lights as a visual means of showing understanding. Coloured card or paper could be used.



- Variation – Using smiley faces
Where coloured card is unavailable, simple face emojis can be used to communicate learners' understanding.
😊😐😞

Hand Signals

- Hand signals range from learners raising their hands to respond to a question posed by the teacher to a group to “thumbs up/down” signal to determine learners “acknowledged” understanding of a concept or process.



When using traffic lights or hand signal techniques, it is important to ask a few follow up questions to check learners' actual level of understanding.



Learners who are confident can also be used to support or explain to others who are not as confident yet.

Show and Tell

- During teaching, you can use mini-whiteboards/slates/rough-work book so that every learner can write or draw their answer and show it to you (or their peers) immediately. Follow up with questioning to check for genuine understanding or to build upon answers especially in subjects like [insert subject] where there is often one answer.

Active Learners

Key to AfL is learners being active, engaged participants in their learning. Think of ways in which content can be manipulated for these ends, rather than the other way round. If the content seems boring make the approach fun or interesting.



Learners write Questions

For example –

- About what they would like to know on a new topic
- To ask the teacher or other learners in order to assess their learning
- To demonstrate their learning/misconceptions/ areas they would like to further explore

The classroom could have a question box where learners drop questions at the end of a lesson.

Or, a plenary could involve learners writing questions that the class then work on together, or forms the basis of the next lesson.

Learners ask Questions

Create opportunities for learners to ask questions. This could be of their peers, of the teacher or as a means to develop discussion.

A 'question box' for written questions offers a different means of communication for learners

Allow time for learners to ask questions about pieces of work. This helps open up assessment and eliminate ambiguity

Comment-only Marking

Comment-only marking provides learners with a focus for progression instead of a reward or punishment for their ego (as a grade does).

Comments could be made in books, in a table at the front of their books, in a learning diary or journal. The latter are helpful for teacher and learner to track the progression of comments and see improvement.

Comments should make it clear how the learner can improve.

Plan activities and work with feedback in mind – let the design assist the process.

Mid-unit Assessment

Having an assessment at the end of a unit may not provide time for you to go over areas learners have struggled with, or in which there are general misconceptions.

Timing assessment during a unit allows time to review, reflect and revisit. It also gives the teacher an opportunity to focus explicitly on areas of weak understanding supported by evidence.

Might

When questioning, insert the word 'might' to give learners greater opportunity to think and explore possible answers.

e.g.

What is meaning of democracy?

What might the meaning of democracy be?

The first infers a single answer known by the teacher whereas the second is inherently more open.

What might the Great Depression look like today?

Wait time

Wait time allows learners time to think and therefore to produce answers. Also, not everyone in the class thinks at the same speed or in the same way – waiting allows learners to build their thoughts and explore what has been asked.

2 types of wait time –



- i) Teacher speaks and then waits before taking learners' responses.
- ii) Learner's response ends and then teacher waits before responding. This gives the learner space to elaborate or continue – or for another learner to respond.



Open vs closed

Closed questions can be useful however they are not great at facilitating the use of abstract thinking skills, encouraging talking or eliciting much understanding. Open questions are more likely to do this and thus improve learning. E.g. Did you go out last night? - (How can you make this question open?)

What did you do after school yesterday?



Exemplar Work

When setting learners a piece of work, show them examples that make it clear what it is they are being asked to do – and what they need to do in order to meet the assessment criteria. Learners could mark exemplar work using the assessment criteria. This will help model what is being asked for and how it relates to the process of assessment.



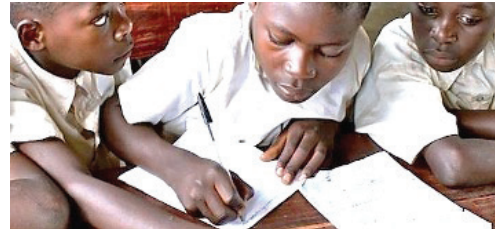
Learner Marking

By taking part in the process of assessment, learners gain a deeper understanding of topics, the process of assessment and what they are doing in their own work. This helps to make them more aware of 'what

learning is' and thus see their own learning in this way.

