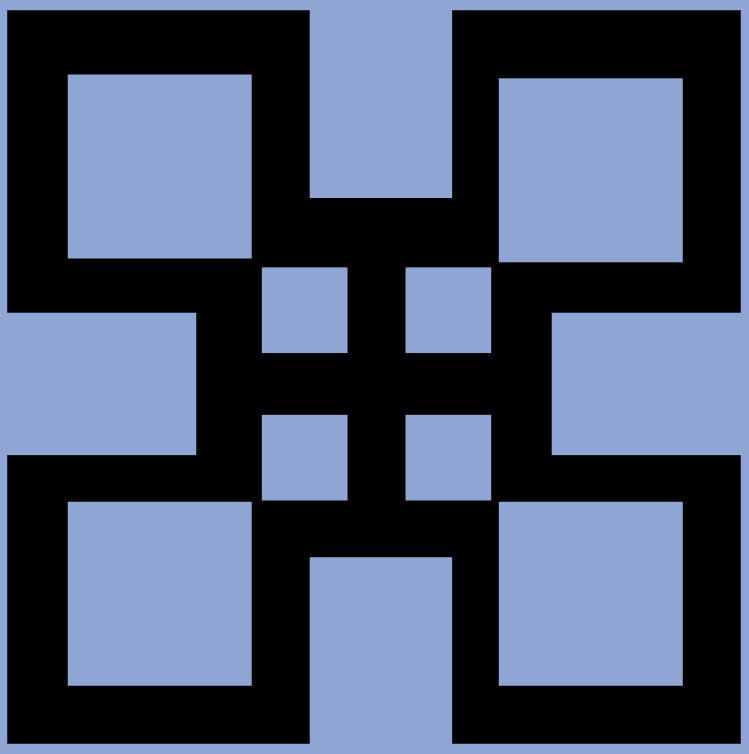
Secondary Education Professional Development Programme

Professional Learning Community Handbook

Applied Technology

Year One



Ghana Education Service (GES)

NaCCA
NATIONAL COUNCIL FOR CURRICULUM AND ASSESSMENT

NTC

Professional Learning Community Handbook

Applied Technology

Year One

REPUBLIC OF
GHANA

Contents

Introduction

This Professional Learning Community (PLC) Handbook is designed to enable teachers to deliver effective lessons for Year One of the new Applied Technology Curriculum. 'Effective' is defined as meaning that each lesson:

i. Has a weekly learning plan which is aligned with the content and pedagogy set out in the relevant Teacher Manual;

ii. Incorporates the relevant Learner Material which are available on the curriculum microsite;

iii. Contains assessment strategies which are aligned with the Teacher Manual, Learner Material and Transcript Assessment Guidance;

iv. Is delivered by the teacher in close adherence (Fidelity of Implementation) with i.) to iii.) above.

The PLC Handbook has a strong focus on assessment, outlining structured approaches to assessment derived from the Teacher Assessment Manual and Toolkit (TAMT), emphasising the attainment of learning outcomes, timely feedback to learners and recording learning outcomes accurately.

Additionally, this Handbook prescribes nine (9) main assessment events which teachers should score and record to constitute each learner's academic transcript for the academic year as follows: Two (2) Class exercises or Homework, one (1) Individual Portfolio, one (1) Group Project, two (2) Mid-semester examinations (in first and second semesters), two (2) End of Semester examinations (in first and second semester) and one (1) Individual project. It also promotes continuous weekly assessment for learning across all DoK levels, supporting teachers to deliver an all-inclusive education by inculcating 21st century skills, ICT, national values and support to special needs learners.

The TAMT identifies six modes of assessment which cover the nine events described above. The modes are described below.

a) Class/Homework in first Semester to be carried out and recorded in week 5. It enables leaners to develop research and collaborative skills. They also make use of other forms of assisted learning strategies outside the classroom setting.

b) Mid-semester one examination to be administered in week 6. This is summative assessment to evaluate knowledge and understanding of the concepts of week one to week 5.

c) End of semester one examination is scheduled to take place in week 12, summative assessment strategy to measure content of lessons taught within the semester.

d) Class/Homework in second semester comes of in week 14. It enables learners to engage in other learning approaches outside the classroom situation where they gain access to vast resource to complete the assessment task.

e) Individual project is in week 3. It is important that learners as individuals takes up project to develop problem solving skills, ability to work alone with resources available within and outside school system to complete project task assigned.

f) Group project comes of in week 9. Learners collaborate, work in team, communicate to solve given problem (project topic). Teachers should encourage each learner to actively participate.

g) Mid-semester two examination in week 18. Just like Mid-semester one it covers all the lessons learned from the first week in second semester to the last week before the exams. It can also include some lessons from first semester.

h) Individual practical portfolio, week 7. This can also include dossier of all the practical works learners have engaged in field trip reports, teachers' observation report on learners learning progress etc.

i) End of semester two examination is in week 24. Summative assessment to assess lessons from week 13 to week 23 which can also include lessons from semester one.

PLC SESSION 0: Internal Assessment Structure and Transcript System for SHS/SHTS and STEM Schools

1. Introduction (20 minutes)

This Professional Learning Community (PLC) session focuses on enhancing internal assessment and transcript system to ensure it aligns with the new Senior High School, Senior High Technical School and Science, Technology, Engineering and Mathematics curriculum and effectively supports student learning.

In this session, you will discuss the structure and frequency of assessments, strategies for involving learners in the assessment process, methods for providing constructive feedback and the implementation of a robust transcript system.

1.1 Share two ways in which you have used assessment in the past to support teaching and learning.

1.2 Share your observation on how a colleague used assessment in the past to support teaching and learning.

2. Internal assessment structure and frequency (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session.

Purpose

The purpose of the session is to strengthen teachers' understanding and competence in assessment techniques to effectively teach and assess the new SHS, SHTS and STEM Curriculum.

Learning Outcome

To ensure teachers understand the assessment structure and acquire the skill to design, administer and provide feedback of the assessments that accurately reflect the learning outcomes for each week.

Learning Indicators

1. Discuss the formative and summative assessment strategies recommended for the new curriculum.
2. Discuss in detail, the relevance and structure of the assessment transcript system and its use/implementation.

2.2 Discuss *formative assessment strategies* which can be used in your subject area.

E.g.

Questioning, etc.

2.3 Discuss *summative assessment strategies* which can be used in your subject area.

E.g.

End of Semester Examinations, etc.

2.4 Discuss as a subject group how you would administer a given assessment strategy.

E.g.

Class Exercise:

i. *Inform learners ahead of time*

ii. *Write the questions on the board, etc.*

2.5 Discuss methods of providing constructive feedback to learners on their performance.

E.g.

Provide individual comments on learners' work, etc.

2.6 Discuss as a subject group some of the do's and don'ts of constructing assessment items/tasks.

E.g.

Do: Align the purpose of the assessment with the task, etc.

Don't: Do not give clues in the stem, etc.

2.7 Discuss as a subject group the main assessments that would be recorded in the transcript system in the academic year.

E.g.

Class exercise, etc.

2.8 Discuss how and where you would record and submit learners' assessments for the transcript system.

E.g.

Record learners scores immediately, etc.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session.

3.2 Remember to:

a) read PLC Session 1 and related Learner Material

b) bring along your Teacher Manual, PLC Handbook and learning plan on *week 1* in preparation for the next session.

PLC SESSION 1: Workshop Safety

1. Introduction (20 minutes)

1.1 Share two things you did in the classroom based on your experience in the various PLC sessions you have attended (NTS 1a, 1f, 3a, 3c, 3e-3j and 3k-3p).

1.2 Share your observation on what a colleague did by way of application of lessons learned from previous PLC sessions attended (NTS 1e, lg, 2b-2c, 3e-3j, and 3k-3m).

2. Review of learning plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session.

Purpose

The purpose of the session is to review the learning plan for week 1 by aligning the plan with the Learner Material and appropriate assessment strategies.

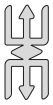
Learning Outcome

Review your learning plan for week 1 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 1 in your learning plan, identify activities that align with those in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).



Note

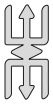
The selected activities should be included in the teacher/learner activity section of the learning plan

2.3 Develop assessment tasks/items based on the learning indicator(s) for the week. This week's recommended mode of assessment is **class exercise** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

List two safety pieces of equipment used on machines in the workshop.

Refer to Teacher Manual page 14 and Learner Material section one for additional questions.



Note

i. *The assessment tasks may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities in the learning plan*

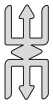
2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

1 mark: For each correctly listed safety equipment such as hand gloves, goggles, etc.

1/2 mark: Misspelt safety equipment.

0 mark: Unable to identify any safety equipment.



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

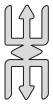
Writes or projects task instructions for learners to answer in their exercise book, etc.

Refer to Teacher Assessment Manual and Toolkit pages 80 – 83 for more information on this assessment strategy.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Underline wrongly spelled keywords, refer learners to appropriate materials for corrections, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, 1e and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 1 to provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m, and 3n).

b) read PLC Session 2 and related Learner Material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 2 in preparation for the next session (NTS 1c, 1f).

PLC SESSION 2: Engine Technology and Pre-constructional Activities

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 1 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3j and 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 1 that supported learning (NTS 1e, 1g, 2b–2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 2 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 2 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 2 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2b, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

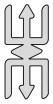
2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **essay** (NTS 2c, 3e, 3h and 3p).

E.g.

a) *Identify two types of engines used in a motor vehicle*

b) *explain why your identified engines are used in motor vehicles*

Refer to Teacher Manual page 24 and Learner Material Section One for further questions.



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 3c, 3j, 3l and 3p).

E.g.

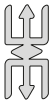
a) *1 mark (each): Identification of engine types as petrol engine, diesel engine, combustion engine or electric engine, etc.*

0 mark: Unable able to identify and misspelled engine type.

b) *4 marks (each): Explanation of engine use. Provide a clear explanation for why each identified engine type is used in motor vehicles.*

Example:

- *Petrol engines are used because they provide strong power output and long-range.*
- *Electric engines are used for their environmental benefits, as they produce no emissions and offer a quieter operation.*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

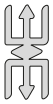
Provide support and accommodations for students with special needs, such as extra time or a quiet testing environment, etc.

Refer to Teacher Assessment Manual and Toolkit pages 94–97, for further information on this assessment mode.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3I, 3m and 3n).

E.g.

Encourage learners to share their work with peers and seek peer support, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, 1e and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 2 and provide feedback on your lesson (NTS 3f, 3I, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3I, 3m, and 3n).

b) read PLC Session 3 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 3 in preparation for the next session (NTS 1c, 1f).

PLC SESSION 3:

1. Safety in the use of Electricity

2. Safe use of Hand Tools in Metal work

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 2 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3j and 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 2 that supported learning (NTS 1e, 1g, 2b, 2c and 3e–3j).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 3* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 3 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 3 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **discussion** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Identify and discuss four dangerous situations and behaviours likely to cause electric shock.

Refer to Teacher Manual page 32 Learner Material section one for additional questions.

Hint

*It is recommended to give learners an individual project work to be submitted in week 19, see **Appendix A** for task example and rubrics for scoring.*

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.1 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

a) *Identification of Dangerous Situations*

faulty appliance, damage extension leads, etc. – 2 marks each

b) *Explanation of Risk Factors*

Discussions explains why each identified situation or behaviour is dangerous and could lead to electric shock. - 5 marks each

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

1.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

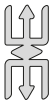
Facilitate the discussion, etc.

Refer to Teacher Assessment Manual and Toolkit pages 66 to 69 on how to administer.

1.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m, and 3n).

E.g.

Guide learners with leading questions to discuss and come out with correct answers.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, 1e and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 3 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m).

b) read PLC Session 4 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 4 in preparation for the next session (NTS 1c, 1f).

Appendix A: individual project work

1. Research the necessary Personal Protective Equipment (PPE) for electrical, woodworking, and building workshops.
2. Write an introduction explaining what PPE is and why it's important.
3. Detail the specific PPE needed for each type of workshop:

a. Electrical

b. Woodworking

c. Building and Construction

4. Outline how to care for and maintain each piece of PPE.
5. Include safety tips for using PPE in each workshop.
6. Design the guidebook, organising the information logically and adding visuals like diagrams or photos.
7. Present the final guidebook to the class, explaining the content and your design choices.

Rubrics for assessment

Aspect	Full Marks (5 points)	Partially Correct (3 points)	Incorrect (0 points)
Research and Content	Thoroughly researches and presents detailed, accurate information on PPE for all workshop types, including specifics on hazards and protections.	Provides basic information on necessary PPE with some details missing or slightly inaccurate.	Fails to accurately describe necessary PPE or provides misleading information.
Clarity and Organisation	Guidebook is exceptionally well-organised and visually appealing, enhancing ease of use and engagement.	Guidebook is organised and includes visuals but could be more engaging or easier to navigate.	Guidebook is poorly organised, hard to navigate, or visually unappealing.
Maintenance and Safety Tips	Provides comprehensive and accurate maintenance tips and safety guidelines for each type of PPE.	Covers maintenance and safety tips but with missing details or minor inaccuracies.	Lacks accurate or practical information on maintaining and safely using PPE.
Use of Language	Uses clear, precise, and appropriate language that enhances understanding and readability of the guidebook.	Language is generally appropriate but may include minor errors or lack clarity in some sections.	Uses unclear, inappropriate, or grammatically incorrect language that confuses readers.

Aspect	Full Marks (5 points)	Partially Correct (3 points)	Incorrect (0 points)
Presentation	Effectively presents the guidebook to the class, clearly explaining content, design choices, and key learnings.	Presents the guidebook adequately but with a lack of clarity or engagement in explanation.	Fails to present the guidebook effectively, with poor explanation or preparation.

PLC SESSION 4:

1. Classification of Two Main Types of Timber

2. Introduction to Engine Technology

1. Introduction (20 minutes)

0.1 Share one thing on the lesson for week 3 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

0.2 Share your experience in conducting and/or recording the assessment for the previous week.

0.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 3 that supported learning (NTS 1e, 1g, 2b–2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 4 by aligning the learning plan with Learner Material and appropriate assessment strategies.

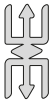
Learning Outcome

Review your learning plan for week 4 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 4 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).



Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **multiple choice** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

a) *Which of the following items is commonly made of wood?*

A. *Television*

B. *Computer mouse*

C. *Bookshelf*

D. *Refrigerator*

b) *How does a petrol engine generate power in its cylinders?*

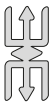
A. *By using electric current to ignite the air-fuel mixture.*

B. *By compressing air alone and using heat to generate power.*

C. *By igniting an air-fuel mixture with a spark from the spark plug.*

D. *By allowing diesel fuel to spontaneously ignite.*

Refer Teacher Manual page 51 - 57 and Learner Material section two for further questions.



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

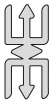
2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

1 mark each for correct answers

a) C

b) C



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

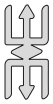
Administer constructed MCQs in a controlled environment to prevent cheating, etc.

Refer to Teacher Assessment Manual and Toolkit pages 83– 85 for more task examples.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Provide constructive feedback to learners on each question, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, 1e and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 4 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 5 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 5 in preparation for the next session (NTS 1c, 1f).

PLC SESSION 5: Pre-construction Activities and Power Generation, Transmission and Distribution in Electricity Supply

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 4 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 4 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 5* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 5 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 5 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

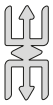
2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **homework** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

a) *List at least two stakeholders and the roles they play in the building construction industry.*

b) *Identify two companies responsible for electrical power transmission and distribution in Ghana.*

Refer to Teacher Manual pages 57 and 64 and Learner Material section two for more task examples



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

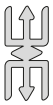
1 mark *each for identification of stakeholders like architects and construction managers, etc.*

0 mark *for wrong identification of stakeholders*

4 marks *each for role description of stakeholders like construction managers overseeing the actual construction operations, ensuring the project stays on schedule and within budget.*

2 marks *for partially correct answer*

0 mark *for incorrect answer*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

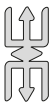
Teacher writes projects questions for learners to answer as an assignment to be submitted the following day for marking, etc.

Refer to Teacher Assessment Manual and Toolkit pages 57 – 60 for additional information on homework.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Review learners work to identify errors or areas for improvement, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 5 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 6 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 6 in preparation for the next session (NTS 1c, lf).

PLC SESSION 6: Preparing for Mid-Semester Examination

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 5 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 5 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 6 lessons and mid-semester examination* by aligning the learning plan with Learner Material and appropriate assessment strategies.

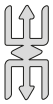
Learning Outcome

Review your learning plan for week 6 and prepare the end of semester examination considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 6 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).



Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **mid-semester examination** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Multiple choice question.

All the following are Personal Protective Equipment (PPE) ***except****.....*

A. *goggles.*

B. *headset*

C. *helmet.*

D. *sandals*

Essay type question.

Briefly describe 3 constructional differences between petrol and diesel engines.

Test of practical knowledge

Using the knowledge of how to apply the appropriate safety measures in the workshop, demonstrate appropriate use of the following to achieve safety in the workshop.

a) *Headset*

b) *Nose mask*

c) *Fire extinguisher*

d) *Goggles*

e) *Reflector jacket*

Refer to Teacher Manual weeks 1-5, key assessment and Learner Material sections 1 and 2 task examples

Hint

See ***Appendix B*** *at the end of this session for the mid-semester table of specification as a guide to selecting various DoK levels questions.*

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

***Section A**: 20 multiple choice questions 1 mark each*

*Correct answer- D - **1 mark***

***Section B**: 3 essay type questions 2 to be answered 15 marks each*

Correct answer like

Petrol engines have a lower compression ratio which is sufficient for the air-fuel mixture to ignite with a spark plug. While diesel engines have a higher compression ratio for the compression ignition process, where the fuel is ignited by the heat of compressed air rather than by a spark.

