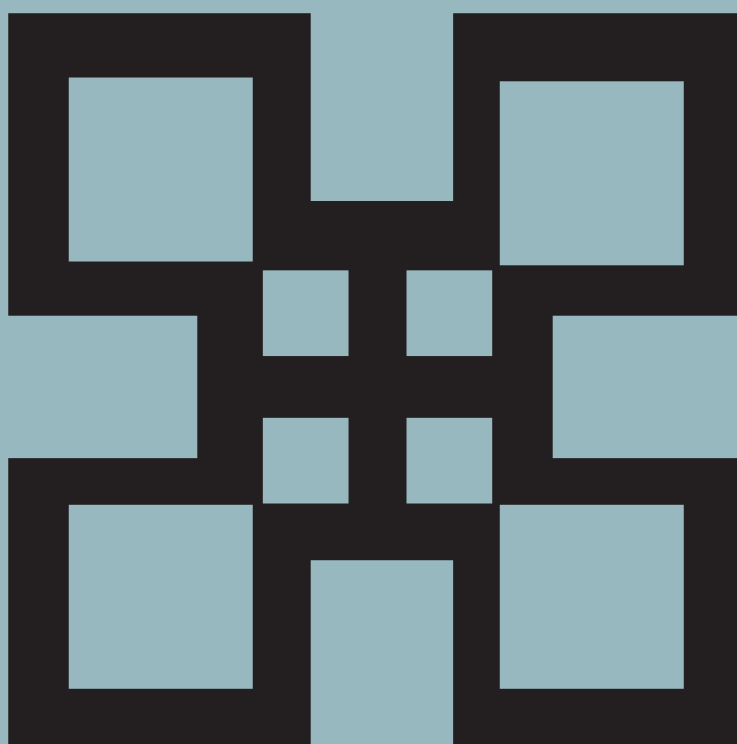


Professional Learning Community Handbook

Information Communication Technology

Year One



Ghana Education
Service (GES)



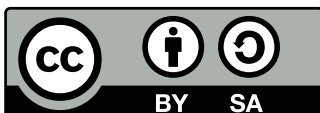
Professional Learning Community Handbook

Information Communication Technology

Year One



REPUBLIC OF GHANA



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Introduction

This Professional Learning Community (PLC) Handbook is designed to enable teachers to deliver effective lessons for Year One of the new Information Communication and Technology (ICT) 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 Economics 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) **Group project:** To enable learners to demonstrate specific skills or competencies, such as research, communication, teamwork, or creativity, it is recommended to give the focal areas of week 6 as group project in week 2 to be submitted by learners in week 5. Marked, recorded and feedback discussed in the first-class period(s) of week 6 before the mid-semester examination.
- b) **Mid-semester examination:** To evaluate knowledge and understanding among learners on the learning outcome covering weeks 1-5 or 6. It is recommended that multiple choice, essays and practical questions are used to assess the learning outcome. Teachers are to ensure recorded scores for the group project and mid-semester examination are submitted via the system on time.
- c) **Homework:** As an assessment strategy involve the use of structured tasks outside of regular class time to evaluate learners understanding, knowledge and skills

gained in a specific learning outcome. It is recommended that teachers give learners several homework's in the academic year. However, only one of these homework's is submitted. It is therefore recommended teachers give learners some homework in week 9 covering weeks 7-10 focal areas. To be submitted in week 11 for the recorded scores to be submitted via the portal.

- d) **End of 1st semester examination:** To evaluate knowledge and understanding of learners on the learning outcomes covering weeks 1-12. it is recommended that multiple choice, essays and practical questions are used to assess the learning outcomes. Teachers should ensure that the recorded marks are submitted through the system by the designated due date.
- e) **Class Exercise:** To allow for immediate feedback and clarification of concepts, it is recommended that teachers use weeks 13-15 focal areas as class exercise in the last period of week 15. Ensuring the assessment has all the DOK levels to help identify learners who may require special educational support on these focal areas.
- f) **Mid-semester examination:** To evaluate knowledge and understanding among learners on the learning outcomes covering weeks 13-17. it is recommended that multiple choice, essays and practical questions are used to assess the learning outcomes. Teachers are to ensure recorded scores for the classwork and mid-semester examination are submitted via the system on time.
- g) **Portfolio:** To adapt flexible assessment and determine learners' strengths and areas of intervention for improvement, it is recommended that teachers prompt learners in week 3 about creating their own portfolio to submitted via email (keeping their parent in copy) in week 23. Teachers are to ensure recorded scores are submitted via the system on time.
- h) **Individual Project:** To assess learners complex problem-solving skills, involving multiple tasks, research, analysis, and creative solutions. Teachers are to prompt learners in week 11 about the creation of a research project to be submitted in week 19. Teachers are to ensure recorded scores are submitted via the system on time
- i) **End of 2nd semester examination:** To evaluate knowledge and understanding of learners on the learning outcomes covering weeks 13-24. it is recommended that multiple choice, essays and practical questions are used to assess the learning outcomes. Teachers should ensure that the recorded marks are submitted through the system by the designated due date.

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: Computer Hardware and Software Needed to Create Documents

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

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.

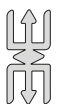
Learning Outcome

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 activities in your learning plan (NTS 2a – 2f, 3a – 3j).



Note

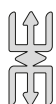
The selected activities should be included in the teacher/learner activity section of the learning plan

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

E.g.

- a) *Use your checklist to categorise input devices, output devices, application software and utility software.*
- b) *In groups, discuss and write a brief description of at most 2 items you have been able to categorise.*

Refer to Teacher Manual Book 1 pages: 20–21 and Learner Material Section 1 for more assessment guide.



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 3k, 3p).

E.g.

Categorise 4 items for each rightful category.