Learners could self- or peer- mark homework or assessments.

This could be done in pairs or individually with a learner-made or 'official' mark-scheme.



Lesson Target Setting

Make the lesson more purposeful for learners by setting targets at the beginning about what you and the class are going to do. These can be referred to through the lesson and/or revisited in the plenary.

Learners could show how they have met targets in the plenary and/or set targets for next lesson.



2 Stars and a Wish

For peer assessment, ask learners to give two stars and a wish. Two stars = 2 things that are good about the piece of work. A wish = something they can improve to make it even better



Articulate then Answer

Give learners the opportunity to articulate their thinking before answering –

- 30 seconds silent thinking before any answers
- Brainstorm in pairs first for 2-3 minutes
- Write some thoughts down before answering
- Discuss with your neighbour first

Tell your Neighbour

Learners 'tell their neighbour' as a means of articulating their thoughts.

- Ask a question, give learners time to think and then ask learners to tell their neighbour their thoughts.
- Tell learners what the new topic is and ask them to tell their neighbour everything they know about it.



Idea Thoughts

When you have received an answer to a question, open up the thinking behind it by asking what others think about the idea. E.g. "What do others think about _____'s idea?"



Devising Questions

Devise questions that –

- Challenge common misconceptions
- Create effective classroom activities, questions and tasks that prompt the right type of discussions
- Explore ambiguity and encourage discussion and clarification

Learning Journal

Create a learning journal in which learners can reflect and review their learning. It could include plenary activities, a target setting chart, aims and goals, etc.



Group Feedback

Group feedback to a teacher concerning peer-assessment of work can help make the teacher aware of learning needs in a manageable way.

If a group feeds back then it draws more attention and presents information that has already been ordered and sorted (meaning less repetition for the teacher).



Peer Marking

Learners mark each other's work according to assessment criteria.

Encourages reflection and thought about the learning as well as allowing learners to see model work and reason past misconceptions.

Opportunities to do this throughout individual lessons and schemes of work.



Teach Collaboration

Peer assessment requires learners to act collaboratively. Indeed, AfL is a collaborative enterprise therefore, explicitly teach skills of collaboration. This process can be assisted by discussing collaboration with learners and making it visible as a part of the classroom.



Traffic-Light Revision

When revising a topic or subject, work through the different areas with learners and ask them to traffic light according to their grasp of each. Subsequently, learners should be able to target their revision more carefully and engage in it actively,

rather than simply reviewing everything they have done or reading passively over their entire notes.



Group Answers

Learners work in small groups to agree on answers – when tests are returned or in other situations. The process of agreeing should include reasoning over the validity of the consensus answer, as well as reasoned negation of misconceptions or wrong answers.

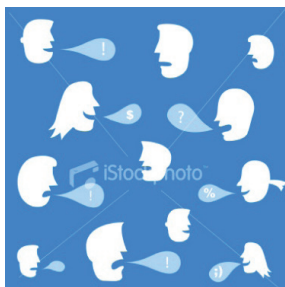


Think-through Talking

Talking allows learners to articulate their thoughts and thus to learn.

Encourage thinking through talking with –

- Discussion activities
- Structured group/pair work
- Modelling by teacher and learners (small group work increases the ‘surface area’ of talk in the classroom as opposed to whole class discussions)



Communication

Ask learners to communicate thinking through different mediums – not just writing; drawing, drama, maps, sculpture etc.

The medium is the message and therefore circumscribes to some extent how communication can take place. Using alternative mediums allows the teacher to ‘see’ learners’ understanding from different angles.



Appendix E: DESIGNING SCHOOL TIMETABLES

A **school timetable** is a table for regulating and coordinating activities of the learners, teacher and school. Timetables are cyclical. These activities recur every week or every fortnight (in cases of shift schools).

The timetable for the Common Core Programme (CCP) Curriculum to be rolled out in the 2020/21 academic year has the following characteristics.