For partially correct answers – 8 marks

For wrong answers – 0 marks

***Section C**: 1 test of practical knowledge compulsory 50 marks*

Criteria	Marks	Description	Examples of Expected Responses
Use of Headset	*10 marks*	*Demonstrates the correct placement and use of the headset to protect hearing from high decibel noise levels.*	*Student properly adjusts the headset to cover both ears completely, ensuring it fits snugly to block out workshop noise.*
Use of Nose Mask	*10 marks*	*Correctly wears the nose mask to prevent inhalation of dust and harmful particles.*	*Student ensures the nose mask is securely fitted over both the nose and mouth with no gaps, straps adjusted properly.*
Use of Fire Extinguisher	*10 marks*	*Demonstrates knowledge of the correct type of fire extinguisher for different fires and its proper operation.*	*Student checks for the classification of the fire extinguisher and demonstrates the PASS technique to operate it correctly.*
Use of Goggles	*10 marks*	*Shows how to wear and adjust safety goggles to protect eyes from flying debris and chemicals.*	*Student ensures goggles fit tightly against the face, covering the eye area fully, with no gaps at the edges.*
Use of Reflector Jacket	*10 marks*	*Wears the reflector jacket correctly to enhance visibility in the workshop.*	*Student wears the jacket completely zipped or buttoned up, ensuring it is clean and visible from a distance.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Supervise the examination to avoid cheating, etc.

Refer to Teacher Assessment Manual and Toolkit pages 16, 83-86, 94-97 and 41-43 for additional information on administering these assessment strategies.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Identify learners' strength and weaknesses based on questions answered, have an open forum for discussion, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 6 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 7 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 7 in preparation for the next session (NTS 1c, lf).

Appendix B: Table of Specification for Mid-Semester Examination

Weeks	Learning Indicator(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
1	1. Apply the Appropriate Safety Measures in the Workshop.	*Multiple Choice*	1	1	1	–	3
		Essay	–	–	1		1
		Practical	–	–	1	–	1
2	1. Identify types of engines and describe the main component parts of the engine. 2. Explain the stakeholders involved in building construction projects.	*Multiple Choice*	1	1	1	–	3
3	1. Discuss safety in the use of electricity. 2. Explain health and safety related to workshop, tools, materials and machines	*Multiple Choice*	1	1	1	–	3
		Essay		1			1
4 & 6	1. Classify the two main types of timber. 2. Explain the constructional and operational difference between petrol and diesel engines.	*Multiple Choice*	1	1	1	–	3
4 & 7	1. Describe the roles of stakeholders in building construction projects. 2. Describe the process of electrical power generation, transmission and distribution.	*Multiple Choice*	1	1	1		3
		Essay		1			1

PLC SESSION 7: Constructional and Operational Difference Between Petrol and Diesel Engines and the Role of Stakeholders in Building Construction Projects

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 6 and mid-semester examination that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 6 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week* 7 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 7 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 7 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **portfolio** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Sketches with description the operation of a four-stroke cycle CI engine and two-stroke cycle SI engine.

Refer to Teacher Manual pages 54 and 56 and Learner Material section two for more task examples.

Hint

It is recommended to give learners a portfolio on "Sketches with description the operation of a four-stroke cycle CI engine and two-stroke cycle SI engine."

To be submitted in week 22. Using the rubrics in this PLC session as a guide for scoring learners.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

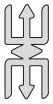
ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Criteria	Marks	Description	Examples of Expected Responses
Description of Four-Stroke CI Engine	*10 marks*	*Provides a clear and accurate description of the four stages in the cycle of a compression ignition (CI) engine: intake, compression, power, and exhaust.*	*Describes how the CI engine draws in air only during the intake, compresses it, injects fuel, and ignites it due to high pressure.*
Sketch of Four-Stroke CI Engine	*10 marks*	*Sketch accurately illustrates the four stages of the CI engine's operation, clearly labelling each part and phase.*	*Sketch includes pistons, cylinder, crankshaft, and valves, with arrows showing movement of air and fuel through the engine.*

Criteria	Marks	Description	Examples of Expected Responses
Sketch of Two-Stroke SI Engine	*10 marks*	*Sketch accurately shows the operation of the SI engine through its two-stroke cycle, with components and actions clearly marked.*	*Illustrates the piston, spark plug, and exhaust and intake ports, with directional arrows to indicate the flow of the fuel-air mixture and exhaust gases.*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

a) *Guide learners on how to develop portfolio with reference to the tasks instructions and learning indicators.*

b) *Discuss the scoring criteria with learners.*

c) *Take feedback from learners on areas that need clarification.*

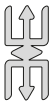
d) *Discuss submission date for completed work with learners. The teacher suggests week 11 and 12 for submission.*

Refer to Teacher Assessment Manual and Toolkit pages 27-31 further guidelines on portfolio development.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Give further explanations to learners on areas of portfolio development that they need clarification on, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 7 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 8 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 8 in preparation for the next session (NTS 1c, lf).

PLC SESSION 8:

1. Concept of Power Generation, Transmission and Distribution

2. Ferrous and Non-ferrous Metals with Engineering Application

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 7 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 7 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 8 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 8 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 8 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **questioning** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

What are some of the effects of illegal connection on power distribution?

Refer to Teacher Manual page 75 and Learner Material section 2 for more information.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

a) ***Identification***

2 marks *each for identification of effects. For example, increased risk of power outages, overloading of the power grid, etc.*

1 mark *for identification of effects with spelling mistakes*

0 mark *for wrong answer*

b) ***explanation***

4 marks *each for explanation of effects. For example, illegal connections overload the grid, leading to frequent outages and potentially causing long-term damage to power lines, etc.*

2 marks *for partially correct explanation*

0 mark *for wrong or no explanation*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Teacher projects or writes task instruction as guiding question for oral presentation.

Ask one question at a time and wait for responses from learners to allow time to think through responses critically, etc.

Refer to Teacher Assessment Manual and Toolkit pages 37–41, for more information on how to administer this assessment.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Provide marking scheme for learners to self-reflection, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 8 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 9 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 9 in preparation for the next session (NTS 1c, lf)

PLC SESSION 9:

1. Processing Phases of Timber in Woodwork Industry

2. Personal Protective Equipment

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 8 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 8 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 9* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 9 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 9 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **discussion** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

a) *Discuss the tertiary phase of timber processing.*

Refer to Teacher Manual page 90 and Learner Material section three for more information on the focal area.

Hint

*It is recommended to give learners a group project work to submit in week 15. See **Appendix C** for task and rubrics.*

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Criteria	Marks	Description	Examples of Expected Responses
Artefact Production	*10 marks*	*Demonstrates understanding of the processes involved in converting processed timber into final products or artefacts.*	*Explains how timber is shaped, assembled, and prepared for finishing in the production of furniture or other wooden items.*
Finishing Techniques	*10 marks*	*Describes various finishing techniques used to enhance the appearance and durability of timber products.*	*Details methods such as staining, sealing, and varnishing that are applied to timber products to achieve a high-quality finish.*
Quality Control Measures	*10 marks*	*Explains the quality control measures implemented to ensure the products meet specific standards and requirements.*	*Discusses the inspection of timber products for defects, and the use of precision tools to ensure consistency in dimensions and appearance.*

Criteria	Marks	Description	Examples of Expected Responses
Packaging	*10 marks*	*Describes the packaging process for timber products, emphasising protection and aesthetics for market readiness.*	*Outlines how finished timber products are packaged securely to prevent damage during transport, including the use of wrapping and cushioning materials.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Facilitate the discussion, encouraging all learners to participate, etc.

Refer to Teacher Assessment Manual and Toolkit pages 66-69 for more information on class discussion assessment strategy.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Clarify any misconception that may arise during the discussion, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 9 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 10 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 10 in preparation for the next session (NTS 1c, lf).

Appendix C: Group Project Work

Objective of project

Apply your knowledge of diodes to practically design, build, and test a rectifier circuit, while developing presentation and documentation skills.

Tasks

1. Research on Diodes: understand the function of diodes, emphasising their role in directing current flow in one direction.
2. Circuit Design:

a. Draft a schematic for a simple rectifier circuit incorporating diodes.

b. Calculate resistor values to ensure safe operation of the circuit.

3. Construct the Circuit:

a. Assemble the circuit on a breadboard, checking all connections are secure and correctly placed.

b. If soldering, adhere to safety guidelines carefully.

4. Conduct Tests:

a. Measure the circuit's output voltage.

b. Troubleshoot any issues such as incorrect voltage or malfunctioning components.

5. Presentation Preparation:

a. Create a presentation outlining your design process, challenges encountered, and solutions implemented.

b. Demonstrate your functional circuit and explain the significance of diodes in its operation.

6. Compile a Report:

a. Document all project phases, from initial design to testing outcomes.

b. Include diagrams, relevant calculations, and photos of your circuit.

Rubrics for assessment

Aspect	Full Marks (5 points)	Partially Correct (3 points)	Incorrect (0 points)
Understanding of Diodes	Demonstrates comprehensive knowledge of diode functionality and effectively applies this in the circuit design.	Shows basic understanding with some correct applications but lacks depth in diode functionality.	Lacks correct understanding of how diodes function in the circuit.

Aspect	Full Marks (5 points)	Partially Correct (3 points)	Incorrect (0 points)
Circuit Design and Calculation	Circuit design is technically accurate with all calculations correct and clearly documented.	Circuit design is mostly accurate; minor calculation errors that do not majorly impact functionality.	Circuit design or calculations are incorrect, negatively impacting circuit functionality.
Construction Quality	Circuit is assembled with precision, all components correctly placed and secured, demonstrating excellent craftsmanship.	Circuit assembly is functional with minor issues in placement or security of components.	Poor assembly with incorrect placement or insecure components, impacting functionality.
Testing and Troubleshooting	Thorough testing and effective troubleshooting; identifies and resolves all issues, ensuring optimal functionality.	Conducts basic tests and identifies major issues but troubleshooting is incomplete.	Fails to properly test the circuit or address issues identified during testing.
Presentation Skills	Presentation is clear, engaging, and provides a thorough explanation of the circuit's design and functionality.	Presentation is adequate but lacks clarity or engagement, covering basic points of the project.	Presentation is poorly executed, unclear, and fails to effectively communicate project details.
Documentation and Reporting	Report is comprehensive, well-organised, includes detailed diagrams, calculations, and a reflective summary of the project.	Report is complete but lacks some detail or organisation, missing minor elements.	Report is poorly written, lacks essential information, and does not effectively document the project.

PLC SESSION 10:

1. Professionals involved in Building Construction Project

2. Application of Power Transmission and Distribution in Electricity Supply

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 9 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 9 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 10* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 10 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 10 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **case study** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

What can possibly go wrong if no building permit is obtained before commencement of a building project?

Refer to Teacher Manual page 99 and Learner Material section 3 for more information on this focal area.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Criteria	Marks	Description	Full Marks	Partially Correct	Incorrect
Identification of Legal Consequences	*10 marks*	*Identifies and explains potential legal consequences of failing to obtain a building permit.*	*Describes potential fines, legal actions, and the possibility of a construction stoppage imposed by local authorities.*	*Identifies some consequences like fines but does not fully explain the possible legal actions or construction stoppage.*	*Fails to identify any legal consequences or misinterprets the regulations.*

Criteria	Marks	Description	Full Marks	Partially Correct	Incorrect
Safety Risks	*10 marks*	*Discusses safety risks associated with unpermitted building activities.*	*Explains how lack of oversight could lead to construction that does not meet safety codes, posing risks to occupants.*	*Mentions general safety concerns but lacks detail about specific code violations or hazards.*	*Does not identify safety risks or suggests irrelevant or incorrect risks.*
Financial Implications	*10 marks*	*Outlines the financial implications that may arise from not obtaining a building permit.*	*Covers potential costs related to fines, delayed construction, and increased insurance premiums.*	*Describes some financial consequences like fines but lacks detail on how delays or insurance premiums might be affected.*	*Provides incorrect or no information about financial implications.*
Impact on Project Integrity and Value	*10 marks*	*Discusses how skipping the permit process can affect the integrity and market value of the completed building.*	*Details how non-compliance with building codes can lead to reduced property value and challenges in selling the property.*	*Partially explains the impact on property value or selling challenges but lacks comprehensive details or specific examples.*	*Incorrectly states there is no impact or misunderstands the property implications.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

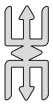
Determine the format of the case study (e.g., written document, a multimedia presentation, a video, or a combination of these), depending on the resources available, etc.

Refer to Teacher Assessment Manual and Toolkit pages 31–34 on case description assessment strategy.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Ask the learners to reflect on their learning process, such as what they learned, what they found difficult, or what they would do differently, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 10 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 11 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 11 in preparation for the next session (NTS 1c, lf).

PLC SESSION 11:

1. Uses of Various Tools and Equipment for Gas Welding

2. Processing Phases of Timber in the Woodwork Industry

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for *week* 10 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 10 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 11 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 11 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 11 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan. (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **poster** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Create a poster describing the following tools in gas welding

a) *oxygen cylinder*

b) *welding goggles*

c) *hoses*

Refer to Teacher Manual pages 109 to 112 and learner material section 3 for additional information on the concept.

Hint

Remind learners to submit their portfolio and group project on the due week.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

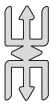
ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Tool	Full Marks (10 marks)	Partially Correct (5 marks)	Incorrect (0 marks)
Oxygen Cylinder	*Explains that the cylinder holds oxygen for welding, mentions it needs careful handling, and describes what the pressure gauge does.*	*Mentions the cylinder holds oxygen but provides limited information on handling or the pressure gauge.*	*Incorrect or missing information about the cylinder's role or safety features.*

Tool	Full Marks (10 marks)	Partially Correct (5 marks)	Incorrect (0 marks)
Welding Goggles	*Describes the goggles as protective eyewear that shields eyes from sparks and bright light and mentions they should fit well.*	*Identifies goggles as protective eyewear but lacks details on light protection or fit.*	*Incorrect or unclear description of what welding goggles are used for.*
Hoses	*Explains hoses carry gas from the cylinder to the torch and mentions they should be checked for leaks.*	*Mentions hoses carry gas but lacks details on checking for leaks or why this is important.*	*Incorrect or missing information about what hoses do in gas welding.*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

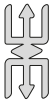
Brief learners on the assessment criteria to be used and clearly let learners understand the reason of assessing them by poster assessment process, etc.

Refer to Teacher Assessment Manual and Toolkit pages 13 and 14 for more information on concept mapping.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Provide constructive feedback to the learners based on observations, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 11 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 12 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 12 in preparation for the next session (NTS 1c, lf).

PLC SESSION 12: Preparing for End of Semester Examination

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 11 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 11 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 12 lessons and end of semester examination* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 12 and prepare for end of semester examination considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 12 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **end of semester examination** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

a) ***Section A*** *(1 hour) 50 multiple choice questions: answer all.*

The function of the clutch in vehicle transmission system is to.....

A. *brake the engine system*

B. *burn fuel in engine*

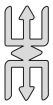
C. *engage and disengage engine*

D. *transmit torque to drive*

b) ***Section B*** *(2 hours) 8 essay type questions: answer 5*

i. *Identify 4 tools and equipment used in electric arc welding*

ii. *State one function of any of the tools mentioned in (i) above*



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

a) ***Section A – 1 mark each***

The function of the clutch in vehicle transmission system is to.....

A. brake the engine system

B. burn fuel in engine

C. ***engage and disengage engine*** *(correct answer, 1 mark)*

D. transmit torque to drive.

b) ***Section B – 10 marks each***

i. *Identify 4 tools and equipment used in electric arc welding*

1 mark each *– for identified welding tools/Equipment like welding torch, electrode holder, grounding clamp, welding helmet, welding gloves, etc.*

0 mark *– for incorrect answers*

ii. *State one function of any of the tools mentioned in (i) above*

***1 mark each** – for stating a function like welding torch is used to control the arc; the electrode holder grips the electrode, etc.*

***0 mark** – for incorrect answer*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

*Prepare a table of specifications (sample is attached in the session's **Appendix D**), etc.*

Refer to Teacher Assessment Manual and Toolkit pages 83-86, 94-97 and 41-43 for more information on how to administer the assessment.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Discuss with learners' areas their need improvement on, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 12 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 13 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 13 in preparation for the next session (NTS 1c, lf).