1 mark-- Input: Keyboard,

3 marks-- Output: Monitor, Projector, Speaker

1 mark-- Application Software: Microsoft Office Suite

1 mark-- Utility Software: Norton Antivirus

Describe at most 2 items each from a category they have identified.

a) *Input:*

- i. **4 marks -- Keyboard:** *A keyboard is an input device consisting of a set of keys used to enter data and commands into a computer or other digital devices.*
- ii. *0 mark*

b) *Output:*

- i. **Monitor:** *is an output device that displays visual information, including text, images, and videos, from a computer or other digital devices. 4 marks.*
- ii. **Projector:**
 - *(4 marks complete description): Is an output device that projects images, videos, or presentations onto a larger screen or surface, making it suitable for*

viewing by larger audiences in settings like classrooms, conference rooms, and theatres.

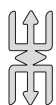
- (2 marks partial description): is an output device that projects images, videos, or presentations onto a larger screen or surface, etc...

A sample of the checklist is attached on the next page.

Categories	Item	Explanation	Tick (✓)	Marks
Input Devices	Keyboard	Commonly used for typing text and commands.		1
	Mouse	Used to point, click, and drag items on a screen.		1
	Scanner	Converts physical documents into digital format.		1
	Microphone	Captures audio input.		1
	Webcam	Captures video input.		1
	Touchscreen	Allows direct interaction with the display.		1
	Graphics Tablet	Used for drawing and design.		1
Output Devices	Monitor	Displays visual output from the computer.		1
	Printer	Produces physical copies of digital documents.		1
	Speakers	Outputs audio from the computer.		1
	Headphones	Provides personal audio output.		1
	Projector	Projects visual output onto a larger screen.		1
	VR Headset	Provides immersive visual and audio output.		1
Application Software	Word Processor	Used for creating text documents.		1
	Spreadsheet Software	Used for organising data in tables and performing calculations.		1
	Presentation Software	Used for creating slide shows.		1
	Web Browser	Used for accessing and browsing the internet.		1
	Email Client	Used for sending and receiving emails.		1
	Media Player	Used for playing audio and video files.		1
	Graphics Editor	Used for creating and editing images.		1

Categories	Item	Explanation	Tick (✓)	Marks
Utility Software	Antivirus Software	Protects the computer from malware and viruses.		1
	Disk Cleanup Tool	Frees up space on the hard drive by removing unnecessary files.		1
	Backup Software	Creates copies of data to prevent loss.		1
	File Compression Tool	Compresses files to save space.		1
	System Monitor	Monitors system performance and resource usage.		1
	Defragmentation Tool	Reorganises fragmented data on the hard drive.		1
	Firewall	Controls incoming and outgoing network traffic to secure the system.		1

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Note

- 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.
- Take into consideration different modes of responses provided by learners.
- 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 3n–3p).

E.g.

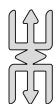
Create a checklist, give clear instruction, and support the groups when needed to categorise the items in the ICT laboratory, etc.

Refer to Teacher Assessment Manual and Toolkit pages 72–74 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 3l–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, 1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 1 to provide feedback on your lesson (NTS 1f, 3g).
- 3.3** Remember to:
 - c) provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l–3n).
 - d) read PLC Session 2 and related Learner Material (NTS 3a).
 - e) bring along your Teacher Manual, PLC Handbook and learning plan on week 2 in preparation for the next session (NTS 3a).

PLC SESSION 2: Basic File Handling, Editing Tools and Reviewing Tools in MS Word

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e).
- b) you found challenging (NTS 1a, 1b and 2a–2e).

1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 2 by aligning the learning plan with Learner Material and appropriate assessment strategies.

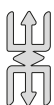
Learning Outcome

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 activities in your learning plan (NTS 2a – 2f, 3a – 3j).



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 **demonstration** (NTS 3k, 3p).

E.g.

Demonstrate the following:

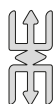
- a) *How to create a New Document*
- b) *How to Track Changes*

Refer to Teacher Manual Book 1 pages 30–31 and Learner Material Section 1 for more assessment guide.

Hint



*It is recommended to give learners a group project on “creating slides consisting of text and graphics in PowerPoint” to submit in week 5. More information about how to carry out the assessment is available in **Appendix A**.*



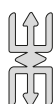
Note

- 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 3k, 3p).

E.g.

- a) *File Handling:*
 - i. **1 mark:** *Successfully create and saves a new document.*
- b) *Editing and Reviewing Tools:*
 - i. **2 marks:** *Makes detailed edits using Track Changes, including substantial modifications to the text, 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 3n–3p).

E.g.

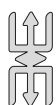
Ensure all necessary resources are available, including access to computers with Microsoft Word installed, sample documents for editing and formatting (use =rand () to generate content), and any reference materials learners might need, etc.

Refer to Teacher Assessment Manual and Toolkit pages 62 – 65 for more task.

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

E.g.

Highlight strengths and areas of improvement for learner groups, 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.
- 3.2** Identify a critical friend to observe your lesson in relation to PLC Session 2 and provide feedback on your lesson.
- 3.3** Remember to:
- provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l–3n).
 - read PLC Session 3 and related Learner Material (NTS 3a).
 - bring along your Teacher Manual, PLC Handbook and learning plan on week 3 in preparation for the next session (NTS 3a).

Appendix A: Group Project

1. Recommended mode of assessment is **displays and exhibitions**
2. Assessment task create a PowerPoint presentation consisting of text and graphics on any current technology of your interest.

Refer to Teacher Manual week 6, Learner Material Section 1 for more information.



3. Sample of rubrics for scoring the assessment task is attached on the next page. A softcopy version is available via this QR code

S/N	Criteria	Needs Improvement: 2 marks	Good: 4 marks	Satisfactory: 6 marks	Excellent: 8 marks
1	Understanding Basic Features	Recognises and identifies basic PowerPoint features such as text boxes, image insertion, and slide transitions.	Demonstrates correct usage of basic features like adding and formatting text boxes and images.	Seamlessly integrates multiple features such as text, images, and transitions into the presentation.	Explains and justifies the use of specific features like custom animations or design templates to enhance the presentation.
2	Slide Content	Inserts text and images exactly as instructed, without alterations.	Organises text and images in a clear, logical manner appropriate to the presentation's theme.	Strategically selects and arranges text and images to enhance viewer understanding and flow of information.	Creates a cohesive and comprehensive narrative, using text and graphics to support and expand on the presentation's main points.
3	Design and Layout	Applies a basic, predefined slide layout without modifications.	Utilises fundamental design principles such as balance and contrast to enhance visual appeal.	Customises design elements specifically to suit the presentation's message, employing thematic consistency.	Innovates with design elements to create a unique, engaging presentation that effectively communicates the core message visually.