1. Proposed Contact Hours (Time on Task)

Number of periods per day:	8 periods
Number of periods per week:	40 periods (8 periods × 5 days)
Duration per period:	50 minutes

2. Length of School Day

Time on Task:	400 minutes (50 minutes × 8 periods)
Break Time	60 minutes (two breaks at 30 minutes each)
Extra-curricular activities	50 minutes per day
Total length of school day	510 minutes (8.5 hours)

3. Proposed options for Length of School Day

S/No	Lessons Start	Lessons Close	Extra-Curricula
1	7.00am	2.40pm	2.40pm – 3.30pm
2	7.30am	3.10pm	3.10pm – 4.00pm
3	8.00am	3.40pm	3.40pm – 4.30pm

4. Proposed Co-Curricular Activities

- Life and Psychosocial Skills:
 - *Sports and Games*
 - *Tourism, Arts and Culture Club*
 - *STEM Club*
 - *Creative Writers/Debaters Club*
 - *Human Rights Club*
 - *Friends of the Earth Club*
 - *NGO Activities: Talks and Sensitisation etc.*

- Research, Science, Agriculture (Gardening) and Community Project
- Entrepreneurship Development, Guidance and Counselling.
- Library, Sustainable Learning and Study Skills
- Professional Learning Community (PLC), CPD and School/Cluster-based INSET

5. Period Allocations for Subjects

Subject	No. of Periods
Mathematics	4
English	4
Ghanaian Languages	3
French/Arabic	3
Science	4
Computing	3
Social Studies	3
Religious and Moral Education	3
Career Technology	4
Creative Arts and Design	4
Physical Education	3
Worship and Library Studies	2
TOTAL	40

Timetable Template

	30m	1 50m	2 50m	B1 30m	3 50m	4 50m	5 50m	6 50m	B2 30m	7 50m	8 50m	Co-Curricular
M	A S S E M B L Y & R E G			B R E A K					B R E A K			
T												
W												
T												
F												

- **Things to consider when populating the Timetable**

In populating the template to develop a school-based community friendly timetable, the officer should consider the following:

- Local dynamics – average walking distance from home to school.
- Socio-cultural and economic activities etc. within the community.
- If possible, the periods for Mathematics and the languages should be completed before lunch.
- Activity-based lessons such as Computing, Career Technology, and Creative Arts and Design can be organised after lunch.
- PLC should be allocated one of the 5 slots for co-curricular activities.

*For further inquiries contact
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Email: info@nacca.gov.gh
Website: www.nacca.org.gh*

Appendix F: LEARNING SCENARIOS

Case Study I

Consider these two lesson scenarios and then discuss and answer the questions below:

Scenario 1

When the teacher enters her B3 class, some of the learners are shouting at each other; some are talking quietly; some are moving around restlessly; and others are quietly waiting for the lesson to begin. She claps her hands and the learners take out their books. The teacher asks the learners what they read yesterday. When they tell her, she asks them to go to the next story, 'The Hare and the Hyena'.

One of the learners, who has been chosen to always be the reader in this class, stands up and begins to read this story. While the boy is reading, some learners are still trying to find their book, and others are still talking; many of them do not have a book to follow. Only a few learners are paying attention to the text and listening to the boy read. While this is happening, the teacher completes the attendance register and occasionally looks up and shouts "Hey, look at your books and follow. I am going to ask some questions. All of those who do not answer the questions correctly will have extra homework."

When the text has been read aloud by the reader, the teacher asks a few questions about the text. Those who are listening and know the answers raise their hands and the teacher calls on them to give the answers. The teacher tells the learners to read the text again at home for homework, then the lesson ends.

Scenario 2

When the teacher enters her B3 class she spends a few minutes talking to the class, encouraging them to relax, interact, smile and laugh. The learners see she is carrying a book, 'The Hare and the Hyena' and the teacher holds the book up so all the learners can see it. Then the teacher introduces the book by asking questions about it to gain their interest. She asks questions at different levels for example:

'What colours are on the cover of this book?' 'What is on the cover of this book?'