Appendix D: Table of Specification for End of Semester Examination

Weeks	Learning Indicator(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
1	1. Apply the Appropriate Safety Measures in the Workshop.	*Multiple Choice*	1	1	1	–	3
		Essay	–	–	1		1
2	1. Identify types of engines and describe the main component parts of the engine. 2. Explain the stakeholders involved in building construction projects.	*Multiple Choice*	1 1	1 1	1 1	–	3 3
3	1. Discuss safety in the use of electricity. 2. Explain health and safety related to workshop, tools, materials and machines	*Multiple Choice*	1	1	1	–	3
		Essay		1			1
4 & 6	1. Classify the two main types of timber. 2. Explain the constructional and operational difference between petrol and diesel engines.	*Multiple Choice*	1 1	1 1	1 1	–	3 3
4 & 7	1. Describe the roles of stakeholders in building construction projects. 2. Describe the process of electrical power generation, transmission and distribution.	*Multiple Choice*	1	1	1		3
		Essay		1			1
5 & 7	1. Ferrous, non-ferrous metals with engineering applications and uses of non-metallic materials 2. Processing phases of timber	*Multiple Choice*	1	1	1	–	3
		Essay	–	–	1		1
5 & 8	1. Personal protective equipment	Multiple Choice	1	1	1		3
	2. professionals in building construction project.		1	1	1	–	1
6 & 8	1. Application of the concept of generation, transmission and distribution in electricity supply 2. Tools and equipment for gas welding.	Multiple Choice	1	1	1	–	3
		Essay			1		1

Weeks	Learning Indicator(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
9 & 11	1. Tools machines in woodwork (processing phases of timber in the woodwork industry) 2. Safety measures applied to servicing, repair and maintenance of engine systems	Multiple Choice	1 1	1 1	1 1		3 3
9 & 12	1. The Professionals involved in building construction project 2. The concept of power transmission and distribution in electricity supply	Multiple Choice	1	1	1		3
		Essay			1		1
10 & 12	1. The use of various tools and equipment for gas welding 2. The processing phases of timber in the woodwork industry	Multiple Choice	1	1	1		3
			1	1			2
		Essay			1		1
10 & 13	1. Safety measures applied to servicing, repair and maintenance of engine systems 2. Building construction technology: Professionals involved in building construction project	Multiple Choice	1	1	1		3
		Essay			1		1

PLC SESSION 13:

1. Application of Power Transmission and Distribution in Electricity

2. Uses of Various Tool and Equipment for Gas Welding

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 12 and end of semester examination that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 12 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 13 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 13 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 13 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **e-assessment** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Click here or scan this QR code to access the assessment.

Use relevant sketches to explain what voltage fluctuation.

Refer to Teacher Manual page 103 and Learner Material section three.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

*Correct Answer – 5 marks: **b**) A graph showing voltage levels that vary significantly over time.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

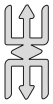
Create learner instructions that specify how learners use the assessment platform, etc.

Refer to Teacher Assessment Manual and Toolkit pages 86 – 88 for more information on this assessment strategy.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Share marking scheme with learners to reflect on the answer(s), etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 13 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 14 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 14 in preparation for the next session (NTS 1c, lf).

PLC SESSION 14:

1. Manufactured Boards made from Wood and Non-Wood Residues

2. Components of a Vehicle's Transmission System

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 13 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 13 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 14* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 14 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 14 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **homework** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Identify 5 types of manufactured boards made from wood and non-wood residue.

Refer to Teacher Manual page 13 and Learner Material section four for additional information on the concept.

Hint

It is recommended to give learners homework to submit in week 17 and also remind learners about the submission of their group project work due in week 15

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

***1 mark each** for identification of manufactured boards like plywood, medium density fibreboard (MDF), etc.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

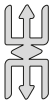
Task instruction should be clearly written on the board or typed for learners, etc.

Refer to Teacher Assessment Manual and Toolkit page 57 for more information on homework

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Clarify any misconception after marking, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 14 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 15 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 15 in preparation for the next session (NTS 1c, lf).

PLC SESSION 15:

1. The Roles of Professionals in Building Construction Projects

2. The Concept of Electrical and Electronic Circuits

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 14 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 14 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 15* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 15 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 15 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **research** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Research the distinction between electrical and electronic circuit based on

a) complexity

b) application

Refer to Teacher Manual page 31 and Learner Material section four for more information on this focal area

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Sample rubrics

Criteria	Marks	Description	Examples of Expected Responses
Distinction Based on Complexity	*10*	*Provides a detailed comparison of the complexity between electrical and electronic circuits. Each insightful point earns 5 marks.*	*Electrical circuits are generally less complex with fewer components, whereas electronic circuits include components like transistors and microchips that allow for more complex functions.*
Distinction Based on Application	*10*	*Clearly outlines different applications of electrical and electronic circuits, demonstrating understanding of their specific uses. Each accurate application earns 5 marks.*	*Electrical circuits are primarily used for power transmission and simple control systems. Electronic circuits are used in computing, communications, and other advanced technology applications requiring sophisticated control and processing.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Ensure all necessary resources are available, including access to computers (laptops/ phones/ desktop) with internet, etc.

Refer to Teacher Assessment Manual and Toolkit pages 80–83 for more information on how to administer this assessment strategy.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Identify areas that need further classification and encourage learners to improve, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 15 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 16 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 16 in preparation for the next session (NTS 1c, lf).

PLC SESSION 16:

1. Tools and Equipment for Electric Arc Welding

2. Types of Manufactured Boards made from Wood and Non-Wood Residues

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 15 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 15 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 16 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 16 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 16 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **critique** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Review the sketches of the structures of two types of manufactured boards provided by your classmate. Assess the accuracy of the sketches and critique how well they represent the actual composition and layering of the boards. What improvements would you suggest for a more precise representation?

Refer to Teacher Manual page 38 and Learner Material section four for further information on this concept

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

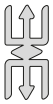
ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Criteria	Marks	Description	Examples of Expected Responses
Accuracy of Sketches	*10*	*Evaluates the accuracy of the sketches in representing the actual structure and composition of the manufactured boards.*	*Identifies if key features like layers, bonding agents, and wood grain orientation are correctly represented in the sketches.*
Detail and Clarity	*10*	*Assesses the level of detail and clarity in the sketches, including annotations and labels.*	*Comments on the clarity of the sketches, such as visible layering, clear labels for materials, and the scale of different sections.*
Constructive Criticism	*10*	*Provides constructive feedback on how the sketches could be improved to better represent the manufactured boards.*	*Suggests adding cross-sectional views to show internal structure or enhancing labels to specify types of bonding agents used.*

Criteria	Marks	Description	Examples of Expected Responses
Suggestions for Improvement	*10*	*Offers specific, actionable suggestions that would enhance the accuracy and effectiveness of the sketches.*	*Recommends incorporating more detailed textural details to differentiate between particle board and MDF.*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

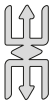
Comment on the clarity and organisation of learners' work, etc.

Refer to Teacher Assessment Manual and Toolkit pages 74 – 76 for more information on how to administer the assessment mode.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Provide suggestions and solutions when they identify issues or areas for improvement, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 16 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 17 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 17 in preparation for the next session (NTS 1c, lf).

PLC SESSION 17:

1. Components of the Vehicle Transmission System

2. The Roles of Professionals in Building Construction Projects

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 16 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 16 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 17 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 17 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 17 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **discussion** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Briefly describe a vehicle transmission system

Refer to Teacher Manual page 19 and Learner Material section four for more information on the focal area.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Criteria	Marks	Description	Examples of Expected Responses
Accuracy of Description	*10*	*Accurately describes the main components and functions of a vehicle transmission system.*	*Describes the gearbox, clutch, driveshaft, and differential, explaining how they work together to transmit power from the engine to the wheels.*
Clarity and Conciseness	*5*	*Assesses the level of detail and clarity in the sketches, including annotations and labels.*	*Comments on the clarity of the sketches, such as visible layering, clear labels for materials, and the scale of different sections.*
Constructive Criticism	*5*	*Demonstrates a clear understanding of how the transmission system affects vehicle performance and driver control.*	*Explains how different gears adjust torque and speed, allowing for efficient vehicle operation under various driving conditions.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Establish discussion guidelines or rules (let learners know what is expected of them, the content of the discussion and the format of the discussion i.e., individual, small or whole class), etc.

Refer to Teacher Assessment Manual and Toolkit pages 66–68 on discussion.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Guide learners to reflect on the discussion to check whether the learning outcomes have been achieved, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 17 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 18 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 18 in preparation for the next session (NTS 1c, lf).

PLC SESSION 18: Preparing for Mid-Semester Examination

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 17 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 17 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 18 lessons and mid-semester examination* by aligning the learning plan with Learner Material and appropriate assessment strategies.

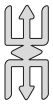
Learning Outcome

Review your learning plan for week 18 *and prepare for mid-semester examination* considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 18 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).



Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **mid-semester examination** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

***Section A**: Multiple Choice- 10 items*

What are the potential safety hazards and risks associated with illegal gas connections?

A. *Increased risk of gas leaks and potential fires*

B. *Higher utility bills*

C. *Improved system efficiency*

D. *Enhanced safety features*

***Section B**: Essay- 4 items, select 2*

Explain the function of the blowpipe.

***Section C**: Practical or Test of practical knowledge*

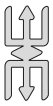
Task Description:

Using the knowledge of how to identify various tools used in electric arc welding, demonstrate knowledge and understanding of tools and equipment in electric arc welding.

Hint

i. *Refer to **Appendix E** (table of specification) for mid-semester examination*

ii. *Remind learners to complete their individual project work is due in week 19.*



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Section A:

Correct answer – A (1 mark)

Section B

a) *(Full score 5 marks) – Function description like blowpipe is used to direct a precise stream of air or gas mixture into a flame, focusing the heat for processes such as welding or glassblowing, etc.*

b) *Partially correct answer 3 marks*

c) *Incorrect answer: 0 mark*

Section C:

a) *Demonstrates setting up the welding equipment – 5 marks*

b) *Correctly positioning the electrode holder and grounding clamp – 5 marks*

c) *Wearing the helmet and gloves properly – 5 marks*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Printed text items to be answered individually by learners under supervision, etc.

Refer to Teacher Assessment Manual and Toolkit pages 16, 41 and 83 for more information on how to administer the assessment.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Teachers engage learners in post exam open forum to discuss exams questions to obtain feedback from learners, encourage learners to effect corrections, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 18 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 19 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 19 in preparation for the next session (NTS 1c, lf).

Appendix E: Table of Specification for Mid-Semester Examination

Weeks	Learning Indicator(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
10 & 13	Apply the concept of power transmission and distribution in electricity supply.	*Multiple Choice*	1	1	1	–	3
		Essay	–	–	1		1
11 & 13	Identify and explain the use of various tools and equipment for gas welding.	*Multiple Choice*	1	1	–	–	2
14&16	Explain the types of manufactured boards made from Wood and non-wood residues.	*Multiple Choice*	1	1	–	–	2
		Essay	–	1	–	–	1
14&17	Identify the components of vehicle transmission system and explain their functions.	*Multiple Choice*	1	1		–	2
		Practical	–	–	1	–	1
15&17	Describe the roles of Professionals in building Construction Projects.	*Multiple Choice*	1	1	1		3
		Essay	1	1	–	–	1
15&18	Explain the concept of electrical and electronic circuits.	*Multiple Choice*	1	1	–	–	2
		Essay		1	–	–	1
16&18	Describe various tools and equipment for electric arc welding.	*Multiple Choice*	1	1	1	–	3

PLC SESSION 19: Advantages of Manufactured Boards Over Solid Wood and the Components of the Braking System

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 18 and mid-semester examination that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 18 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 19* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 19 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 19 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **debate** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Are the advantages of using manufactured boards in construction and manufacturing industries greater than the disadvantages when compared to solid wood boards?

Refer to Teacher Manual page 42 Learner Material section five for more information on the concept.

Hint

Remind learners to complete their individual project work assigned in week 3.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

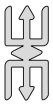
ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Criteria	Marks	Description	Examples of Expected Responses
Understanding of Material Properties	*10*	*Demonstrates a comprehensive understanding of the physical properties of both manufactured and solid wood boards.*	*Explains the density, strength, and moisture resistance of both types of boards, providing a basis for comparison.*
Advantages of Manufactured Boards	*5*	*Clearly articulates the advantages of manufactured boards over solid wood boards in specific applications.*	*Highlights advantages such as cost-effectiveness, uniformity, and availability in larger sizes than solid wood.*
Disadvantages of Manufactured Boards	*5*	*Provides a critical analysis of the disadvantages of manufactured boards when compared to solid wood boards.*	*Discusses issues such as susceptibility to moisture damage, limited repair options, and environmental concerns related to adhesives used in manufactured boards.*

Criteria	Marks	Description	Examples of Expected Responses
Balanced Argument		*Presents a balanced view that weighs both advantages and disadvantages effectively, without bias towards one side.*	*Evaluates how the benefits of manufactured boards in scalability and cost might outweigh or fall short of their environmental and durability drawbacks.*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

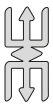
Monitor and take notes on key points that learners highlight, etc.

Refer to Teacher Assessment Manual and Toolkit pages 52 and 53 for more information on debate.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Facilitate a debriefing session (Teachers should utilise the debriefing sessions to address any misunderstandings or questions that come up from the debate. Ensure to highlight the key concepts and important lessons based on the focal area), etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 19 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 20 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 20 in preparation for the next session (NTS 1c, lf).

PLC SESSION 20: Reasons for Mobilisation and the Various Applications of Gas and Electric Arc Welding

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 19 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 19 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 20 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

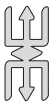
Review your learning plan for week 20 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.

2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 20 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).



Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

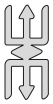
2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **checklist** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

1. ***Tick the reasons for mobilisation in building construction***	***Tick here***
To gather necessary resources and materials	
To establish a work plan and schedule	
To set up construction site facilities	
To comply with legal and safety regulations	
To coordinate the efforts of different teams	

2. ***Tick the benefits derived from mobilisation in building construction***	
Improved efficiency and time management	
Enhanced safety on the construction site	
Better resource allocation and usage	
Stronger teamwork and communication	
Increased compliance with construction standards and laws	

Refer to Teacher Manual page 51 and Learner Material section five for more information on the concept.



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

	Tick here	***Marks***
1. ***Tick the reasons for mobilisation in building construction***		
To gather necessary resources and materials	√	*1*
To establish a work plan and schedule	√	*1*
To set up construction site facilities	√	*1*
To comply with legal and safety regulations	√	*1*
To coordinate the efforts of different teams	√	*1*

	Tick here	Marks
2. ***Tick the benefits derived from mobilisation in building construction***		
Improved efficiency and time management	√	*1*
Enhanced safety on the construction site	√	*1*
Better resource allocation and usage	√	*1*
Stronger teamwork and communication	√	*1*
Increased compliance with construction standards and laws	√	*1*
Total Marks		*10*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.2 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Create a checklist, give clear instruction, and support the groups when needed, etc.

Refer to Teacher Assessment Manual and Toolkit pages 72- 74 for more information on checklist.

2.3 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Review the checklist with the class and discuss areas of confusion or mistakes, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 20 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 21 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 21 in preparation for the next session (NTS 1c, lf).

PLC SESSION 21:

1. The Principles and Operation of the Various Diodes

2. Difference between Mechanical, Hydraulic and Pneumatic Braking Systems

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 20 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 20 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for week 21 by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 21 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 21 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **project** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Apply the principles of diodes in designing circuits

Refer to Teacher Manual page 66 and Learner Material section five for more information on diodes.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

S/N	Description of the Aspect of Design	Marks
1	*Heading/Caption of the Design. Example: 'Diode Designed Project'.*	*2 marks*
2	*Project Design Brief. Example: 'Design of light using LED', 'Rectifier circuit using rectifier diodes', 'Sensor using signal diode'.*	*6 marks*
3	*Design of the Circuit for the Project. Example: Detailed circuit diagram illustrating the project layout and connections.*	*8 marks*
4	*Design Specification. Example: 'LED BULB with 4 diodes, rectifier 12v DC', etc.*	*6 marks*
5	*Construction Process. Example: Steps such as measuring the circuit, cutting components to size, assembly instructions.*	*8 marks*
6	*Total*	*30 marks*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Select resources and materials needed for the project, etc.

Refer to Teacher Assessment Manual and Toolkits pages 34-37, 77-80, 114-116, for more information on how to administer the assessment.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Offer feedback on their delivery and content on their project as they present, etc.

Hint

Remind learners to complete their portfolio assigned in week 7. Portfolio is due in week 22

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 21 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 22 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 22 in preparation for the next session (NTS 1c, lf).

PLC SESSION 22:

1. Functions of Plants and Equipment for Construction Works

2. Uses of Manufactured Boards Made from Wood and Non-wood Residues

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 21 delivered last week that:

a) went well (NTS 1a, 2c, 3e-3j and 3k-3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 21 that supported learning (NTS 1e, 1g, 2b, 2c, 3e-3j and 3k-3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 22* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 22 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 22 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

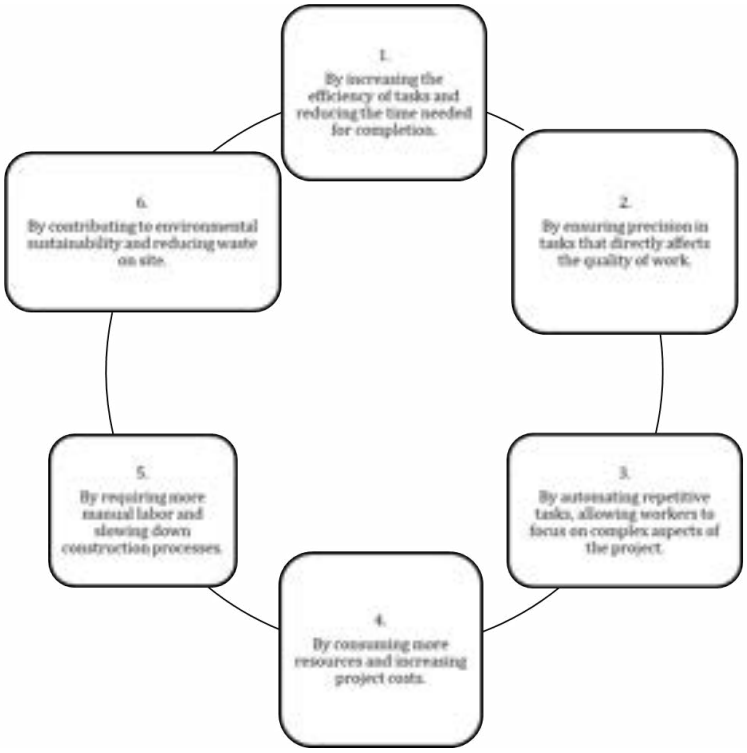
Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **gamification** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

In the race to achieve high-quality work and meet deadlines, how do plant and equipment deployed at a construction site play a crucial role? Connect the three correct answers from the options on the next page with a pen/ pencil and raise your paper (Rule: The first to raise the paper with the correct answer gets the highest points).