S/N	Criteria	Needs Improvement: 2 marks	Good: 4 marks	Satisfactory: 6 marks	Excellent: 8 marks
4	Technical Skills	Relies on basic PowerPoint functionalities, requiring guidance for more complex features.	Demonstrates proficiency with PowerPoint tools like transitions and animations without assistance.	Uses advanced PowerPoint features such as custom animations, slide masters, and action buttons effectively.	Exhibits mastery over PowerPoint, crafting a professional and visually polished presentation with technically advanced features.
5	Collaboration and Contribution	Participates in group activities only when prompted, showing minimal initiative.	Regularly contributes ideas and completes assigned tasks reliably.	Actively engages in group discussions and provides constructive feedback to peers, enhancing the group's output.	Leads the group effectively, ensuring active collaboration and equitable contribution from all members, and resolving conflicts.
6	Creativity and Innovation	Uses a basic template with no modifications or personal touches.	Incorporates original elements or ideas that enhance the template's design.	Develops creative solutions to enhance the presentation's appeal and effectiveness, such as through unique visuals.	Produces a highly innovative presentation that highlights original thinking and significant creativity in content and design.
7	Audience Engagement	Utilises minimal engagement techniques such as reading directly from slides.	Employs basic audience engagement techniques like maintaining eye contact and using a clear voice.	Effectively engages the audience with interactive elements such as questions or multimedia enhancements.	Delivers a dynamic presentation that captivates the audience, using a variety of compelling engagement techniques and a clear narrative.

4. How to administer the assessment task(s)/item(s) as a subject group.

E.g.

- a) Gather necessary resources/materials and equipment that will support the chosen theme and enhance learning

- b) *Facilitate the displays and exhibits assessment by engaging learners in discussions and interactive exercises*
- c) *Encourage questions and discussions to deepen understanding*
- d) *Monitor engagement and participation as you observe learners' interaction with their peers and visitors*

Refer to Teacher Assessment Manual and Toolkit pages 54 – 57 for more information.

5. How to provide feedback

E.g.

- a) *After learners present their finds, provide structured feedback highlighting strengths and areas for improvement*
- b) *Give learners time to make corrections to submit for review, etc.*

PLC SESSION 3: How to use Formatting, Tables, Graphics, and Watermarks in MS Word

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e).
- b) you found challenging (NTS 1a, 1b and 2a–2e).

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers to review the learning plan for week 3 by aligning the learning plan with Learner Material and appropriate assessment strategies.

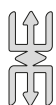
Learning Outcome

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 activities in your learning plan (NTS 2a – 2f, 3a – 3j).



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 3k, 3p).

E.g.

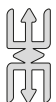
- a) *You have been asked to manipulate a table in a word processor. First, you create a table with 10 rows and 10 columns. Next, you merge row 3 and row 4. Finally, you split the 5th cell in row 6 into 3 separate cells. Which of the following describes the final configuration of your table?*
- A. *The table has 9 rows due to the merging, with the 5th cell in row 6 split into 3 cells, resulting in 12 cells in that row.*
 - B. *The table has 9 rows, where rows 3 and 4 are merged visually, and row 6 has a total of 12 columns due to the 5th cell being split into 3.*
 - C. *The table remains with 10 rows and 10 columns; rows 3 and 4 are visually combined, and the 5th cell in row 6 appears divided into 3 smaller cells within the same cell boundary.*
 - D. *The table still has 10 rows; the merged rows 3 and 4 create a single cell that spans two rows, and the 5th cell in row 6 is split horizontally into 3, affecting only the internal division of that cell.*

Refer to Teacher Manual Book 1 pages 40–41 and Learner Material Section 1 for more assessment guide.

Hint



- i. *It is recommended that teachers assign learners the task of creating an individual portfolio to be submitted in the 20th week of the academic year for assessment.*
- ii. *A sample of the assessment task and rubrics for scoring is attached in the section's **Appendix B**. However the soft copy is available in this QR.*



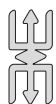
Note

- 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 3k, 3p).

E.g.

The correct answer is B: The table has 9 rows, where rows 3 and 4 are merged visually, and row 6 has a total of 12 columns due to the 5th cell being split into 3 (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.*

2.5. Discuss how you will administer the assessment task(s)/item(s) as a subject group (NTS 3n–3p).

E.g.

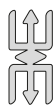
Administer constructed MCQs in a controlled environment to prevent cheating, etc.

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 3l–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)

2.1. Reflect and share your views on the session (NTS 1a,1b).

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

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–3n)
- b) read PLC Session 4 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 4 in preparation for the next session (NTS 3a).



Appendix B: Example of An Individual Portfolio

Task

Create a portfolio containing the following elements:

1. A brief introduction about yourself (20–30 words).
2. An explanation of why you chose ICT as a course (20–30 words).
3. A weekly summary of what you have learned from week 1 to week 17 (30–40 words per week).
4. Using MS Word and PowerPoint to highlight your key points.
5. Submit your work in the 20th week of the semester via email. Ensure to copy your parents in the email.