'Who do you think are the main characters in this book?' 'What is the name of the book?'

'Who is the author?' 'What do you think the book is about?'

She waits a moment after each question to give an opportunity for all the learners to raise their hands before choosing one to give the answer. Sometimes she asks a learner who hasn't raised their hand, if she thinks they will know the answer but are being lazy. The teacher goes on to ask other members of the class to explain what an author does, and then asks the learners to raise their hands if they know what a hare and a hyena are. She asks if any of the learners have seen these animals and what the animals did.

The teacher asks the learners what they think the hare and the hyena will do in the book. She then asks them to work in pairs to discuss what they think the story is about and how the story might begin and end. After a few minutes, the teacher asks one pair to give the results of their discussion. She asks if any other pairs think the same and they raise their hands. She then asks any of the remaining pairs for their thoughts. Finally, the teacher reads the first part of the story. As homework, she asks her learners to bring stories or information about the animals from their family, community members or elder peers for the next day. She tells them they will read and find out the end of the story tomorrow.

Discuss and answer:

1. Which of the two lessons do you think is most effective and why?
2. How does the teacher gain and maintain all learners' attention, participation and engagement?
3. What does the teacher do to accommodate all ability levels?
4. How does each teacher assess learning?
5. Can you find any missed opportunities in scenario 2 where the teacher could have used assessment for learning techniques?
6. How does the teacher use existing material and human resources in an interesting way?

Case Study 2

Consider these two lesson scenarios and then discuss and answer the questions below:

Scenario 1

The science teacher enters the B5 class and shouts for everyone to sit down and listen. She waits while some of the learners take out their books. The teacher tells the class they will learn about the respiratory system in humans. She asks the class to look at the relevant page in the textbook, and then asks one of the learners to read aloud while the others follow.

While the text is being read aloud, the teacher marks the exercise books from another class. Although few learners in the class pay any attention to the reading, when it is complete the teacher asks them to re-read the text aloud together. She then tells them to copy the diagram of the human respiratory system into their exercise books.

The teacher then continues marking as before until the end of the lesson when she asks for a show of hands of the learners that have completed the diagram. Five learners raise their hands and the teacher says 'good' and tells the others to complete it for homework

Scenario 2

The teacher starts her B5 science class by asking the learners what happened in the last lesson and how they got on with their homework. She is relaxed and friendly and encourages them to engage and interact. She explains that they are going to be thinking about how humans breathe and why and asks what they already know.

She then asks the learners to stand up and explains that when she says 'go!' they are to jump on the spot for a minute. On completion of the minute jumping the class discuss in pairs any changes they notice in their breathing pattern. The teacher then asks pairs to describe the changes they noticed; why do they think this happened? What do they think would happen if they jumped for a longer/shorter time? What would happen if they did a different type of exercise? What would happen if they sat down? Lay down? What happens when we sleep?

The teacher then asks the learners if they know which part of the body is used for breathing and what it looks like. She shows a chart depicting the respiratory system and explains the function. The learners then work in groups to develop a working model using balloons.

For homework the class need to gather evidence of any diseases or problems with breathing among their family members or community.

Discuss and answer:

1. Which of the two lessons do you think is most effective and why?
2. How does the teacher gain and maintain all learners' attention, participation and engagement?
3. What does the teacher do to accommodate all ability levels?
4. How does each teacher assess learning?
5. Can you find any missed opportunities in scenario 2 where the teacher could have used assessment for learning techniques?
6. How does the teacher use existing material and human resources in an interesting way?