Refer to Teacher Manual page 84 and Learner Material section six for more information on this focal area.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Correct answers

By increasing the efficiency of tasks and reducing the time needed for completion.

By ensuring precision in tasks that directly affects the quality of work.

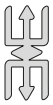
By automating repetitive tasks, allowing workers to focus on complex aspects of the project.

Criteria for scoring

Correct answer in first 30 seconds, 100 points

Correct answer in next 10 seconds, 80 points

Correct answer in next 5 seconds, 60 points



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.5 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

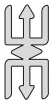
Discuss the rules of the game with learners (like the more seconds you delay, the lesser your score, even if your answer is correct), etc.

Refer to Teacher Assessment Manual and Toolkit pages 105–107 for more information on assessment strategy.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Play the game all over again with learners to see the correct answers, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 22 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 23 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 23 in preparation for the next session (NTS 1c, lf).

PLC SESSION 23:

1. Application of the Principles of Diodes in Designing Circuits

2. Advantages and Disadvantages of Gas and Electric Arc Welding

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 22 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 22 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 23* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 23 considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.

2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 23 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included *in the teacher/learner activity section of the learning plan.*

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **peer assessment** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Discuss the significance of the depletion region in a diode. Why is it important for the diode's function? Share your explanation with your peer and provide feedback on their understanding.

Refer to Teacher Manual page 99 and Learner Material section six for more information on diodes.

Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.1 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Aspect	Full Marks (5 points)	Partially Correct (3 points)	Incorrect (0 points)
Understanding of Depletion Region	*Provides an explanation of the depletion region's formation, characteristics, and physical properties.*	*Gives a basic explanation of the depletion region but lacks specific details or clarity on some characteristics.*	*Fails to accurately describe the depletion region or misunderstands its basic properties.*
Significance to Diode Function	*Explains how the depletion region affects diode function, particularly its role in allowing or blocking current flow, with technical accuracy.*	*Describes the depletion region's role in diode function but without full detail or clarity on how it blocks or allows current.*	*Incorrectly describes or does not understand the significance of the depletion region to diode function.*
Peer Interaction and Feedback	*Provides constructive feedback on a peer's explanation, enhancing understanding and identifying both strengths and areas for improvement.*	*Offers feedback that is somewhat helpful but lacks depth or specific suggestions for further improvement.*	*Provides little or no relevant feedback, or the feedback is unhelpful or off-topic.*

Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.2 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

Guide learners with special educational needs in scoring their peers through questioning, etc.

Refer to Teacher Assessment Manual and Toolkit pages 91 – 93 for more information on how to administer this assessment strategy.

2.3 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Offer help or intervention in areas learners need help, etc.

Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 23 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to:

a) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

b) read PLC Session 24 and related learner material (NTS 1b, 2c and 3b).

c) bring along your Teacher Manual, PLC Handbook and learning plan on week 24 in preparation for the next session (NTS 1c, lf).

PLC SESSION 24: Preparing for End of Semester Examination

1. Introduction (20 minutes)

1.1 Share one thing on the lesson for week 23 delivered last week that:

a) went well (NTS 1a, 2c, 3e–3j and 3k–3n).

b) you found challenging (NTS 2e, 3p).

1.2 Share your experience in conducting and/or recording the assessment for the previous week.

1.3 Share your observation on what a colleague did by way of application of lessons learned from the previous session for week 23 that supported learning (NTS 1e, 1g, 2b, 2c, 3e–3j and 3k–3m).

2. Review of Learning Plans (60 minutes)

2.1 Read the purpose, learning outcome and learning indicators for the session:

Purpose

The purpose of the session is to review the learning plan for *week 24 lessons and end of semester examination* by aligning the learning plan with Learner Material and appropriate assessment strategies.

Learning Outcome

Review your learning plan for week 24 and prepare for end of semester examination considering the cross-cutting issues (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicators

1. Review the activities in the Learner Material and identify appropriate activities based on the pedagogical approaches in the Teacher Manual that can support your lesson for the week.
2. Discuss and develop assessment tasks and rubrics/marking scheme for the learning indicators for the week.

2.2 Review the pedagogical approaches proposed for teaching week 24 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activity(ies) in your learning plan (NTS 2c, 3b).

Note

The selected activities should be included in the teacher/learner activity section of the learning plan.

2.3 Develop assessment tasks/items based on the learning indicator(s) on assessment for the week. This week's recommended mode of assessment is **end of semester examination** (NTS 2c, 3e, 3h, 3k and 3p).

E.g.

Section A *50 multiple choice questions: answer all.*

Which of the following are types of vehicle transmission systems? Select three.

A. *Manual transmission*

B. *Automatic transmission*

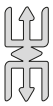
C. *Hydraulic transmission*

D. *Continuously Variable Transmission (CVT)*

E. *Electric motor drive*

Section B*: 8 essay type questions: answer 5*

Explain how inspection by the architect and the team of designers at the post- contract stage can enhance the improvement of the work.



Note

i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*

ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.1 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 2c, 3j, 3l and 3p).

E.g.

Section A *– 1mark each*

Correct Answers:

A. Manual transmission

B. Automatic transmission

D. Continuously Variable Transmission (CVT)

Section B *– 8 essay types, answer 5: 10 marks each*

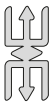
a) ***Full score (10 marks)***

Identification of inspection roles like the architect assesses aesthetic aspects and structural integrity, while the design team focuses on functional elements. Or

Describes how regular inspections ensure that the construction adheres to the original design specifications and meets quality standards, etc.

b) *Partially correct answer: 6 marks*

c) *Incorrect correct but attempted in writing, 2 marks*



Note

i. *The marking scheme and rubrics for scoring the assessment tasks/items should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/ learner activities in the learning plan.*

ii. *Take into consideration different modes of responses provided by learners.*

iii. *Discuss how you will observe and integrate character qualities, national values and 21st century skills that align with the lesson for the week and include these in your scoring.*

2.2 Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 2c, 2e, 3c, 3e, 3f and 3j).

E.g.

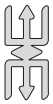
Printed text items to be answered by individual learners under supervision.

*Refer to Teacher Assessment Manual and Toolkit pages 16, 41, 83 on summative examination and **Appendix F** table of specification for end of semester two examination.*

2.3 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class (NTS 1a, 3l, 3m and 3n).

E.g.

Plenary to discuss the end of semester examination and feedback from learners on areas that need further clarification, etc.



Note

In giving feedback on assessment tasks/items, guide learners to make the necessary corrections that will improve learning.

3. Reflection (10 minutes)

3.1 Reflect and share your views on the session (NTS 1a, le and 3o)

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 24 and provide feedback on your lesson (NTS 3f, 3l, 3n and 3o).

3.3 Remember to provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l, 3m and 3n).

Appendix F: Table of Specification (End of Semester Examination)

Weeks	Learning Indicator(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
10 & 13	Apply the concept of power transmission and distribution in electricity supply.	*Multiple Choice*	1	1	1	–	3
		Essay	–	–	1		1
11 & 13	Identify and explain the use of various tools and equipment for gas welding.	*Multiple Choice*	1	1	1	–	3
14 & 16	Explain the types of manufactured boards made from Wood and non-wood residues.	*Multiple Choice*	2	1	1	–	4
		Essay	–	1	–	–	1
14 & 17	Identify the components of vehicle transmission system and explain their functions.	*Multiple Choice*	1	1	1	–	3
15 & 17	Describe the roles of Professionals in building Construction Projects.	*Multiple Choice*	2	1	1		4
		Essay		1		–	1
15 & 18	Explain the concept of electrical and electronic circuits.	*Multiple Choice*	1	1	1	–	3
		Essay		1	–	–	1
16 & 18	Describe various tools and equipment for electric arc welding.	*Multiple Choice*	2	1	1	–	4
19	1. The advantages of manufactured boards over solid wood 2. The components of braking system and their functions	*Multiple Choice*	2	1	1	–	4
		Essay	–	–	1		1
20	1. The reasons for mobilisation 2. The various applications of gas and electric arc welding	*Multiple Choice*	1 1	1 1	1 1	–	3 3
21	1. The principles and operation of the various Diodes 2. The difference between mechanical, hydraulic and pneumatic braking systems	Multiple Choice	1	1	1	–	3
		Essay	–	1	–	–	1

Weeks	Learning Indicator(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
22	1. Functions of plants and equipment for construction works 2. The uses of manufactured boards made from wood and non-wood residues	Multiple Choice	1 1	1 1	1 1	-	3 3
23	1. The principles of diodes in designing circuits 2. The advantages and disadvantages of gas and electric arc welding	Multiple Choice	2	1	1		4
		Essay		1		-	
24	The specific locations of temporal structures, services, welfare facilities and equipment at the new construction site to ensure order, safety, progress of work.	Multiple Choice	1	1	1	-	3
		Essay		1	-	-	1

Appendix 1: Structure of the Senior High School Internal Assessment and Transcript System

Introduction

This document provides details on the structure of the internal assessment and transcript system for effective implementation of the standards-based curriculum at the SHS level. The structure of the internal assessment involves a comprehensive and systematic approach to evaluating learners' performance and learning progress. The frequency of assessment is carefully planned to ensure regular and consistent monitoring, typically occurring at multiple points throughout the academic term. It is crucial to capture learner assessment scores promptly and accurately for the transcript. Therefore, guidance has been provided to ensure that each assessment is recorded in a timely manner. Effective management of the transcript system requires meticulous organisation and updated technology to handle and store data efficiently. Capacity building and training on effective internal assessment are essential for teachers, heads, assessments officers, providing them with the skills and knowledge to conduct assessments that are fair, ethical and align with learning outcomes for valid results. Engaging learners in internal school assessments fosters a sense of responsibility and self-awareness, encouraging them to take an active role in their educational journey through prompt and effective feedback.

A. Structure

Formative Assessment

This assessment may be conducted during a class period, after completing or during a practical activity, or after a teacher completes a sub-strand, strand, or a learning indicator(s). Distinct types of assessment tools can be used for Formative Assessment. These include:

- Observation during in-class activities
- Standard homework exercise for class discussion
- Question and answer sessions (formal and informal)
- Quizzes (e.g. class pop-ups)
- In-class activities and presentations (individuals and groups)
- Project work (individuals and groups)
- Practical assessments
- Field trips/Presentation of Reports

- Class assignments/Self/Peer Assessments
- Class tests
- Portfolios
- Performance assessments (roleplay, demonstration oral/aural)

Summative Assessment

Summative Assessment is conducted at the end of the learning sequence (end of semester). It records the learners' overall achievement/performance at the end of the learning sequence. The type of tools used may include:

- Mid-Semester examination
- End of Semester examination
- Project work/Portfolio/Research/Practical assessments

TABLE 1: *Proposed Structure, assessment activities and marks distribution*

	Mode of Assessment	Contribution/ Weight	Submission per Year
1	Class Assessments (e.g., Classwork, Quizzes, Homework, Debate, Presentation, Drama & Roleplay, Case Study)	10 %	2
2	Mid-Semester Examination (Assessment/Project/ Research)	10%	2
3	Practical or Portfolio or Performance Assessment (Individual)	10 %	1
4	Group Projects, Research, or Case Studies, Practical/Lab work, Workshops, Performances, Presentations (Out of Class)	10 %	1
5	Individual Projects, Research, or Case Studies, Practical/Lab work, Workshops, Performances, Presentations (Out of Class)	20%	1
6	Supervised Individual Semester Assessment/Project/ Research/End of Semester Exam	40 %	2
	Total	100 %	9

Note

Character Qualities/National, Values, 21st Century Skills: Teachers should make a conscious effort to observe these soft skills as learners go about their activities in the class, take notes, and award marks appropriately. Assessment of these skills should be deliberately embedded in the various modes of assessment outlined in the table above.

B. Frequency of Assessment

Table 2 provides a suggested schedule of internal assessment for SHS. It is important to note that whilst assessments should comply with the specific learning outcomes of the subject area, they should cover the 21st century skills and competencies, GESI, SEL and National values as espoused in the TAMT using diversity in assessment modes as suggested in Table 1. Teachers may increase the frequency of assessments using other assessment strategies. The schedules presented should serve as **milestones** for schools to comply with.

Table 2: *Suggested schedules of internal assessment for SHS*

	Semester One													
SN	**Modes of Assessment**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	Individual Class Assessment(s)														
2	Practical or Portfolio** or Performance Assessments (Individual)														
3	Group Projects, Research or Case Studies (out of class)														
4	Supervised Individual Semester Assessment														

	Semester Two													
SN	**Modes of Assessment**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
5	Individual Class Assessment(s)														
6	Group work or Exercises														
7	Practical or Portfolio or Performance Assessments (Individual)														
8	Individual Project work or Research or Case Study														
9	Supervised Individual Semester Assessment														

Notes: How and when to capture learner assessment scores for the Transcript.

1. **Individual Class Assessment:** This can include individual classwork. This assessment can begin before week 4, but the evaluation scores should be ready by weeks 4 and 18.
2. **Individual Practical/Performance Assessment:** This form of assessment should include orientation of learners at the beginning to provide enough information concerning the deliverables, progress review, and feedback processes. The

assessment score should be ready by the end of weeks 5 through 10, and 15 through 22.

3. **Group Projects/ Research/Case Studies:** Learners should be grouped to work on a common project, case study or research-based problem. The learners should be given orientation concerning the rubrics and ethical or professional conduct concerning the assessment. The problems, projects, research assignments, or case studies should be related to the learners' environment. The assessment score should be ready by week 10.
4. **Supervised Individual Semester Assessment:** This may be a written examination or project work. It must be noted that regardless of the mode of assessment, there should be supervision throughout. This assessment should be completed by weeks 13/14 and 27/28.
5. **Individual Project Work/Research/Case Study:** This can include mini-design assignments, investigative or case studies or research-based assignments. The assessment score should be ready by week 24.

Assessments should cover the scope of the 21st century skills and competencies, GESI, SEL and national values espoused in the TAMT. Table 3 gives examples of the scope. Refer to the TAMT for a comprehensive list of the scope.

Table 3: *Examples of 21st Century skills and competencies, GESI, SEL and National Values to be covered by scope of assessment*

21st Century Skills & Competencies	GESI & SEL	National Values
• Critical Thinking and Problem Solving • Creativity • Innovation • Collaboration • Communication • Global and Local Citizenship • Learning for life • Leadership • Analytic skills • Digital Literacy	• Gender Equality and Social Inclusion • Self-Awareness • Self-Management • Social Awareness • Relationship Skills • Responsible Decision Making • Tolerance	• Respect • Truth and Integrity • Tolerance • Respect • Equity • Communality • Appreciation • Stewardship • Time Management

Table 4 shows the recommended assessment strategies for the scope in Table 3.

Table 4: *Recommended assessment strategies for 21st century skills and competencies*

21st Century Skills & Competencies	Assessment Strategies
Critical Thinking, Problem Solving, Analytical skills	• Debates • Analysis of Case Studies based on learners' environment. • Research & Project work. • Objective and Essay type questions/items
Creativity and Innovation	• Individual and group projects • Analysis of Case Studies based on learners' environment. • Design & product creation to solve societal problems
Communication and Collaboration	• Debates • Group projects. • Presentations • Drama & Role play
Global and Local Citizenship	• Research & Project work. • Analysis of Case Studies based on cultural and global issues
Leadership and learning for life	• Individual and Group projects • Presentations
Digital Literacy	• Research & Project work. • Presentations using ICT tools. • Individual and group projects

The TAMT details the rubrics for the assessment strategies suggested in Table 3. A combination of the assessment strategies could provide diversity and ensure that the assessment scope is effectively covered during formative and summative assessments. It is important to note that the GESI, SEL and National values espoused in the TAMT should be incorporated into the assessment strategies.

C. Learner Involvement

What should learners contribute?

Learners' involvement in the internal assessment processes in schools offers valuable insights into how the learner perceives and experiences of the assessment process. This engagement process grants learners the opportunity to explain areas of confusion, frustration, or unfairness, and these help teachers refine their assessment approaches.

Again, learner involvement fosters communication between teachers and students. This can help clarify expectations, address concerns, and create a more positive learning environment.

When to involve learners

As part of the initial needs assessment for teacher training, gather learner input on areas needing improvement in the Internal Assessment Score (IAS) process. This helps to incorporate learner feedback in developing appropriate teacher training materials.

How should learners be involved?

Teachers should organise focus group sessions, to gather learner feedback on past assessments. This feedback can be used to inform future training sessions for teachers. e.g., Mock assessments and Co-creation of rubric.

Guide learners on the learning outcome expected. Involve them in the development of the assessment rubrics, and checklists to evaluate their progress and identify areas for improvement. Learners would demonstrate respect for diverse perspectives and the ability to work cooperatively with others.

Reflection

Integrate reflective activities such as journaling or discussions where students can analyse their learning experiences and identify areas for growth.

By actively involving teachers and learners in the SBA process, we create a dynamic learning environment. This empowers students to take ownership of their learning journey while equipping teachers with the tools to effectively guide and assess student progress.

Transparency and Setting Goals

At the beginning of a lesson, communicate clearly, the assessment criteria to the learners using appropriate language and structure. Present the information in an organised and coherent manner.