Guideline for Rubrics

Criteria	Needs improvement: 2 Marks	Satisfactory: 4 Marks	Good: 7 Marks	Excellent: 10 Marks
Introduction (20–30 words)	Introduction provided but lacks clarity or exceeds/falls short of the word limit.	Provides a clear introduction about him/herself; mostly within the word limit.	Provides a clear and concise introduction about him/herself; within the word limit.	Clear, concise, and engaging introduction about him/herself; well within the word limit.
Reason for Choosing ICT (20–30 words)	Reasoning provided but lacks depth or exceeds/falls short of the word limit.	Provides clear reasoning with some reflection; mostly within the word limit.	Provides clear and thoughtful reasoning; within the word limit.	Strong, clear reasoning with thoughtful reflection; well within the word limit.
Weekly Summaries (30–40 words per week)	Summaries provided but may lack clarity or depth; may exceed/fall short of word limits.	Summaries are clear and cover key points; mostly within word limits.	Summaries are clear, concise, and cover key points effectively; within word limits.	Summaries are clear, concise, and insightful; each week's learning is effectively highlighted; within word limits.
Use of MS Word and PowerPoint	Basic use of MS Word and PowerPoint; may lack visual appeal or organisation.	Effective use of MS Word and PowerPoint; organised and visually clear.	Effective use of MS Word and PowerPoint to highlight key points; organised and visually appealing.	Highly effective use of MS Word and PowerPoint to highlight key points; visually appealing and well-organised.

Criteria	Needs improvement: 2 Marks	Satisfactory: 4 Marks	Good: 7 Marks	Excellent: 10 Marks
<i>Submission</i>	<i>Submitted via email but parents not copied; some errors in following instructions.</i>	<i>Submitted via email with parents copied; minor errors in following instructions.</i>	<i>Submitted via email with parents copied; follows all instructions.</i>	<i>Submitted via email with parents copied; follows all instructions precisely.</i>

PLC SESSION 4: Basic Layout Tools in Word

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 3 that supported learning (NTS 2e, 2f, 3d–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 teachers to review the learning plan for week 4 by aligning the learning plan with Learner Material and appropriate assessment strategies.

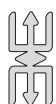
Learning Outcome

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 2a – 2f, 3a – 3j).



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 **demonstration** (NTS 3k, 3p).

E.g.

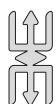
- a) *Demonstrate how to apply Headers and Footers on the following:*
 - i. *Different First Page*
 - ii. *Linking Headers and Footers*

Refer to Teacher Manual Book 1 pages: 48– 49 and Learner Material Section 1 for more assessment guide.

Hint



It is recommended that teachers remind learners about the submission of their group project work.



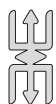
Note

- 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.*

2.4. 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 3k, 3p).

E.g.

- a) *3 marks: Learners who design headers and footers creatively to enhance document professionalism and usability.*
- b) *3 marks: Learners who integrates dynamic content (e.g., automatic date updates) and formatting in headers and footers effectively.*



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 3n–3p).

E.g.

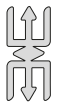
- a) *Clarify the expected outcomes, including the use of Microsoft Word features such as page layout, alignment, headers and footers, and page columns. Ensure to emphasis on their importance, etc.*

Refer to Teacher Assessment Manual and Toolkit pages 62–65, for more task example.

2.6. Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class.

E.g.

Acknowledge well-executed elements such as correct alignment, 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,1b).

3.2. Identify a critical friend to observe your lesson in relation to PLC Session 4 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) read PLC Session 5 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 5 in preparation for the next session. (NTS 3a).

PLC SESSION 5: Managing Lists and Styles in a Word Document

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers to review the learning plan for week 5 by aligning the learning plan with Learner Material and appropriate assessment strategies.

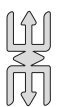
Learning Outcome

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 activities in your learning plan. (NTS 2a–2f, 3a–3j).



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 3k, 3p).

E.g.

Scan the QR code to select the correct multilevel list that categories the forms, number of classes and estimated number of males and females in each class.



Refer to Teacher Manual Book 1 pages 105– 107 and Learner Material Section 1 for more information.

Hint

Submission of group project 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.

2.4. 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 3k, 3p).

E.g.

Question	Answer	Scores
The correct multilevel list that categories the form, classes and estimated number of males and females is	1. Form 1; a. Arts 3, i. 20 males; ii. 20 females	Marks are awarded as points based on correct answer and the speed of answering.

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 3n–3p).

E.g.

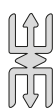
- a) *Discuss with learners the appropriate game(s) to be used (in this assessment example Kahoot platform was used), etc.*

Refer to Teacher Assessment Manual and Toolkit, pages 105–107, for more information.

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

E.g.

Collaborate with learners to rate the outcome of the gamified exercise 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,1b).

3.2. Identify a critical friend to observe your lesson in relation to PLC Session 5 and provide feedback on your lesson (1f, 3g)

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–3n).
- b) read PLC Session 6 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 6 in preparation for the next session (NTS 3a).

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, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers 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.

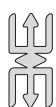
Learning Outcome

Review your learning plan for week 6 and prepare 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 6 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activities in your learning plan (NTS 2a–2f, 3a–3j).



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 3k, 3p).

E.g.

a) Section A: Multiple Choice – 10 items

- i. *The physical components of a computer are collectively called ...*
 - A. *hardware.*
 - B. *monitor*
 - C. *output device*
 - D. *software*

b) Section B: Essay – 4 items

- i. *Explain the relationship that the operating system has with computer hardware and application software.*

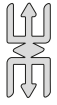
c) Section C: Practical – 2 items, answer 1

Task Description

Using your knowledge of Microsoft Word, complete the following tasks to demonstrate your proficiency in creating, formatting, and saving a document.

- i. *Create a new Microsoft Word Document*
- ii. *Save the document with your full name and class as the file name (e.g., “SirRaF_Form1_Science5.docx”).*
- iii. *Write a brief paragraph about the school. Include details such as the name of the school, its location, and a few sentences about what makes it unique or special.*
- iv. *Locate images of the school on the desktop.*
- v. *Insert the image into your document.*
- vi. *Position the image appropriately within the text.*
- vii. *Apply your skills in editing and formatting to enhance the document.*
 - *Use the following house style:*
 - o *Body Text: Font size 12, font colour set to automatic.*
 - o *Header Text: Font size 18.*
 - o *Figure Labels: Font size 10.*
 - o *Lists: Use numbered lists and bullet points where appropriate.*
 - o *Language setting UK English*
- viii. *Save the updated document in the “Mid–semester” folder located on the desktop.*

Refer to Teacher Manual Book 1 weeks 1–5, Learner Material Section 4 for more assessment guide.