Appendix G: FIDELITY OF IMPLEMENTATION OF THE COMMON CORE PROGRAMME (CCP)

KEYS (✓ TICK AS APPLIES): YES: Indicates indicator has been attained

NO: Indicates that indicator has not been attained

NOT YET: Indicates that the indicator is yet to be initiated

NEEDS SUPPORT: Indicates indicator where a teacher needs assistance from a SISO, Head teacher, a colleague, a resource person, Curriculum lead or any DEO. A teacher can tick any of the above three and this section. Write specific area the teacher needs support in the Remarks Column. **NB: Not applicable to all indicators**

A. TEACHERS CHECKLIST

S/N	INDICATORS	YES	NO	NOT YET	NEEDS SUPPORT	REMARKS
1.	Prepares and submits lesson notes on time					
2.	Applies differentiation and scaffolding in lesson delivery					
3.	Understands Assessment for Learning, Assessment as Learning and Assessment of Learning strategies					
4.	Frequently uses Assessment for Learning, Assessment as Learning and Assessment of Learning strategies in lessons					
5.	Gives immediate feedback to learners after assessment					
6.	Has teacher learner resource packs available for lesson planning and delivery					
7.	Understands issues of barriers to learning and takes measures to assist learners overcome them					
8.	Partakes in PLC meetings					
9.	Partakes in school clubs and societies					
10.	Assists learners as individuals with differentiated abilities, needs, achievement and learning styles					
11.	Shares learning goals and success criteria with learners before lessons					
12.	Maintains consistent and proactive discipline					
13.	Anticipates classroom challenges					
14.	Remediates where learners have learning difficulties					
15.	Assists learners to reflect and take responsibility of their own learning					
16.	Assists learners set their own goals					
17.	Works with learners to develop clear criteria of good practice					
18.	Supports school administration with assigned tasks and responsibilities effectively					

B. HEADTEACHER

S/N	INDICATORS	YES	NO	NOT YET	NEEDS SUPPORT	REMARKS					
1.	Understands the Core Competencies, 4Rs, Knowledge, Skills, Values and Attitudes										
2.	Specific remedial programmes are put in place to help learners with learning needs										
3.	Conducts classroom observation (<i>Select One</i>) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>A. Once a week</td> </tr> <tr> <td>B. Twice a week</td> </tr> <tr> <td>C. More than once a week</td> </tr> <tr> <td>C. Once every two weeks</td> </tr> <tr> <td>D. Once a month</td> </tr> </table>	A. Once a week	B. Twice a week	C. More than once a week	C. Once every two weeks	D. Once a month					
A. Once a week											
B. Twice a week											
C. More than once a week											
C. Once every two weeks											
D. Once a month											
4.	Provides feedback on classroom observation for teachers to improve teaching and learning										
5.	Supervises records keeping on PLC meetings										
6.	Takes part in INSETS and PLC sessions in the school this term										
7.	Has Curriculum Lead (CL) in the school										
8.	Takes measures to overcome barriers of learning in the school										
9.	Has functional clubs and societies in the school										
10.	Monitors activities of clubs and societies in the school										
11.	Teacher and Learner Resource Packs and other resources for each subject available										
12.	Teaches alongside administrative duties										
13.	Supports teachers to access additional resources for implementation of the CCP										
14.	Involves the community in the implementation of the CCP										
15.	The community provides support to the school in implementing the SBC										
16.	SISO supports the school in the implementation of the CCP										
17.	Aside the SISO, other District Education Officers come to this school to monitor facilities, teaching quality, or teacher attendance										

C. CURRICULUM LEAD

S/N	INDICATORS	YES	NO	NOT YET	NEEDS SUPPORT	REMARKS					
1	Organises PLC meetings in the school (<i>Select One</i>) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>A. Once a week</td> </tr> <tr> <td>B. Twice a week</td> </tr> <tr> <td>C. More than once a week</td> </tr> <tr> <td>C. Once every two weeks</td> </tr> <tr> <td>D. Once a month</td> </tr> </table>	A. Once a week	B. Twice a week	C. More than once a week	C. Once every two weeks	D. Once a month					
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B. Twice a week											
C. More than once a week											
C. Once every two weeks											
D. Once a month											
2	Keeps record of PLC meetings										
3	Partakes in INSET meetings in the school										
4	Develops and initiates capacity building programmes to support efficient implementation of the CCP										
5	Involves resources person to address challenges during PLC meetings										
6	Has resources to assist during PLCs meetings										

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