Self-assessment

Incorporate opportunities for self-assessment throughout the learning process. Learners can use rubrics or checklists to evaluate their progress and identify areas for improvement. Learners would demonstrate respect for diverse perspectives and the ability to work cooperatively with others.

Goal Setting

Encourage learners to set achievable learning goals aligned with the assessment criteria. This empowers them to take ownership of their learning journey.

Peer Assessment

Strategically incorporate peer assessment activities where students evaluate each other's work based on established criteria. This fosters critical thinking and collaboration skills.

Student-led presentations or projects

Provide opportunities for students to display their learning through presentations or projects. This allows them to develop communication and presentation skills.

By actively involving teachers and learners in the SBA process, we create a dynamic learning environment. This empowers students to take ownership of their learning journey while equipping teachers with the tools to effectively guide and assess student progress.

D. Feedback Mechanism

A feedback mechanism is a systematic approach for providing learners with information about their performance. This information helps them understand their strengths, identify areas for improvement, and achieve their learning goals. In the multi-subject environment of senior high school, timely and constructive feedback is crucial.

Timely means that feedback is provided soon enough for learners to act upon it after each assessment. Here are suggested general timelines to consider for the following types of assessments:

Type of Assessment	Expected Timeline for Feedback
Individual class assessments (mostly written)	1–3 days
Group assignments	1 week, with interim check-ins for assignments over extended periods of time.
Project work/Semester paper/End of Semester examinations	After key milestones and a final comprehensive review upon completion

For feedback to be constructive, it should focus on the task and not the learner's personality. It should be specific, actionable, and delivered in a way that motivates improvement.

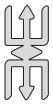
In providing feedback, use the sandwich method (CCC), which starts with a positive aspect of the work (***compliment***), followed by constructive criticism (***correction***), and concludes with another positive note (***compliment***). To set the stage for effective feedback, clearly communicate the learning objectives, expectations, and scoring rubrics before any assessment.

Learners must maintain an "assessment portfolio" where they compile all their assignments, reports, and feedback. Parents and other stakeholders review this portfolio during open days, parent-teacher meetings, or monitoring activities.

Feedback can be delivered using different methods after the assessment is done and marked. The choice of delivery should be guided by best practices and constraints that may exist, such as available time and class sizes. The following are some delivery methods to consider:

- **Whole Class Feedback:** The teacher facilitates a discussion about the assessment with all the learners. During the discussion, the teacher should highlight common strengths and weaknesses, provide clarifications, and share best practices.

- **Individual Feedback:** The teacher gives learners personalised (one-on-one) guidance or written comments. Provide ***prompts to guide learners*** to self-correct their wrong responses.



Note

Provide checklists or rubrics that learners can use to assess their own work before submitting it. This helps them independently identify errors and make the necessary adjustments.

- **Group Feedback:** The teacher groups learners facing similar challenges for targeted instruction and provides them with feedback.
- **Peer Review Feedback:** The teacher allows learners to learn from one another by giving constructive feedback to peers.
- **Self-Reflection:** After receiving feedback, the teacher should encourage learners to analyse their work, identify areas for improvement, and set goals using rubrics as a guide.
- **External Feedback:** In specific cases, the teacher should consider feedback from subject experts, teachers from other institutions, parents, and other stakeholders.

Regardless of the chosen feedback mechanism, note that self-reflection is essential. This allows learners to internalise feedback, set personal targets for improvement, and develop a growth mindset. Following the feedback, teachers are to provide opportunities for learners to correct mistakes through targeted exercises and reassessments.

By implementing these feedback strategies, teachers can empower senior high school learners to become active participants in their learning journey.

E. Transcript System

Effective data management is crucial for informed decision-making in today's dynamic educational landscape. The computerised transcript system achieves this purpose by offering second-cycle institutions with a comprehensive record of learner performance. The transcript system is a centralised repository for learner information. It gathers key details such as learner profiles, semester information, subjects taken with their respective scores (including continuous assessments and end-of-semester exams), credits, grades, semester, and overall Grade Point Averages (GPAs). Additionally, a dedicated section captures brief descriptions of learners' character qualities at the end of each semester.

There should be at least three individual class assessments, at least one group work and at least one project work.

Appendix 2: Excerpts from The Teacher Assessment Manual and Toolkit

A. Principles of Effective Assessment

As a process of determining the nature and extent of learning and development among learners, it is important to ensure that the assessment process meets the following principles:

1. Validity
2. Reliability
3. Fairness and ethics
4. Transparency
5. Inclusivity
6. Practicability
7. Assessment utility

Developing a valid assessment (Validity of Assessment Results)

To ensure that assessment scores or results are useful and interpreted appropriately, the teacher should:

i. Clearly state the purpose of the assessment (e.g., what the test will be used for).
ii. Create a learning and assessment plan (i.e., table of test specification tots)
iii. Write assessment items or tasks that measure important learning outcomes of the curriculum (e.g., Skills, competencies, collaborative efforts, and lifelong learning).
iv. Clearly define the performance criteria or standards/schemes/rubrics (i.e., define the specific knowledge, skill or behaviour that learners should demonstrate
v. Score or grade assessment task based on the performance criteria to avoid biases, stereotyping, among others.
vi. Ensure that the content of the assessment aligns closely with the defined criteria (thus, the assessment questions, tasks, or activities should directly measure what they want to assess).
vii. Interpret the assessment results based on the purpose and the performance criteria.

Reliability (Consistency of Assessment Results)

In assessment, consistent standards of teacher assessment and fairness are important goals to aim for. The 'connoisseur' approach to assessment; that is, 'I know it when I see it, but I can't put it into words' is not acceptable. Reliable results must be dependable for decision making.

For an Assessment result to be reliable, the teacher should:

i. Clearly identify the learning outcomes to be assessed.

ii. Give learners work or completed assessment tasks and activities to other teacher(s) to review.

iii. Use multiple assessment strategies to measure the same or similar learning outcomes (e.g., giving the tasks or items of a class exercise as another class exercise or homework or group project) or using different item formats to assess learning outcomes.

iv. Prepare scoring rubrics or marking schemes with specific weighting (marks)

v. allocated to the items and use it consistently.

vi. Give rubrics of tasks/activities in the case of performance or practical assessment ahead of time.

vii. Ensure that the load or the length of the tasks are appropriate to the level of the learner (e.g., 25 minutes for 20 items; a project for a week or the term/ semester).

viii. Administer assessment in a conducive environment that minimise disruption (e.g., noise, lightening, ventilation, among others) and devoid of any cheating.

Fairness and Ethics

Assessment strategies should give learners equitable opportunity to demonstrate what they know and can do taking into consideration their ability, learning styles, gender, special educational needs (SEN), among others. The teacher should:

i. Ensure that the assessment tasks/activities align with the learning outcomes and content covered in class.

ii. Use different forms of assessment tasks to assess learning outcomes (e.g., oral assessment, class exercises, class tests, homework, assignments, written tests, projects, and practical demonstrations as well as the end-of-term/ semester assessment).

iii. Provide clear and detailed instructions to learners about the assessment's format, expectations, and criteria for evaluation.

iv. Identify learners with SEN and make the necessary adaptation by providing extra time, alternative formats and other necessary accommodations.

v. Avoid using culturally biased or discriminatory content, unfamiliar words, questioning, or examples in assessments.

vi. Communicate the assessment plan in advance. For example, date, time, location, and any other relevant logistics.

Transparency

Transparency in assessment refers to making the assessment process and criteria clear and understandable to learners. The teacher should:

i. Make learners aware of the demand of the assessment tasks.
ii. Share performance criteria and indicate what will constitute the pass mark.
iii. Readily share assessment results with the appropriate stakeholders (learners, parents/guidance, teachers).
iv. Provide opportunity for leaners to seek review and redress.
v. Share the learning outcomes the assessment is designed to measure with learners.
vi. be ready to share assessment criteria or rubrics when the need arises.

Inclusivity

Inclusivity in assessment will allow teachers to create assessment practices that are fair and accessible to ALL learners (GESI, SEL and SEN).

The teacher should:

i. Familiarise with the section of inclusivity on the national pre-tertiary learning and assessment framework (NPLAF, page 32).
ii. Select assessment strategies that are appropriate for different learning needs.
iii. Assign workload in connection with the developmental and learning needs of learners.
iv. Work with special education experts in the school system to adapt and accommodate assessment to the needs of all learners (i.e., extra time, alternative formats, or other necessary accommodations should be available).
v. Make use of different formats (braille, oral translation, text-to-speech, ai, sign language interpretation and other assistive technology forms).
vi. Develop rubrics that are inclusive (taking into consideration grammar, vocabulary, handwriting, presentation of ideas).

Practicability

For assessment strategies or processes to be feasible, convenient, efficient and successful. The teacher should:

i. Ensure that appropriate and adequate assessment materials, resources and security are available.
ii. Consider appropriate assessment format to match the learning outcome(s), class size, age and ability levels.
iii. Consider the time available to develop, administer, score and give constructive feedback.

Assessment Utility (utilisation and benefits)

To enhance the usefulness and practical value of assessment tasks/activities, the teacher should:

i. Clearly state the intended use of the assessment results.
ii. Identify the essential learning outcome(s) to be covered in the assessment.
iii. Construct assessment tasks/activities that are well aligned to real-life situations.
iv. Select and allocate the appropriate resources for the assessment activities.
v. Provide constructive feedback to learners on their performances.
vi. Provide credible information that are useful to learners and other stakeholders (teachers, parent/guardians).
vii. Weigh and indicate the benefits and the cost of the assessment strategies
viii. to be used.
ix. Justify the selection of a particular assessment format over the others (objective-type, essay, project, portfolio, demonstration, etc.).

B. Ethical considerations in Assessment

1. Designing and Developing the Assessment

i. Identify the specific learning outcome(s) to be assessed.
ii. State clearly the purpose of the assessment(s).
iii. Specify the content area (i.e. Content Standards and/or Indicators) to be assessed and align them to the learning outcome(s).
iv. Select appropriate format or strategy that should be in line with the learner's characteristics, learning outcome(s) and resources.
v. Design different versions (differentiated assessment) of the assessment including the use of alternative strategies of assessment.
vi. Avoid biassed assessment tasks (e.g., task favouring a group of learners such as males among others).
vii. Avoid using unfamiliar language and materials in writing the assessment tasks.
viii. Adapt different versions to suit the needs of all learners. For example, make provision for learners with visual impairment by enlarging the font sizes of the assessment instrument and providing braille versions.
ix. Develop the marking scheme/ scoring rubrics when developing the assessment task.
x. Include mark allocation on the individual questions that are given when necessary.
xi. Ensure that the assessment task is stored securely.
xii. Provide clear direction for administration of the assessments.
xiii. Consider logistics.

2. Administering the Assessment

i. Communicate the assessment nature/structure/format, time, content coverage and location of the assessment tasks clearly to learners.

ii. Ensure the setting is suitable and conducive for the assessment (e.g., lighting, ventilation, less noise among others).

iii. For learners with SEN establish rapport and communicate in simple and clear language. Provide alternative settings for learners with SEN to meet their specific needs. (e.g., providing individualised accommodations such as writing the assessment in a separate room).

iv. Provide needed logistics (e.g., answer booklets, first aid, pens and pencils among others) for the assessment task.

v. For learners with SEN make room for the use of translators, assistive devices such as hearing aids, braille, computers, recorders, and other technologies that are relevant to their needs.

vi. Administer assessments within appropriate time limits to enhance validity and to minimise the chance for cheating. Provide additional time for learners with SEN.

vii. For learners with SEN, make room for varied modes such as oral, written, the use of a computer (text-to-speech and speech-to-text) among others.

viii. Avoid anxiety, intimidating language, and unnecessary announcements.

ix. Provide learners with anonymous identifiers and codes instead of names to enhance reliability and validity.

x. In the case of practical/performance assessments, share rubrics and marking schemes with learners.

xi. Ensure controlled and supervised distribution of assessment materials to avoid leaks or unauthorised sharing.

3. Scoring the Assessment

i. Consistently make use of the marking scheme/ scoring rubrics.

ii. Ensure multiple ratings or scoring/grading are done where necessary (e.g., for essay-type questions, practical/performance assessment).

iii. Focus on the content (i.e., what is being assessed) instead of handwriting, spelling, punctuations, concord, and vocabulary when scoring.

iv. For learners with SEN considerations should be made for vocabulary, spelling, and grammar especially in the English language.

v. Provide opportunity for remarking, review, or redress where necessary.

vi. Record the actual scores/grades of learners as a reflection of their performance. Do not add or subtract marks based on personal influences.

vii. Keep assessment results of the learners safe (either manually or digitally).

viii. Consider the use of professional scorers, judges, or raters in the case of External Assessments.

4. Reporting and Feedback in Assessment

i. Ensure that the learner is aware of those who will be receiving the report.

ii. Communicate results to authorised persons such as parents/guardians and other teachers.

iii. Seek permission (informed consent) from the learner or parent/guardian if a third party may be involved.

iv. Ensure that the true performance of the learner is reported (do not manipulate or distort the results).

v. Present assessment results without stereotyping or biases.

vi. Use language and terminology that is respectful and GESI responsive when reporting reports.

vii. Provide clear and meaningful interpretation of the assessment results.

viii. Adhere to legal requirements, ethical guidelines and institutional policies governing the reporting of assessment results.

5. Feedback

i. Provide constructive feedback timely and promptly.

ii. Emphasise the learner's strengths and opportunities for improvement rather than focusing solely on weaknesses.

iii. Ensure that the feedback given to the learner, parents/guardians and other teachers reflects the performance of the learner.

iv. Consider and adjust the mode of providing feedback to suit the needs of learners (consider GESI and SEN issues).

v. Provide feedback based on the assessment criteria and not on personal influence.

vi. Avoid displaying and announcing learners' performance unofficially.

vii. Create opportunities for learners to readily access their results through creation of portals, portfolios and files for individual learners and other stakeholders.

viii. Ensure collaborative assessment by sharing and taking the learner's information.

ix. Create opportunities for learners to reflect on their own assessment results and learning.

x. Give written comments to learners in formative assessment to help the learner track their errors and make the necessary corrections.

6. Interpreting and Using the Assessment Results

i. Provide clear and detailed criteria including criterion/pass mark for interpreting the assessment results.

ii. Avoid biases in interpreting the assessment results. Ensure result interpretation is not influenced by gender, religion, ethnicity, personal liking among others.

iii. Use simple and clear language in the interpretation of the assessment results.

iv. Interpret assessment results based on evidence and sound assessment practices.

v. Ensure that the interpretation of the results accurately reflects the learner's ability, skills, competencies and knowledge.

vi. Ensure the learner is aware of the assessment process and the consequence of the results.

vii. Ensure assessment results are used for their INTENDED PURPOSE, aligning with the learning outcomes.

viii. Seek the consent of the learner and parents/guardians before using the assessment results for any purpose.

ix. Ensure that assessment informs the teaching and learning process in a fair and unbiased manner and provide remediation where necessary.

x. Ensure that assessment results are confidentially kept and only shared with relevant stakeholders, such as the learner, parents/guardians, and school administrators.

xi. Avoid using assessment results to label (name-calling), stereotype and discriminate among learners.

xii. Ensure that results are stored and used in a secured manner.

xiii. Avoid discussing the learner's results and performance unofficially with others (e.g., with other teachers, staff, learners and among others).

C. Differentiated Assessment

Differentiated assessment adapts strategies to diverse learning needs, strengths, and interests of all learners. Teachers tailor assessments to accommodate varying levels of readiness, learning styles, and preferences that ensure that all learners have equitable opportunities to demonstrate their understanding and skills.

To implement differentiated assessment, teachers should consider the following:

i. *Varied assessment formats:* provide a range of assessment options, such as written assignments, oral presentations, projects, or multimedia presentations. This allows learners to exhibit their knowledge and skills using formats that align with their abilities and strengths.

ii. *Flexible deadlines:* give learners the opportunity to complete assessments within a flexible timeframe. This considers different learning paces and allows learners to manage their time appropriately.

iii. *Varying tasks:* Vary levels of difficulty for assessment tasks, allowing learners to choose the one that best suits their needs and challenges them appropriately.

iv. *Accommodations:* Provide necessary accommodations for learners with unique learning needs, such as extended time, modified formats, or additional resources to support their assessment process.

v. *Individualised feedback:* Provide individualised and constructive feedback that addresses the learner-specific needs and areas for improvement. Tailoring feedback to specific standards and learning outcomes can help learners understand their strengths and areas for improvement.

vi. *Learner involvement:* Involve learners in the assessment process by encouraging self-reflection, self-assessment, and goal setting. Engaging learners in dialogue about their learning and assessment promotes

D. Guidelines on how to Construct Multiple Choice Questions (attachment)

1. Clearly define the purpose of the test/assessment
2. Define the learning outcome (i.e. knowledge, comprehension, skills, or competencies) you want learners to demonstrate through MCQs.
3. Prepare a table of test specifications or blueprints.
    i. List topics and subtopics covered during the instructional period
    ii. Distribute the number of test items among course content and instructional objectives or behaviours.
4. Write the test items (note: it should match the content and DoK levels stated in the table of test specification).
    i. The central issue of the items should be in the question statement (stem).
    ii. The options should be plausible and homogeneous in content.
    iii. All options must follow syntax and punctuation rules.
    iv. Repetition of words in the options should be avoided.
    v. Vary the placement of the correct option (appropriately, arrange options in alphabetical order, ascending or descending or in order of magnitude if using numbers or dates).
    vi. Stems and options should be stated positively. However, a negative stem could be used sparingly, and the word should be emphasized either by underlining it or writing it in capital form (e.g. **not,** NOT, not**; except**, EXCEPT, except).
5. Write clear directions/instructions. (e.g. Answer All Questions. All questions carry equal marks, Select/Choose from the alternative lettered A-D the correct answer).
6. Review the test items (go through items again after construction i.e. after a few days to week).
7. Prepare scoring key (scoring keys should be prepared concurrently with item construction).