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 3k, 3p).

E.g.

a) Multiple Choice

The physical components of a computer are collectively called ...

- A. **hardware** – answer (1 mark)
- B. monitor
- C. output device
- D. software

b) Essay

Explain the relationship that the operating system has with computer hardware and application software.

Expected Answer:

Full marks for complete answer -- 4 marks: The Operating System (OS) manages and controls hardware resources, including the CPU, memory, storage devices, and peripheral devices (such as printers, scanners, and keyboards). The OS ensures that these hardware components interact seamlessly and efficiently with each other and the software running on the system.

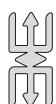
Partial marks for partially correct: 2 marks

No mark for incorrect answer: 0 mark

d) Practical task(s)

S/N	CRITERIA	MARKS
1	Document saved with the correct file name format (full name and class).	1
2	Paragraph about the school is written.	1
3	Relevant details included (name, location, unique aspects).	2
4	Content is clear and coherent.	2
5	Image of the school located and inserted.	2

S/N	CRITERIA	MARKS
6	<i>Positioned appropriately within the text.</i>	1
7	<i>Body Text: Font size 12, font colour automatic, Header Text – Font size 18.</i>	2
8	<i>Figure Labels: Font size 10.</i>	2
9	<i>Correct use of numbered lists and bullet points.</i>	3
10	<i>Document saved in the “mid-semester” folder on the desktop.</i>	2
11	<i>Final document free of spelling and grammatical errors.</i>	2

**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 3n–3p).

E.g.

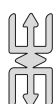
- a) *Prepare a table of test specifications (sample is attached in the session’s appendix C)*
- b) *Provide clear instructions and resources (such as computers with MS office installed and answer booklets) needed for the tasks, etc.*

Refer to Teacher Assessment Manual and Toolkit pages 83–86, 94–97 and 41–43, 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.

E.g.

Encourage learners to reflect on their performance, review their work, and identify 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, 1b).
- 3.2** Identify a critical friend to observe your lesson in relation to PLC Session 6 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 7 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 7 in preparation for the next session (NTS 3a).



Appendix C: Table of Specification Mid-Semester Examination

Weeks	Focal Area(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
1	Computer hardware needed to create a document.	Multiple Choice	1	1	1	–	3
		Essay	–	1			1
		Practical	–	–	–	–	–
2	Basic file handling in Word: Creating a new document, saving a document, opening an existing document, printing a document.	Multiple Choice	1	–	1	–	2
		Essay			1		1
		Practical					
3	Formatting tools: Changing font properties (colour, emphasis, capitalisation)	Multiple Choice	1	–	1	–	2
		Essay		1			1
		Practical					
4	Basic layout tools for lines, paragraphs and pages in Word, including page layout, alignment, headers and footers, and page columns	Multiple Choice	1	1	–	–	2
		Essay					
		Practical	–		1	–	1
5	Creating lists – bulleted, numbered, multi-level Editing lists – sorting and renumbering a list	Multiple Choice				1	1
		Essay			1		1
		Practical		1			1
	Total		4	5	6	1	16

Scan QR code for the soft copy



PLC SESSION 7: Digital Devices, its Importance and Technologies in Education

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, 1b and 2a-2e)
 - b) you found challenging (NTS 1a, 1b and 2a-2e)
- 1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f, 3d-3j).

2. Review of Learning Plans (60 minutes)

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

Purpose

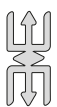
The purpose of the session teachers to review the learning plan for week 7 by aligning the learning plan with Learner Material and appropriate assessment strategies.

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/marketing 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 activities in your learning plan (NTS: 2a-2f, 3a-3j).



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 3k, 3p).

E.g.

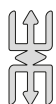
Discuss the names of digital devices and what the digital devices could be used for also show what areas of society that rely heavily on the use of digital devices.

Refer to Teacher Manual Book 1 pages 77–78, Learner Material Section 2 for more assessment guide.

Hint



It is recommended that teachers give learners an individual homework in the 7th academic week to be submitted in 11th week. Ensure the homework covers content from weeks 7– 10. Taking into consideration the DoK levels.



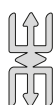
Note

- 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 3k and 3p).

E.g.

- a) *1 mark: Names at least two digital devices used in the chosen sector (Travel, Retail, or Banking)*
- b) *3 marks: Provides at least two specific examples of how digital devices improve processes or outcomes in the sector, 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 3n–3p).

E.g.

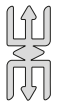
Monitor each group's progress, providing guidance and assistance as needed, etc.

Refer to Teacher Assessment Manual and Toolkit pages 66–69, 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. (N TS 3l–3n).

E.g.

Provide structured feedback highlighting strengths and 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,1b).
- 3.2** Identify a critical friend to observe your lesson in relation to PLC Session 7 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 8 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 8 in preparation for the next session (NTS 3a).

PLC SESSION 8: Main Features and Differences between the Digital Devices.

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f, 3d-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 teachers to review the learning plan for week 8 by aligning the learning plan with Learner Material and appropriate assessment strategies.

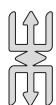
Learning Outcome

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.

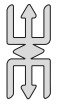
2.2. Review the pedagogical approaches proposed for teaching week 8 in your learning plan, identify activities that align with these in the Learner Material. Indicate the activities in your learning plan (NTS 2a-2f, 3a-3j).



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**.



Note

Discussion, exit card and self-assessment can also be used as the mode(s) of assessment (NTS 3k, 3p).

E.g.

- a) Use your assigned checklist to categorise the projected items into desktops, laptops, smart gadgets and servers.

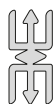


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- b) Write a brief description of why the devices belong to a category.

Refer to Teacher Manual Book 1 pages 84-26 and Learner Material Section 2 for more information.

**Note**

- i. *It is recommended that teachers remind learners about the submission of the homework, support should be giving to learners who needs assistance (consider the level of support and the marks to be deducted for giving support).*
- ii. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*
- iii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

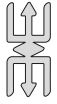
2.4. Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 3k, 3p).

E.g.

- a) 4 marks -- categorise 4 items for each rightful category
- b) 8 marks -- write a brief description of why the devices belong to a category, etc.

Item Number	Device Type	Desktops	Laptops	Smart Gadgets	Servers
1	Desktop Computer	√			
2	Gaming Laptop		√		
3	Tablet			√	
4					
5	High-performance Workstation	√			
6					
7					
8					
9					
10					
11					
12					
13					
14					
15	Home Media Server and smart watchers			√	√
16 to 33	Various Laptops and Servers	Conditionally	Conditionally		Conditionally

Sample of checklist is on the next page. Scan this QR code for soft copy.vvv



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 3n–3p).

E.g.

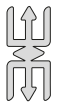
- a) Clearly define the criteria for assessment in each checklist
- b) Use the checklists consistently to assess learners' work. (Consider learners with mixed abilities and SEN)
- c) Reflect and provide constructive feedback to help improve themselves. (Self and peer assessment), etc.

Refer to Teacher Assessment Manual and Toolkit pages 91–94, 66–69, 11, 72–74, 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 3l–3n).

E.g.

- a) Review the checklist with the class
- b) 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, 1b).

3.2. Identify a critical friend to observe your lesson in relation to PLC Session 8 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) read PLC Session 9 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 9 in preparation for the next session (NTS 3a).

PLC SESSION 9: Smartphones, Digital Cameras, Wearables and Game Devices and their Impact on Social Media Usage

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f, 3d–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 teachers to review the learning plan for week 9 by aligning the learning plan with Learner Material and appropriate assessment strategies.

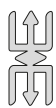
Learning Outcome

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 activities in your learning plan (NTS 2a–2f, 3a–3j).



Note

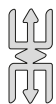
The selected activities should be included in the teacher/learner activity section of the learning plan.

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 3k, 3p).

E.g.

Research the purpose and uses of smartphones, digital cameras, wearable devices and games devices and present your findings using power point.

Refer to Teacher Manual Book 1 pages 95–97 and Learner Material Section 2 for more assessment guide.



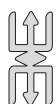
Note

- 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 3k, 3p).

E.g.

- a) *1 mark: Lists at least two devices*
- b) *2 marks: Describes at least two uses of the device*
- c) *2 marks: Provides examples of popular devices models and their uses.*
- d) *3 marks: Compares the benefits of using smartphones versus other devices for communication*
- e) *3 marks: Compares the benefits of using digital cameras versus smartphones for photography*
- f) *4 marks: Identifies and explains innovative uses of smartphones in various industries, 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 3n–3p).

E.g.

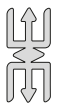
Ensure all learners have access to computers with internet access, Microsoft PowerPoint, and other necessary resources, etc.

Refer to Teacher Assessment Manual and Toolkit pages 77–80, 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 3l–3n).

E.g.

Provide structured feedback highlighting strengths and 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,1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 9 and provide feedback on your lesson (NTS 1f, 3g).
- 3.3.** Remember to:
- provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l–3n).
 - read PLC Session 10 and related Learner Material (NTS 3a).
 - bring along your Teacher Manual, PLC Handbook and learning plan on week 10 in preparation for the next session (NTS 3a).

PLC SESSION 10: Exploring E-book Readers, Media Players, Wireless Connections and Internet of Things

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f, 3d-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 teachers to review the learning plan for week 10 by aligning the learning plan with Learner Material and appropriate assessment strategies.

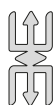
Learning Outcome

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/marketing 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 activities in your learning plan (NTS 2a-2f, 3a-3j).



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 3k, 3p).

E.g.

a) Background:

As technology continues to evolve, educational tools are also advancing, enhancing the learning experience for students across the globe. E-book readers, portable devices, and digital media players are increasingly becoming integral to both classroom and self-directed learning environments. These devices not only provide access to a vast number of resources but also offer various interactive features that can aid in the educational development of students.

Scenario:

Imagine your school has received a grant to integrate more technology into the curriculum. The school is considering the purchase of e-book readers, portable devices, and digital media players for each class in Year 7. The headteacher has tasked your group with researching and presenting the potential benefits and uses of these technologies in school.

Task

Prepare a report discussing the purpose and uses of the following technologies in an educational setting:

- i. *What are e-book readers?*
- ii. *How can they benefit your learning in school?*
- iii. *What features do e-book readers offer that traditional books do not?*
- iv. *What are portable devices, and how are they used in education?*
- v. *Discuss the advantages of using portable devices for schoolwork and homework.*
- vi. *Consider any potential challenges and how they might be overcome.*
- vii. *Explain what digital media players are and their function.*
- viii. *How can digital media players be used to enhance learning and engagement in the classroom?*
- ix. *What types of educational content can be accessed through digital media players?*

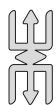
Objectives

- i. *Identify and explain the key features and benefits of each type of technology.*
- ii. *Analyse how these technologies can enhance learning experiences and outcomes.*
- iii. *Suggest practical ways these tools could be integrated into daily school activities.*

Deliverables

Your report should be well-structured, clear, and concise, including specific examples and potential scenarios where these technologies could be applied effectively in your school. Aim to convince the school management team of the value these technologies can add to the educational process, using evidence and examples from your research.

Refer to Teacher Manual Book 1 pages and Learner Material Section 2 for more assessment guide.



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 3k, 3p).

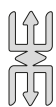
E.g.