E. Common Assessment Used in the Classroom

Class Exercise As An Assessment Strategy

Description: Class exercise as an assessment strategy are tasks designed to evaluate learner's understanding, knowledge, and skills related to a particular subject to gauge how well learners are grasping a content being taught.

Teachers should mainly use class exercises for formative purposes to assess learners across all subject areas, which can take various forms, such as quizzes, problem-solving tasks, group discussions, reflective questions, case studies, question and answer and practical activities, performance, observation, checklist/rubrics and demonstration providing valuable insights into the learning process.

Purpose: Class exercises can be used to:

i. Help identify learning gaps in comprehension, retention, application of knowledge, values and attitudes.
ii. Allow for immediate feedback and clarification of concepts.
iii. Encourage active participation of learners for deeper understanding.
iv. Modify teaching and learning techniques, strategies, and resources based on learning outcomes.
v. Gradually build learners performance in a lesson over time to reduce summative test anxiety.
vi. Help identify learners who may require special educational support.
vii. Accommodate different learning styles and abilities, including group work and multiple representations for learners with special educational needs.

Settings

i. Classroom
ii. Laboratory/Workshops/Resource Centres/Libraries
iii. Studios
iv. Field (school park/garden or community spaces)
v. Online learning platforms/Virtual classrooms e.g. Zoom, Class WhatsApp pages, Google classrooms.

Time frame: Class exercises often take place in a lesson and may be conducted before, during and after a lesson depending on the learning outcome and the duration of the lesson.

Class size: Class exercises may be conducted for learners either individually, as a group or whole class.

Steps

Before

The teacher should:

i. Define the learning outcomes.

ii. Design exercises using simple and clear language.

iii. Select relevant exercises based on nature of the class exercise and desired skills/ knowledge to be attained. E.g. quizzes, case studies etc.

iv. Develop and discuss assessment criteria with learners.

v. Set a reasonable time frame for completion of exercises to maintain focus and efficiency.

vi. Clearly communicate instructions, including format, length, and resources.

The learner should:

i. Read and understand instructions to ensure a thorough understanding of the exercise provided.

ii. Collect all available required resources and tools for the task/exercise.

During

The teacher should:

i. Assign task/exercise based on the learning outcome as well as learners with special needs.

ii. Walk around the classroom and observe learners as they work on the exercise.

The learner should:

i. Organise and set up their work area to facilitate a smooth workflow.

ii. Plan how to approach the exercise, considering instructions and steps or techniques to employ.

iii. Commence class exercise timely and promptly to work within the given time for completion of the task.

After

The teacher should:

i. Evaluate the assessment outcome based on the assessment criteria with the learners.

ii. Provide constructive feedback for learners' performance for discussions.

NB: Teachers should pay attention to learners with special educational needs.

Reflect and modify teaching and learning strategies and resources based on feedback received.

The learner should:

i. Reflect, self and peer assess their exercises and provide constructive feedback.
ii. Use the feedback to improve on their work/exercises.

Homework As An Assessment Strategy

Description: Homework or assignments as an assessment strategy involve the use of structured tasks or projects that learners complete outside of regular class time to evaluate their understanding, knowledge and skills gained in a specific learning outcome. This assessment strategy can take various forms, such as written assignments, projects, research papers, problem sets, essays, or creative tasks.

Some concepts that can be assessed using homework/ assignments include menu planning and recipe development, problem solving exercises in mathematics, hands-on experiments and observations, creative writing assignments and art projects, map development and application of GIS in locating places.

Purpose: The key purposes of using homework/assignment as an assessment strategy by the teacher include:

i. Assessment of Understanding
ii. Application of Knowledge
iii. Reinforcement of Learning
iv. Independent Study
v. Provision of valuable feedback
vi. Skill Development
vii. Assessment of Diverse Abilities

Settings

i. Classroom
ii. Field work
iii. Online platforms
iv. Home

Class Size: Depending on the intended learning outcomes, assignments/ homework can be structured for either:

i. Small class sizes
ii. Large class sizes

Time Frame: The time frame for conducting assignments can be adjusted based on the desired learning outcomes and the complexity of the task.

i. Short-term Assignments (Daily or nightly homework and weekly assignments)
ii. Medium-term Assignments (Bi-weekly or monthly assignments)

iii. Long-term Assignments (Semester/ term-long assignments)

Steps

Before

The teachers should:

i. Clearly define the learning outcomes intended to be achieved
ii. Design/ Create a well-structured assignment with clear instructions and expectations.
iii. Adapt to the needs of diverse learners especially those with special needs
iv. Provide Resources such as textbooks, online materials, or reference materials, to support learners in completing the assignment successfully.

During

The teachers should:

i. Keep track of learners' progress on the assignment.
ii. Be available to answer questions and provide clarification during the assignment phase.
iii. Provide formative feedback and guidance to help students improve their work.
iv. Teach learners how to properly cite sources and use information ethically/ avoid plagiarism.

The learner should:

i. Seek clarification about the task from teachers or peers where necessary
ii. Actively work on the homework, focusing on comprehension
iii. Manage their time effectively
iv. Learners can reach out to their parents/guardians, peers, or online resources for guidance and clarification in responding to the tasks

After

The teacher should:

i. Evaluate the completed assignments using clear and consistent grading criteria
ii. Analyse student performance to identify common strengths and areas for improvement.
iii. Discuss feedback with learners
iv. Reflect on the outcomes of the assignment.
v. Share the results of the assignment with learners
vi. Acknowledge and celebrate learners' achievements to boost motivation and self-esteem.

The learner should:

i. Review their work to identify errors or areas for improvement.
ii. Reflect on what they have learned
iii. Bring up questions that were confusing for class discussion.
iv. Use feedback to learn from their mistakes and improve performance.

Discussion As An Assessment Strategy

Description: Discussion is a formative assessment strategy that involves using verbal communication and group interaction to assess learners' understanding, knowledge, and skills. The teacher is to observe and assess learners' contributions, ability to analyse and synthesise information, and provide feedback based on their performance. It can be used for both formative and summative assessments.

Discussion can be used in all subject areas of the secondary education curriculum depending on the purpose of the assessment and learning outcomes under consideration.

Purpose: The following are the purposes of discussion as an assessment strategy:

i. Build knowledge and develop a learner's critical and creative thinking.
ii. Develop learners' communication skills.
iii. Increase the depth of the learner's understanding and eliminate misconceptions.
iv. Engage learners in active participation in the lesson.

Setting

i. A classroom
ii. Small groups
iii. Seminars
iv. Online learning platforms (virtual classroom and discussion forum)
v. Fieldwork

Time frame: Appropriately, discussion as an assessment strategy can last for a lesson depending on the learning outcomes and learning indicator.

Class size: The class sizes appropriate for discussion as an assessment strategy can vary from small class to large/whole class.

Steps

Before

The teacher should:

i. Determine the learning outcomes to be assessed.
ii. Specify the content to be learnt that aligns with the learning outcome.
iii. Give prepared questions to guide the discussion (i.e., make use of open- ended questions, adaptive to the diverse/abilities of learners)

iv. Establish discussion guidelines or rules (let learners know what is expected of them, the content of the discussion and the format of the discussion i.e., individual, small or whole class)

The learner should:

i. Read any assigned readings, watch videos, or engage with other course materials related to the discussion topic.

ii. Take notes while reviewing the materials on important concepts, arguments, or evidence.

iii. Reflect on their own experiences, prior knowledge, or relevant examples that relate to the discussion topic.

iv. Seek clarification if needed.

During

The teacher should:

i. Start and facilitate the discussion (ensure that all learners could participate and encourage learners to engage in critical thinking and reflective thinking).

ii. Monitor and assess learner's participation (encourage self and peer assessment).

iii. Provide constructive feedback on learners' responses and contributions. NB. Teachers are advised to manage all learners' responses and accommodate them but must be fair and ethical.

The learner should:

i. Pay attention, maintain eye contact, and be open to different viewpoints and contributions from mates.

ii. Share their own unique perspectives, insights, and experiences related to the discussion topic.

iii. Take notes during the discussion to capture key points, new understanding, or questions that arise.

iv. Ask follow-up questions, seek clarification, or offer alternatives or suggestions respectfully.

After

The teacher and the learners reflect on the discussion in relationship to the expected learning outcomes to check whether the learning outcomes have been achieved.

Case Study As An Assessment Strategy

Description: A case study can be used as an assessment and or pedagogical strategy. Usually, it is used as an assessment strategy to examine a learner's ability to apply acquired knowledge, skills and experiences by carefully investigating a particular circumstance or scenario to provide solutions to real-life situations. Usually, it will have the following components:

1. Theme
2. Case description
3. Study of the case
4. Class Discussions
5. Conclusion and reflection

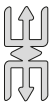
Types of case studies

i. Descriptive case studies: The teacher should ask learners to analyse and explain the key features and characteristics of the case.

ii. Explanatory case studies: The teacher should ask learners to give detailed information on the case by identifying and explaining the factors that contributed to the situation.

iii. Exploratory case reports: The teacher should ask learners to gather information, analyse data, and draw conclusions about a topic where limited information is available

iv. Cumulative case studies: The teacher should encourage learners to synthesise and integrate their learning across different subjects



Note

Any of these can be done individually or as a group depending on the class size. For large class sizes, a group of 3 to 5 members should be used.

Purpose: The purpose of a case study is for learners to apply acquired knowledge, concepts and theories to solve real-life situations. What should the teacher consider before using a case study as an assessment strategy?

i. The complexity of the content standard

ii. The availability of resources

iii. Ability level of learners

iv. Time

v. Class size

Steps: To ensure a well-structured and quality case study, it is important for the teacher to consider the following:

Before

The teacher should:

i. Clearly define the learning outcomes to be assessed.

ii. Identify appropriate issues or cases to be investigated.

iii. Determine the format of the case study (e.g., written document, a multimedia presentation, a video, or a combination of these), depending on the resources available.

iv. In form the learner on what to do, time frame, and expectations.
v. Provide materials (i.e., text, videos, pictures etc.) for the case study discussion.
vi. Develop and provide a clear scoring rubric that outlines or defines quality
vii. work to learners.

During

The teacher should:

i. Create and maintain a sound environment for the case study discussion.
ii. Bring the whole class together and invite each group to share their findings,
iii. solutions, or recommendations.
iv. Ask open-ended questions on the issue of discussion to clarify any misconception.
v. Incorporate peer assessment or peer grading as part of the process.

After

The teacher should:

i. Provide constructive feedback on learners' responses.
ii. Ask the learners to reflect on their learning process, such as what they learned, what they found difficult, or what they would do differently.
iii. Summarise the main points and lessons learned from the case study and link them to the learning outcomes and content.

Ethical Considerations: In the use of case study as an assessment strategy, the teacher should:

i. Discuss ethical considerations with learners, especially in cases that involve sensitive or potentially controversial topics (e.g., gender, cultural, social, emotional, political and religious issues) when selecting and discussing a case.

Documentation and Record-Keeping: The teacher should keep records of assessments and learners' submissions to maintain transparency and fairness (e.g., portfolio)

Portfolio Assessment- General

Description: A portfolio assessment is an evaluative tool to measure learners' understanding in a comprehensive manner, looking at the overall progress instead of individual marks from tests and quizzes.

Purpose: Portfolio assessment is used to establish various cognitive achievements as well as practical competencies. Portfolio assessment could be used for the different levels of Depth of Knowledge (Levels 1 – 4). It helps teachers identify areas where the learner may need additional support or resources to improve learning and provide a wide variety of learners' mastery of a particular standard and growth over a defined time.

Types of Portfolio Assessments: A portfolio is a systematic collection of learners' work that represents learner's activities, actions, and achievements over a specific period in one or more areas of the curriculum. There are three main types of portfolios:

1. Assessment Portfolios
2. Teaching and Learning or Working portfolios
3. Showcase portfolios

Assessment Portfolios

Assessment portfolios, also known as evaluative portfolios, contain work that has been evaluated according to set standards or criteria. These portfolios demonstrate a learner's ability to meet specific learning standards. They often contain rubrics, test results, learner reflections, teacher's notes, and graded assignments. For instance, in a science class, an assessment portfolio may contain lab reports, results from class tests, assessed projects, and the learner's reflection on their learning throughout the term/semester/year.

Teaching and Learning or Working Portfolios

Teaching and learning or working portfolios are formative in nature. They allow a learner to demonstrate his or her ability to perform a particular skill. For example, a working portfolio may include a collection of lab reports during a semester (term) that highlight a learner's improving ability to create hypotheses.

Showcase Portfolios

Showcase portfolios are summative in nature. They include samples of a learner's best work to demonstrate mastery at the end of a unit of study, semester or school year. The showcase portfolio allows the learner to select their most outstanding work, hence demonstrating their highest level of learning and achievement. It can contain final drafts of assignments, projects, or any piece of work that the learner is particularly proud of, demonstrating the learner's mastery of the relevant skills.

What is in a Portfolio?

A portfolio contains the following:

1. Completed assignments and evaluations (e.g., Self-Assessment, Peer- Assessment)
2. Journal writings (daily report – Date, Time and Activities)
3. Reflections on discussions
4. Photos, sketches, and other visuals
5. A summary statement made at different points regarding what has been learned/ achieved.

Setting: The portfolio assessment strategy can be used in the following settings:

1. Project-Based Learning
2. Independent Study and Research Projects
3. Classroom-based assessment
4. Field Work

5. Exhibitions/ Fairs
6. Problem-based Learning
7. Laboratory environment
8. Studio
9. Resource Centres

For all approaches, the portfolio must demonstrate clear and close adherence to specific learning outcomes in the curriculum.

Steps

Before

The Teacher should:

i. Determine the purpose of the portfolio. Decide how the results of a portfolio evaluation will be used to inform the subject.

ii. Identify the learning outcomes the portfolio will address.

iii. Decide what learners will include in their portfolio. Portfolios can contain a range of items–plans, reports, essays, resumes, checklists, self-assessments, references from employers or supervisors, and audio and video clips. Limit the portfolio to 3-4 pieces of learner's work and one reflective essay/memo.

iv. Identify or develop the scoring criteria (e.g., a rubric) to judge the quality of the portfolio.

v. Establish standards of performance and examples (e.g., examples of a high, medium, and low-scoring portfolio).

vi. Create learner instructions that specify how learners collect, select, reflect, format, and submit.

vii. It is the teacher's responsibility to help learners by explicitly tying subject assignments to portfolio requirements.

During

The learner should:

i. Collect evidence related to the outcomes being assessed.

ii. Select the best and appropriate evidence and label each piece of evidence according to the learning outcome being demonstrated.

iii. Be guided on how to write a one or two-page reflective essay/memo that explains why they selected the particular examples, how the pieces demonstrate their achievement of the program outcomes, and/or how their knowledge/ability/attitude changed.

iv. Be guided on how to format requirements (e.g., type of binder, font and style guide requirements, online submission requirements).

v. Be given submission (and pickup) dates and instructions.

After

The teacher should:

i. Clearly establish the criteria for evaluating/scoring in a consistent manner
ii. Mark and record learners' performances
iii. Reflect on the activity and learner performances
iv. Provide constructive feedback to the learner
v. Identify learners with SEN who may need extra support

The learner should:

i. Reflect on the feedback received
ii. Revise their work for final submission

Time Frame: Deciding on a time frame for Portfolio assessment depends on and includes the following:

i. Nature of project/problem or assignment
ii. Class size
iii. Resources

However, based on the learning outcome(s) the appropriate time frame for this portfolio is a week for minor activity and a term for extended projects, especially in Art and Design or Performing Arts.

Form

i. Individual learner's portfolios when the class size is relatively small.
ii. Group portfolio when the size is relatively large.
iii. Whole class/ school

Research As An Assessment Strategy

Description: Research as an assessment strategy is a systematic process of inquiry and investigation that aligns with a particular learning outcome to develop knowledge and understand a phenomenon. It involves identifying an issue in need of investigation, collecting and analysing data, conducting experiments, and drawing conclusions based on the findings. Once learners have completed their research work, they will write a report and do a presentation on their findings.

Purpose: Research as an assessment strategy is used to assess learner's ability to:

i. Identify a problem and gather information (data) from a variety of sources.
ii. Evaluate the credibility and accuracy of information.
iii. Analyse and synthesise information from multiple sources.
iv. Communicate their findings clearly and concisely.

Setting

i. Classrooms
ii. Factories/ Industries
iii. School farms
iv. School communities
v. Libraries
vi. Homes.
vii. Fieldwork
viii. Workshops

Class Size: As a teacher, depending on the number of learners in your class, individual or group research-based assessment can be used. However, teachers can create large groups for complex research, where different members can focus on specific aspects of the research.

Time Frame: The time frame for conducting a research-based assessment can vary depending on the complexity of the learning outcomes (skill to be achieved) may be:

i. Short-term
ii. Medium-term
iii. Long term

Steps

Before

The teacher should:

i. Define the learning outcomes.
ii. Develop a theme in line with learning outcomes.
iii. Design the research work and provide a description that is in line with learning outcomes.
iv. Define specific tasks to be undertaken in developing the research.
v. create a timeline.
vi. Select resources and materials needed.
vii. Provide guidance and support for learners.
viii. Develop clear assessment rubrics.
ix. Provide feedback and revisions.