Sample of the marking rubrics is attached on the next page

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Needs Improvement (2 marks)	Unacceptable (1 mark)
Understanding of Technology	Demonstrates a nuanced understanding by correctly explaining advanced features and benefits of e-book readers, portable devices, and digital media players, and linking them to educational contexts.	Provides accurate descriptions of technological features and their educational benefits, with only minor details missing or slightly inaccurate.	Describes technologies and their basic educational benefits but includes some inaccuracies or fails to mention advanced features.	Shows limited understanding, with errors in describing the basic features and benefits of the technologies.	Demonstrates incorrect or no understanding of the technologies; major errors are prevalent.
Analysis of Benefits	In-depth analysis linking specific technology features to educational outcomes, supported by multiple well-chosen examples and empirical evidence.	Good analysis of how technology benefits education, supported by relevant examples and some evidence.	Provides general benefits of technology use in education with some examples but lacks depth or detailed evidence.	Lists benefits without detailed analysis or supporting examples; connections to educational outcomes are weak.	Lacks analysis: provides incorrect or no benefits related to the use of technologies in education.

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Needs Improvement (2 marks)	Unacceptable (1 mark)
<i>Identification of Challenges</i>	<i>Critically identifies potential challenges and innovatively solves them with well-researched, detailed strategies that show a deep understanding of educational contexts.</i>	<i>Identifies relevant challenges and provides practical solutions, though they may not cover all scenarios or lack some detail.</i>	<i>Identifies obvious challenges; solutions provided are effective but lack creativity or detailed justification.</i>	<i>Identifies few challenges, and solutions are vague or minimally effective; shows limited foresight or understanding of the issues.</i>	<i>Does not identify challenges or solutions are unrealistic or non-existent.</i>
<i>Integration Strategies</i>	<i>Proposes innovative and feasible strategies for technology integration, clearly detailing each step and considering technological, pedagogical, and logistical aspects.</i>	<i>Provides practical and thoughtful integration strategies, detailed, covering major aspects of technological and educational integration.</i>	<i>Outlines basic strategies for technology integration that are practical but lack detail or consideration of some important aspects.</i>	<i>Strategies for integration are underdeveloped and show little understanding of how to effectively integrate technology in an educational setting.</i>	<i>Lacks meaningful or practical strategies for integration; strategies are infeasible or completely absent.</i>
<i>Quality of Presentation</i>	<i>Presentation is exceptionally structured and engaging, featuring flawless language and expertly used visual aids to enhance communication and audience understanding.</i>	<i>Presentation is well-structured and clear with minor errors in language or use of visual aids; maintains audience interest.</i>	<i>Presentation is coherent but lacks engagement or has noticeable errors in language or use of visuals.</i>	<i>Presentation is poorly structured and difficult to follow; errors in language and visuals significantly hinder understanding.</i>	<i>Presentation is incoherent, disorganised, and lacks basic language proficiency; visuals are poorly used or absent.</i>

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Needs Improvement (2 marks)	Unacceptable (1 mark)
Research and Evidence	Extensive, detailed research from a wide range of authoritative sources; evidence is expertly integrated and cited impeccably according to academic standards.	Solid research backs claims, using credible sources with occasional minor citation errors or slight gaps in source authority.	Adequate research with credible sources; some citation errors or irrelevant sources may be included.	Limited research: sources lack credibility or relevance; numerous citation errors.	Research is either plagiarised, minimal, or entirely absent; fails to cite sources or uses inappropriate or fictitious references.

**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 3n–3p).

E.g.

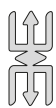
- a) Determine the format of the case study (e.g., written document, a multimedia presentation, a video, or a combination of these), depending on the resources available
- b) Ask open-ended questions on the issue of discussion to clarify any misconception, etc.

Refer to Teacher Assessment Manual and Toolkit pages 31 – 34, 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 3l–3n).

E.g.

- a) 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, 1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 10 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) Read PLC Session 11 and related Learner Material (NTS 3a).
 - c) Bring along your Teacher Manual, PLC Handbook and learning plan on week 11 in preparation for the next session (NTS 3a).

PLC SESSION 11: Evolution of Internet, Internet Service Providers (ISP) and their Advantages and Disadvantages

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f, 3d–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 teachers to review the learning plan for week 11 by aligning the learning plan with Learner Material and appropriate assessment strategies.

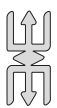
Learning Outcome

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 2a–2f, 3a–3j).



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-based** (NTS 3k, 3p).

E.g.

- a) *Research on the evolution of the internet*
- b) *Create a timeline in Word (using timeline templates) of the evolution of the internet.*
- c) *Create a mind map for*
 - i. *The advantages of the internet*
 - ii. *The disadvantages of the internet*

Refer to Teacher Manual Book 1 pages 119–121 and Learner Material Section 3 for more assessment guide.

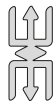
Hint



- a) *Submission of homework; teachers are expected to score learners homework.*
 - i. *At the end of the week's lesson, it is recommended teachers assign learners an individual research project on "physical safety hazards and their prevention in the use of computers," focusing on the focal areas in Weeks 21– 24. Learners are required to write a report using MS Word and create a PowerPoint presentation to present their findings.*
 - ii. *submission date: week 20.*

*A sample of an assessment rubrics has been attached to the session's **Appendix D**.*

Note



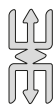
- i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*
- ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

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 3k, 3p).

E.g.

- a) *1 mark: Identifies at least three key events in the evolution of the internet.*
- b) *1 mark: Presents the mind map to the class.*
- c) *2 marks: Describes the significance of at least three key events in the evolution of the internet.*
- d) *2 marks: Provides detailed explanations for at least one advantage and disadvantage of the internet.*

- e) 3 marks: *depth analysis and insight during the seminar presentation.*
- f) 4 marks: *Predicts future trends based on past events shown in the timeline, 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 3n–3p).

E.g.

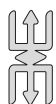
Explain the importance of understanding both the benefits and drawbacks of the internet and guide learners how to access and use timeline templates in Word, etc.

Refer to Teacher Assessment Manual and Toolkit pages 34–37, 77–80, 114–116, 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 3l–3n).

E.g.

Offer feedback on their delivery and content as they project and present, 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, 1b).

3.2. Identify a critical friend to observe your lesson in relation to PLC Session 11 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) Read PLC Session 12 and related Learner Material (NTS 3a).
- c) Bring along your Teacher Manual, PLC Handbook and learning plan on week 12 in preparation for the next session (NTS 3a).