During

The teacher should:

i. Provide clear guidelines for developing the research and how to assess it.
ii. Design and plan the research work to align with the learning outcomes.

iii. Provide necessary resources, materials, and support to help learners succeed in their research work.

iv. Guide learners in reflecting on their research-based assessments and help them develop metacognitive skills.

After

The teacher should:

i. *Alignment with learning outcomes*: The research work should be aligned with the learning outcomes of the content standards. This means that the research work should allow learners to demonstrate their understanding of the course material and to develop the skills that are being taught.

ii. *Originality*: The research work should be original and not simply a rehash of existing information. Learners should be encouraged to develop their ideas and to come up with their conclusions.

iii. *Critical thinking:* The research work should demonstrate that learners can conceptualise, apply, analyse, synthesise and evaluate the information they have gathered and come out with an action plan.

iv. *Communication skills:* The research work should be well-written and well- organised. Learners should be able to communicate their findings clearly and concisely.

Practical Assessments

Description: Practical assessment gauges a student's capacity to use their knowledge and abilities in practical and hands-on settings. It involves evaluating learners' ability to perform specific tasks and demonstrate practical skills. It includes laboratory experiments, simulations, demonstrations or projects.

The exact nature of the assessment will depend on the subject or area a teacher is interested in.

Purpose: The purpose of conducting a practical assessment is to:

i. Evaluate learners' proficiency, problem-solving capacity, and aptitude for carrying out tasks.

ii. Create and deliver tests that ask learners to complete real-world assignments, experiments, or demonstrations.

Setting: Teachers can use practical assessment in the following settings:

i. Classroom

ii. Laboratory

iii. Field

iv. School farms/gardens/community

v. Technical workshops

vi. Science fair

vii. Virtual/Digital/Remote
viii. Co-curricular activities and clubs
ix. Outdoor spaces
x. Workplace
xi. Team project

Time Frame: Based on the learning outcome and the skills to be acquired, a Practical assessment can be done in a week, at the end of a term or year depending on the project.

Class size: Class size suitable for practical assessment can be individual, group or whole class

Steps

Before

Learners can understand the content and theory being used by;

i. Reviewing the theoretical concept
ii. Familiarising themselves with the concept under assessment

Choosing experimental design, learners are required to;

i. Design an experiment using the theoretical concept.
ii. Outline the stages/process for the experiment and formulate hypotheses.

Gathering materials

i. Make a list of the tools and supplies you will need.
ii. Ensure that the necessary materials are available

During

Choosing experimental procedure:

i. Learners are required describe the step-by-step process in detail including how to control extraneous factors, along with any safety precautions.

Gathering and analysing data

With support from teachers, learners are required to:

i. Measure the dependent variable appropriately at various factor values to collect data.
ii. Analyse the data meaningfully.
iii. Sort, examine, and derive conclusions from the data analysis

After

Display of findings

i. Give a concise visual summary of the results.

ii. Address any restrictions or mistakes.

Reflection and improvement

i. Consider your advantages and disadvantages.

ii. Improve the design of upcoming experiments.

iii. Throughout the process, place a strong emphasis on ethics, integrity, and seeking advice as appropriate.

iv. Encourage a critical and inquisitive outlook on learning.

Debate As An Assessment Strategy

Description: Debate as an assessment strategy involves structured arguments and discussions to evaluate learners' knowledge and understanding of issues/ideas. It encourages research and articulation of views; it can be used for formative or summative assessments. Types of debates include formal debates with rules and roles and informal debates, which are more flexible.

Purpose: Using debate as an assessment strategy offers a comprehensive evaluation of learners' ability to generate ideas based on their knowledge and understanding of concepts and confidence in supporting their own ideas.

Settings

i. Classroom

ii. Performance spaces (e.g. dining hall, assembly hall, laboratory)

iii. Electronic platforms

iv. Music and drama theatre

Class Size: Depending on the learning outcomes to be achieved debates can be organised in:

i. Small classes

ii. Large classes

Time frame: The teacher can conduct a debate within a single class session, it can also span over several class sessions or weeks.

Steps

Before

The teacher should:

i. Select appropriate motion/ topic, ensuring it is relevant to the learning outcome

ii. Offer resources and materials to support learners

iii. Assign roles /create teams or pairings

iv. Establish rules and procedures

The learner should:

i. Undertake research regarding the debate's topic or motion
ii. Play an active role as a team member (in team-based debates)

During

The teacher should:

i. Host the debate
ii. Ensure effective time management
iii. Monitor and take notes

The learner should:

i. Participate in the debate
ii. Listen and take notes
iii. Counter argue when necessary

After

The teacher should:

i. Facilitate a debriefing session (Teachers should utilise the debriefing sessions to address any misunderstandings or questions that come up from the debate. They should also highlight the key concepts and important lessons based on the learning outcome)
ii. Implement peer assessments.
iii. Organise follow-up activities as necessary.

The learners should:

i. Reflect on their performance and the debate as a whole.
ii. Assess their peers' performances based on established criteria.

The Test of Practical Knowledge (TPK) Assessment Strategy

Description: This assessment is tailored to evaluate a learner's capacity to apply acquired knowledge in real-life situations by engaging in hands-on tasks or simulations that mirror real-world scenarios, assessing practical skills, problem-solving abilities, and the application of practical knowledge theoretically. It aims to gauge how effectively learners can employ their knowledge to solve problems or accomplish tasks.

Purposes: The general purpose of the test of practical knowledge is to assess learners' ability to apply practical knowledge in theory to:

i. Evaluate their application-based understanding.
ii. Assess their problem-solving skills.
iii. Measure the learner's practical knowledge and its use in real-life situations.
iv. Provide insights into a learner's ability to transfer practical knowledge into theoretical actions.

Setting: The Test of Practical Knowledge is conducted in environments that simulate real-life situations relevant to the learning outcome and the context being assessed. This could be a

i. Classroom
ii. Laboratory
iii. Field
iv. School farms/gardens/community
v. Technical workshops
vi. Science fair
vii. Virtual/Digital/Remote
viii. Outdoor spaces
ix. Workplace
x. Team Project

Class Size: The size of the class can vary based on resources and the nature of the practical tasks. It could be individual, smaller groups, or whole class.

Time Frame: The timing for assessing the Test of Practical Knowledge can range from a single session to multiple sessions, depending on the complexity of tasks and skills being assessed.

Steps

Before

The teacher should:

Provide clear instructions and resources needed for the tasks.

Clarify any doubts about the assessment task.

The learner should:

i. Seek clarification from the teacher or other relevant persons before starting the assessment.
ii. Familiarise themselves with theoretical concepts beforehand.

During

The teacher should encourage teamwork and effective communication if tasks involve group work.

The learner should

i. Focus on applying learned concepts to solve problems or complete tasks accurately within the given context.
ii. Manage time efficiently to complete tasks within allocated timeframes.

After

The teacher should encourage learners to reflect on their performance, review their work, and identify areas for improvement.

Performance Assessment Strategy

Description: In its simplest terms, a performance assessment is one which requires learners to demonstrate that they have mastered specific skills and competencies by performing or producing something. It is important that the task be meaningful and engaging to learners. When learners perform tasks that are meaningful and engaging to them, they can take ownership of their learning and effectively work, either independently or in collaboration, depending on the requirement of the task. Performance assessment can be used as either formative or summative tool.

Purpose: The main purpose of this assessment strategy is to provide learners with the opportunity to demonstrate their knowledge and understanding about a concept and communicate that understanding through a performance task.

Setting: Performance assessment can be used in the following settings:

i. Classroom
ii. Laboratory/workshops
iii. Field
iv. Theatre

Time Frame: Teachers should note that the learning outcome and learners' achievement expectations may inform the appropriate time frame for the use of performance assessment. However, the designated time of completion of the assessment task should not be too short or two long.

Class Size: Performance assessment works best for all forms of class size. Teachers should, however, be strategic in making learners work individually or in moderate/large groups depending on the unique situation.

Steps: To develop and implement performance assessment, teachers should:

Before

The teacher should:

i. State the purpose of the assessment.
ii. Specify the learning outcome to be assessed using the performance assessment strategy.
iii. Make learners aware whether they will work individually or as groups (e.g., group of 2-5).
iv. Design a performance task which requires the learners to demonstrate the intended skills and knowledge required of them.
v. Discuss with learners the rules of engagement which includes the performance criteria that specifies the extent to which learners have mastered the skills and knowledge.

vi. Discuss with learners the available resources to be used.

The learner should:

i. Make ready the available resources that will help them perform the assessment task.

ii. Seek for clarification on the performance task to be performed when necessary.

During:

The teacher should:

i. Monitor and ensure serenity of the environment for learners to work effectively as individuals or groups as in the case of a laboratory/field/workshop exercise.

ii. Guide learners to complete the assigned task(s) within the stipulated time.

The learner should:

i. Design the artifact or the idea using the available resources.

ii. Should submit the performance product to class at the stimulated time for evaluation.

After:

The teacher should:

i. Collaborate with learners to evaluate the performance task(s) outcome.

ii. Communicate constructive feedback of the assessment to the learners.

iii. Provide information on how the assessment feedback would be used.

The learner(s) should:

i. Offer constructive feedback on their colleague's work.

ii. Self-reflect and make use of constructive feedback to shape his/her work.

Demonstration As An Assessment Strategy

Description: Demonstration as an assessment strategy offers a practical and effective way to evaluate learners' knowledge, skills, and abilities by observing their performance in a real or simulated context. This may include a presentation, a practical experiment, a role-play, a performance, or a project.

Purpose: The main purpose of using demonstration as an assessment strategy is to allow learners to showcase their skills and competencies through practical application. Some of the areas in which learners can demonstrate their proficiencies are:

i. Problem-solving skills

ii. Critical thinking abilities

iii. Communication

Settings

i. Classroom
ii. Laboratory/ Workshop /Studio
iii. Simulation studio/environment
iv. Field or real-world settings (e.g., field trips, community projects, or internships)
v. Performance spaces (e.g., theatre, music room, or sports field/studio/rooms)
vi. Online/remote/virtual platform

Time Frame: The time frame for conducting demonstration as an assessment strategy depends on the following:

i. Learning outcome(s)
ii. Complexity of the task to be performed
iii. Resources

NB: The teacher should provide the learner enough time to demonstrate their abilities and ensure the assessment process is managed within the constraints of the learning environment.

Class size: Demonstration can be used for individuals or groups (large or small groups) for the reasons of attention, support, and prompt feedback on factors such as assessors, resources and equipment, learning outcome and the assessment environment.

Steps

Before

The teacher should

i. Set clear expectations of the learning outcomes, specific skills, knowledge and competencies.
ii. Provide instructions for the demonstration to include safety precautions, criteria for assessment and time.
iii. Provide learners the opportunity to rehearse the task or the activity to be demonstrated.
iv. Provide the needed materials and resources to be used for the demonstration.
v. Address the concerns of the learners raised after the rehearsals.
vi. Distribute the task to the learner(s) considering Special Education Needs - SEN)

The learner should:

i. Understand the learning outcomes, specific skills, knowledge, and competencies expected of them.
ii. Take the necessary steps to prepare for the demonstration by reviewing the instructions and rehearsing the expected knowledge, skills, and competencies.

iii. Seek clarification about the instructions and materials to be used for the demonstration.

iv. Take the opportunity to practice and refine their skills or knowledge before the demonstration.

v. Reflect on their previous learning and experiences related to the skills or knowledge being assessed.

During

The teacher should:

i. Observe the learner's performance of the task demonstrated.

ii. Provide continuous guidance to learner(s) on the task especially when they are working with or in hazardous situations.

iii. Monitor the progress of the learner(s) on the task.

iv. Pace the timing of the demonstration such that differentiation is considered.

v. Assess the performance of the learners on the task.

vi. Take notes of critical issues such as learners' strengths and areas for improvement

The learner should:

i. Focus on the demonstration and actively listen to the instructions and explanations provided.

ii. Carefully watch the demonstration, noting the steps, techniques, and key details being shown.

iii. Take notes of important points, steps, or tips during the demonstration to refer to later.

iv. Request feedback from the demonstrator or peers to ensure they are on the right track and identify areas for improvement.

After

The teacher should:

i. Provide constructive feedback to the learners based on observations. highlighting areas of improvement, reinforcing correct techniques, and encouraging further practice.

ii. Review notes to consider where learners have performed well and areas that need improvement

iii. Provide support to learners who may be struggling with the demonstrated skills. This can involve additional explanations, demonstrations, or one-on- one assistance.

The learner should:

i. Reflect on their own performance during the demonstration and assess their understanding and execution of the demonstrated skills or techniques.

ii. Share their performance and ask for feedback to improve their learning.

iii. Identify specific areas where they need further assistance or practice; they can seek out additional resources such as tutorials, online courses, or books to support their learning and assessment.

Questioning As An Assessment Strategy

Description: Questioning as an assessment strategy is the practice of engaging learners in an interactive dialogue or a series of carefully crafted questions to evaluate their understanding, knowledge, skills, and critical thinking abilities. Teachers can use questioning as an assessment strategy in all learning areas or subjects.

Purpose: Questioning as an assessment strategy can be used by the teacher to:

1. Identify learning gaps through the assessment of the level of comprehension, retention and application of knowledge, and skills gained by learners in achieving a learning outcome of a given content.
2. Actively engage leaners in the teaching and learning process.
3. Assess if a concept taught has been well grasped as learners' feedback provides valuable feedback to them and the teacher.
4. Clarify concepts leading to deeper understanding or seek additional information in solving real-world or imaginary issues.
5. Promote the acquisition of critical thinking and problem-solving skills.
6. Encourage immediate or real-time feedback from leaners leading to deeper thinking.
7. Investigate misconceptions for clarification.
8. Accommodate diverse learning styles to achieve a specific learning outcome.

Types: The following are various types of questioning techniques based on the Depth of Knowledge (DoK) levels that the teacher can use in assessment:

i. Closed-ended questions – DoK 1: have a limited number of predetermined answers and are designed to gather specific information requiring "yes" or "no", "True or False"

ii. Open-ended Questions - DoK 2 and 3: allow for a more detailed and

iii. comprehensive response, which begins with words like "what," "why," or "how."

iv. Funnel Questions- DoK 2 and 3: used to gradually narrow down a topic, starting with broader questions and proceeding to more specific ones. This technique helps gather information in a logical and structured manner.

v. Probing Questions - DoK 2 and 3: used to explore a topic in more detail or to gain deeper insights. They are often used to dig deeper into a previous response or to uncover hidden information,

vi. Leading Questions - DoK 2 and 3: used to steer learners towards a particular answer or viewpoint. They may imply an expected or desired response.

vii. Hypothetical Questions- DoK 3 and 4: These questions often involve speculative or creative thinking. They require learners to make connections, apply knowledge, and think beyond the immediate context.

Settings

i. Classroom
ii. Co-curricular activities, e.g. School Clubs and Games
iii. Field trips/work, e.g., Factories/industries, school farms/gardens/ pantries(kitchen)
iv. Laboratory/Resource Centre
v. Workshops/studios/theatres

Time Frame: Teachers can use questioning in their daily teaching and learning activities. However, it should be used based on the learning outcome of the subject matter under consideration. It can specifically be used:

i. Throughout the teaching and learning process (Formative Assessment): before, during and after the teaching of a lesson.
ii. In summative assessment, questioning can be used together with other forms of assessment such as oral/aural(listening) assessment at the end of a unit or content and programme.

Class size: Individual, small group or whole class

Steps: In using questioning as an assessment strategy, the teacher and learner can employ the following steps:

Before

The teacher should:

i. Define the Learning Outcomes to be achieved and develop key questions
ii. before class based on the outcomes.
iii. Select appropriate question type(s) that align with the content standard/ indicators to be taught and the DoK levels to be achieved. The questions to be asked should be clear, relevant, concise, and free from ambiguity and biases.
iv. Design valid questions that will suit the type of questioning strategy to be used to achieve the learning outcomes.

NB: Avoid or minimise the use of questions that will yield Yes/No or True/False responses but make more use of questions that allow for explanatory responses.

Plan question sequence and adapt questioning techniques to meet the diverse learning needs and abilities of their learners to promote active participation.

During

The Teacher should:

i. Select the context and provide relevant information to give learners the basis for the questions.

ii. Vary the form of questions: those that gauge knowledge, require diagnosis, or challenge conclusions considering the learner's background characteristics to promote inclusivity.

iii. Ask one question at a time and wait for responses from learners to allow time to think through responses critically.

iv. Encourage active engagement of all learners.

v. Monitor learners' performance and learning process to identify areas where learners may need additional support or clarification or to plan appropriate remediation where appropriate.

vi. Acknowledge all responses/answers- repeat so the class can hear and/or write them on the board.

vii. Provide constructive and timely feedback; teachers are advised to accommodate learners' varied responses as well as be fair and ethical.

viii. Use assessment data to modify their teaching techniques, strategies and resources.

ix. Move around the classroom or learning centre

The learner should:

i. Ensure they gain an understanding of the learning outcomes and work towards achieving them through self and peer assessment.

ii. Actively participate in the questioning process by listening carefully to the questions, thinking critically about their responses, and providing thoughtful answers.

iii. Self and peer assess themselves using a questioning assessment strategy when learning to enable them to reflect on their learning.

iv. Own their learning by adapting strategies to improve their learning outcomes, skills and competencies.

After

The teacher should:

i. Analyse responses

ii. Provide constructive feedback

iii. Modify teaching and learning processes

iv. Document assessment data

v. Reflect and adapt questioning techniques, strategies and resources to check if expected learning outcomes have been achieved.

vi. Teachers and learners reflect on responses to check if expected learning

vii. outcomes have been achieved.

Peer/Self Assessment Strategy

Description: Peer/self-assessment is a type of performance monitoring and evaluation related to a learning outcome done by or among learners under the supervision of a teacher to track their learning progress. It can be used as both formative and summative assessment. However, it is predominately used for formative assessment purposes.

Purpose: Peer/self-assessment provides an opportunity for learners to reflect and provides insight, leading to meaningful feedback on their or other learners' work (behaviours, competencies and experiences). Peer/self-assessment enhances deep learning and understanding among learners and trains learners to track their progress and areas for improvement.

Setting

i. Classroom-based environment
ii. Fieldwork
iii. Laboratory i.e., Science Resources Centres
iv. Studio
v. Workshop

Class size: Peer assessment strategy can be done in small groups or whole class.

Time Frame: The time frame depends on the complexity of the assignment, the estimated period of the lesson stated in the curriculum and how learners have been adequately prepared. However, the time should neither be too short nor too long.

Steps

Before

The teacher should:

i. Set clear expectations of the learning outcome, skills and competencies
ii. Decide the structure and format of the assessment e.g.: written or oral
iii. Introduce the learners to the assignment to be assessed
iv. Develop the assessment criteria and scoring rubrics with learners.

During

The teacher should

i. Model peer/self-assessment by letting learners assess or review what he has taught to open them up to the assessment to be conducted.
ii. For peer assessment, lead the pairing or grouping for the assessment. in doing this, the teacher should consider mixed groupings, and avoid inter- pairing and pairing amongst friends. (fairness and transparency)
iii. In self-assessment, the teacher should guide learners with special educational needs in their assessment through questioning
iv. Provide constructive feedback to learners after the assessment

The learner should:

i. Work and submit assignments
ii. Assess their assignments or that of other learners and give constructive feedback
iii. Reflect on the feedback received and revise the work for final submission

After

The teacher should:

i. Grade the assignments (summative)
ii. Reflect on the activity with learners
iii. Offer help or intervention in areas learners need help
iv. Work on areas that need improvement

NB: The teacher should be a mediator between arguing learners and should also consider and guide learners in their approach to providing feedback. (Be conscious of gender, cultural, social and religious sensitive comments and issues)

Teacher should also provide multiple opportunities or formats for learners to assess to accommodate all learn.

Appendix 3: Teacher Lesson Observation Form

Name of School: .....

Subject being observed: .....

Class

Year 1 ☐ Year 2 ☐ Year 3 ☐

Sex of the teacher

Male ☐ Female ☐

1. Is the purpose of the lesson clearly stated in the lesson plan and focused on learners achieving the lesson learning outcomes?

Yes ☐ In Part ☐ No ☐ NA ☐

1b. Please provide an explanation to your answer in Q1 above

.....

2. Are the unique needs of female learners, male learners, and learners with special education needs adequately catered for in the lesson plan? For example, the choice of teaching methods and learning activities reflects/does not reflect the learning needs of all learners.

For example, the choice of teaching methods, and learning activities.

Yes ☐ In Part ☐ No ☐ NA ☐

2b. Please provide an explanation to your answer in Q2 above

.....

3. Does the teacher manage behaviour well, maintaining a positive and non-threatening learning environment throughout the lesson?

Yes ☐ In Part ☐ No ☐ NA ☐

3b. Please provide an explanation to your answer in Q3 above

.....

4. Are appropriate teaching and learning materials and other resources (including ICT, books, desks) available, accessible and being used to support learning of all females, males and learners with special education needs?

Yes ☐ In Part ☐ No ☐ NA ☐

4b. Please provide an explanation to your answer in Q4 above

.....

5. Are learners engaged on tasks that challenge them in line with the content standards?
Does the teacher take into consideration the uniqueness of learners?

Yes ☐ In Part ☐ No ☐ NA ☐

5b. Please provide an explanation to your answer in Q5 above

6. Is there evidence that students are learning?

Yes ☐ In Part ☐ No ☐ NA ☐

6b. Please provide an explanation to your answer in Q6 above

7. Is teaching differentiated to cater for the varied needs of all learners (i.e., male learners, female learners, learners with special education needs) and those with poor literacy and/ or numeracy proficiency?

Yes ☐ In Part ☐ No ☐ NA ☐

7b. Please provide an explanation to your answer in Q7 above

.....

8. Does the teacher use real life examples which are familiar to learners to explain concepts?

Yes ☐ In Part ☐ No ☐ NA ☐

8b. Please provide an explanation to your answer in Q8 above

.....

9. Does the teacher point out or question traditional gender roles when they come up during the lessons as appropriate?

Yes ☐ In Part ☐ No ☐ NA ☐

9b. Please provide an explanation to your answer in Q9 above

.....

10. Does the lesson include appropriate interactive and creative approaches e.g., group work, role play, storytelling to support learners achieving the learning outcomes?

If yes, give examples of the issues and skills that have been so integrated.

Yes ☐ In Part ☐ No ☐ NA ☐

10b. Please provide an explanation to your answer in Q10 above

.....

11. Have cross-cutting issues and /or 21st century skills been integrated into the lesson to support learners in achieving the learning outcomes e.g., problem-solving, critical thinking, communication? If yes, give examples of the issues and skills that have been so integrated.

Yes ☐ In Part ☐ No ☐ NA ☐

11b. If yes, give examples of the issues and skills that have been so integrated.

.....

12. Does the teacher incorporate ICT into their practice to support learning?

Yes ☐ In Part ☐ No ☐ NA ☐

12b. Please provide an explanation to your answer in Q12 above

.....

13. Does the teacher encourage all female male and male learners (including those who may be shy or afraid to speak) to ask questions, answer questions, participate in group work, etc. during the lesson?

Yes ☐ In Part ☐ No ☐ NA ☐

13b. Please provide an explanation to your answer in Q13 above

.....

14. Is assessment evident in the lesson? If yes, does it include assessment as, for or of learning and go beyond recall?

If yes, did it include assessment of, for or as learning and go beyond recall?

Yes ☐ In Part ☐ No ☐ NA ☐

14b. Please provide an explanation to your answer in Q14 above

.....

15. Do learners make use of feedback from teacher and peers?

Yes ☐ In Part ☐ No ☐ NA ☐

15b. Please provide an explanation to your answer in Q15 above

.....

16. Does the teacher sum up the lesson and evaluate the lesson against the learning outcomes with the learners?

Yes ☐ In Part ☐ No ☐ NA ☐

16b. Please provide an explanation to your answer in Q16 above

.....

17. Does the teachers' planning of lessons taught before the one observed show how they plan for learning over time, considering individual and group needs?

Yes ☐ In Part ☐ No ☐ NA ☐

17b. Please provide an explanation to your answer in Q17 above

.....

18. Does the teacher pay attention to the composition of females and males during group work and assigns females leadership roles.

Yes ☐ In Part ☐ No ☐ NA ☐

18b. Please provide an explanation to your answer in Q18 above

.....

19. Does the teacher provide constructive verbal feedback to both females and males and learners with special education needs?

Yes ☐ In Part ☐ No ☐ NA ☐

19b. Please provide an explanation to your answer in Q19 above

.....

20. Does the teacher provide constructive written feedback to both females and males and learners with special education needs in their exercise book?

Yes ☐ In Part ☐ No ☐ NA ☐

20b. Please provide an explanation to your answer in Q20 above

.....

21. Key strengths in the lesson

.....

22. Areas for development

.....

23. Next steps for teacher

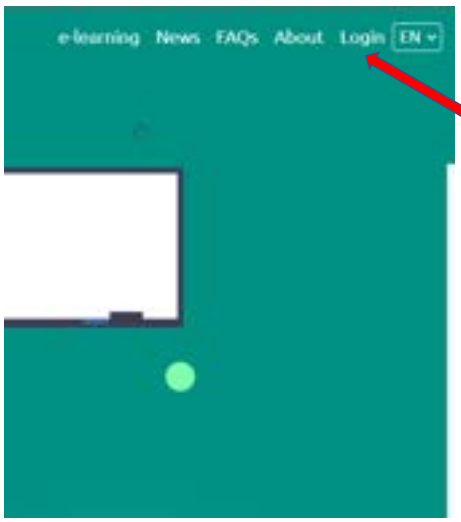
.....

24. Additional Notes (on teacher's actions, the flow of activities, etc.)

.....

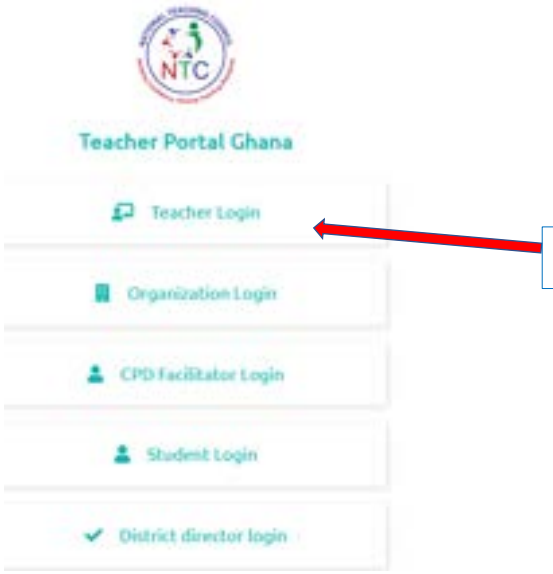
Appendix 4: How to Check CPD Points and Training Records on Teacher Portal Ghana

1. Visit *tpg.ntc.gov.gh* and click Login



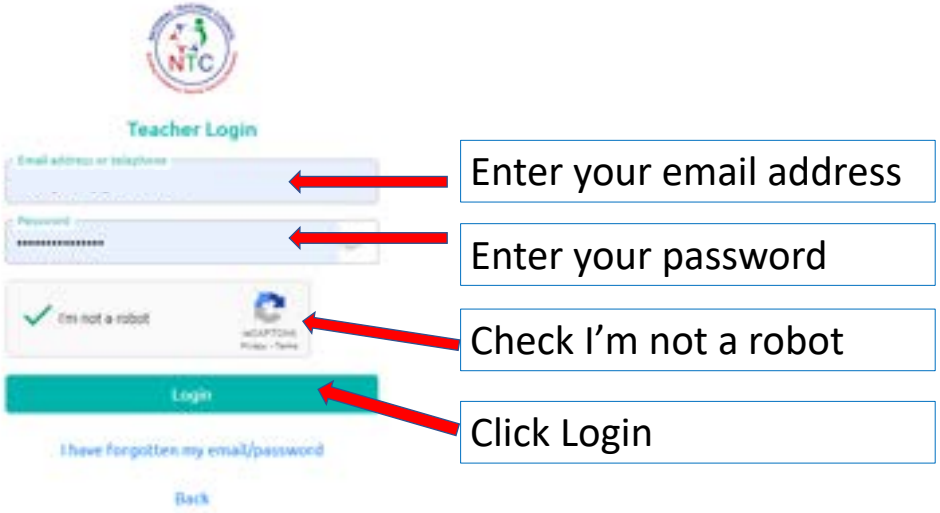
Click Login on the TPG homepage

2. On the Login page, click Teacher Login

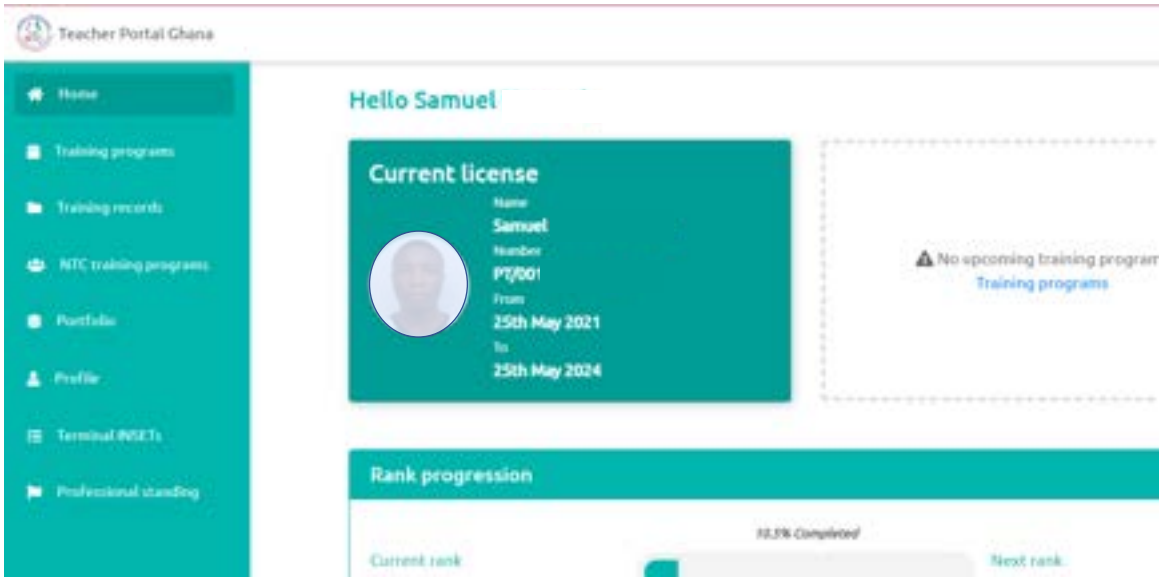


Click Teacher Login

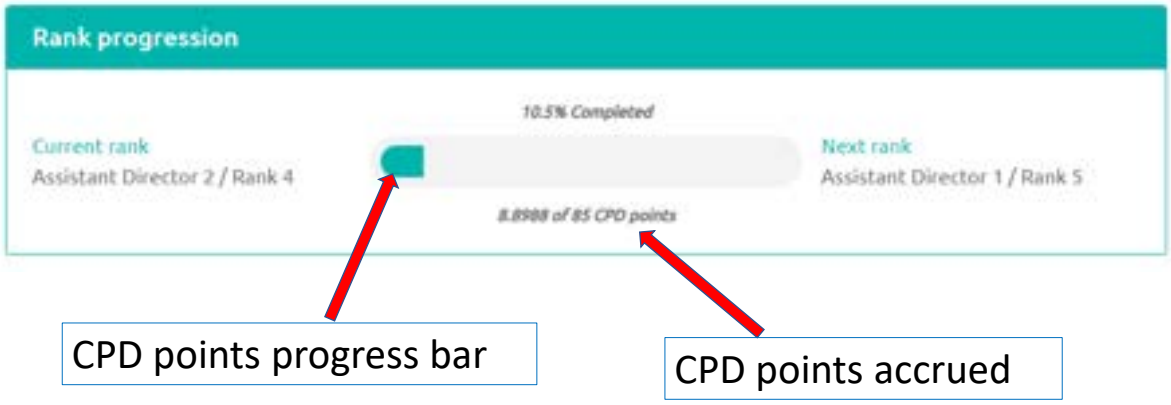
3. On the Teacher Login page enter your email address and password and then click Login



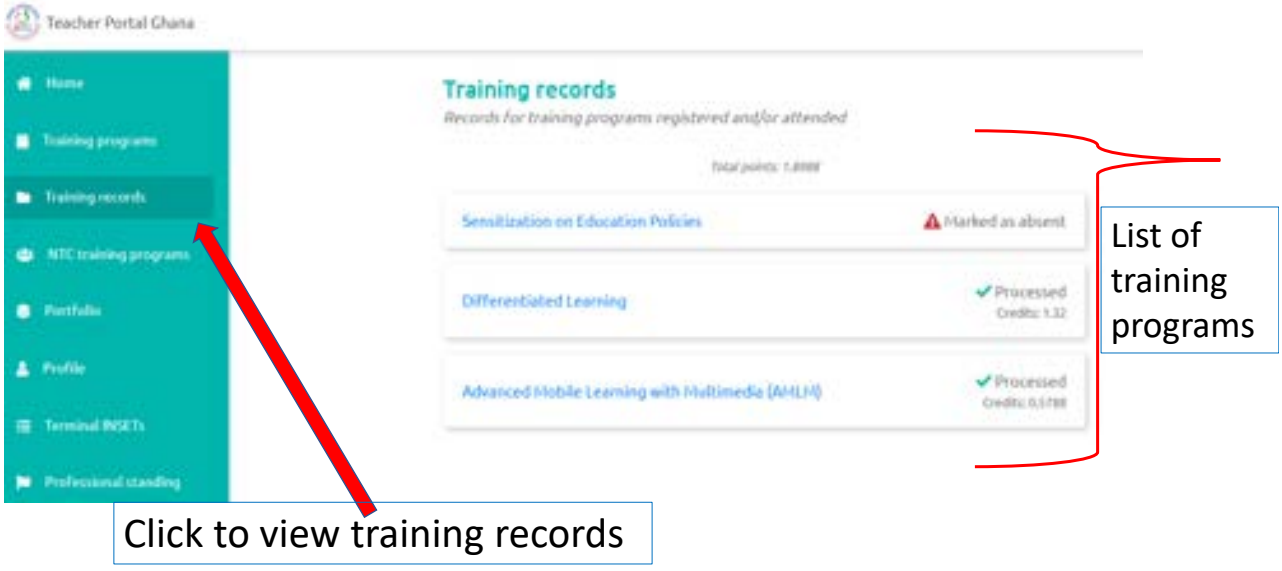
4. After a successful login you will get access to your TPG account (Check image below)



5. To check CPD points, scroll down to Rank progression. You will see the CPD points progress bar and actual points accrued (Check image below)



6. To view training records, from the side menu tap on Training records (Check image below)



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