Appendix D: Guide for Individual Research Assignment Rubric

Criteria	Level 1 (2 marks)	Level 2 (4 marks)	Level 3 (6 marks)	Level 4 (10 marks)
Research Content	<i>Limited research, few relevant details</i>	<i>Some research, some relevant details</i>	<i>Good research, relevant and detailed</i>	<i>Extensive research, highly relevant details</i>
Understanding of Hazards	<i>Minimal understanding, few examples</i>	<i>Basic understanding, some examples</i>	<i>Clear understanding, several examples</i>	<i>Comprehensive understanding, numerous examples</i>
Report Organisation	<i>Poorly organised, difficult to follow</i>	<i>Some organisation, clear</i>	<i>Well-organised, mostly clear</i>	<i>Highly organised, clear</i>
Writing Quality	<i>Numerous errors, hard to understand</i>	<i>Several errors, clear</i>	<i>Few errors, clear and coherent</i>	<i>No errors, noticeably clear and coherent</i>
Use of MS Word Features	<i>Minimal use of features</i>	<i>Basic use of features</i>	<i>Effective use of features</i>	<i>Advanced use of features</i>
PowerPoint Presentation	<i>Limited slides, few visuals</i>	<i>Basic slides, some visuals</i>	<i>Good slides, relevant visuals</i>	<i>Excellent slides, highly relevant visuals</i>
Presentation Skills	<i>Poor delivery, lacks confidence</i>	<i>Basic delivery, confident</i>	<i>Good delivery, confident</i>	<i>Excellent delivery, confident</i>
Adherence to Guidelines	<i>Few guidelines followed</i>	<i>Some guidelines followed</i>	<i>Most guidelines followed</i>	<i>All guidelines followed</i>
Timeliness	<i>Submitted late</i>	<i>Submitted slightly late</i>	<i>Submitted on time</i>	<i>Submitted early</i>

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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, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f, 3d–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 teachers 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.

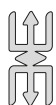
Learning Outcome

Review your learning plan for week 12 and 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 activities in your learning plan (NTS 2a–2f, 3a–3j).



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 3k, 3p).

E.g.

a) Section A: Multiple Choice – 40 items

- i. *The physical components of a computer are collectively called ...*
 - A. *hardware.*
 - B. *Monitor.*
 - C. *output device.*
 - D. *Software.*
- ii. *What is a router used for in computing?*
 - A. *Connecting several devices to a single internet connection*
 - B. *Creating driving directions for Google Maps*
 - C. *Processing sound*
 - D. *Providing power to the computer*

b) Section B: Essay– 6 items, answer 4

- i. *Explain the relationship that the operating system has with computer hardware and application software.*
- ii. *Describe two ways that a computer could get infected with a virus from being connected to the internet.*

c) Section C: Practical – 4 items, choose 2

Item 1:

- i. *Create a new Microsoft Word Document*
- ii. *Save the document with your full name and class as the file name (e.g., "SirRaF_Form1_Science2.docx").*
- iii. *Write a brief paragraph about the school. Include details such as the name of the school, its location, and a few sentences about what makes it unique or special.*
- iv. *Locate images of the school on the desktop.*
- v. *Insert the image into your document.*
- vi. *Position the image appropriately within the text.*
- vii. *Apply your skills in editing and formatting to enhance the document.*
 - *Use the following house style:*
 - o *Body Text: Font size 12, font colour set to automatic.*
 - o *Header Text: Font size 18.*

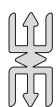
- o *Figure Labels: Font size 10.*
- o *Lists: Use numbered lists and bullet points where appropriate.*
- o *Language setting UK English*

viii. *Save the updated document in the “Mid-semester” folder located on the desktop.*

Item 2

- i. *Open Microsoft PowerPoint and create a new blank presentation.*
- ii. *Save your presentation using your full name and class as the file name, e.g., “SirRaF_Form1_VisualArts.pptx”.*
- iii. *On the first slide, title it “About Our School” and write a brief paragraph about the school, including the name, location, and what makes it unique.*
- iv. *Locate images of the school in the desktop folder “school image” insert at least one image into your presentation.*
- v. *Position the image appropriately within the slide and apply any desired styles.*
- vi. *Change the background of your slides to a mild colour or select template that reflects the theme of your presentation.*
- vii. *Set the font to Times New Roman, body text to font size 12 and colour to automatic, set the slide title text to font size 18, and if you have figure labels, set them to font size 10.*
- viii. *Apply animations and transition effect of your choice to your work.*
- ix. *Create a new slide titled “What Makes Our School Special?” and use bullet points to list out unique aspects or achievements of your school.*
- x. *Review your presentation for any errors or areas for improvement and save the last version in the “End-of-Term” folder on the desktop.*

Refer to Teacher Manual Book 1 weeks 1–12, Learner Material Section 3 for more assessment guide.



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 3k, 3p).

E.g.

a) Multiple Choice

- i. *The physical components of a computer are collectively called ...*

A. **hardware** – answer (1 mark)

B. *monitor*

C. *output device*

D. *software*

ii. What is a router used for in computing?

A. *Connecting several devices to a single internet connection* – Answer (1 mark)

B. *Creating driving directions for Google Maps*

C. *Processing sound*

D. *Providing power to the computer*

b) **Essay**

i. Explain the relationship that the operating system has with computer hardware and application software.

Expected Answer:

Full marks for complete answer -- 4 marks: The Operating System (OS) manages and controls hardware resources, including the CPU, memory, storage devices, and peripheral devices (such as printers, scanners, and keyboards). The OS ensures that these hardware components interact seamlessly and efficiently with each other and the software running on the system.

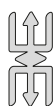
Partial marks for partially correct: 2 marks

No mark for incorrect answer: 0 mark

c) **Practical task(s)**

S/N	CRITERIA	MARKS
<i>MS Word</i>		
1	<i>Document saved with the correct file name format (full name and class).</i>	1
2	<i>Paragraph about the school is written.</i>	2
3	<i>Relevant details included (name, location, unique aspects).</i>	2
4	<i>Content is clear and coherent.</i>	3
5	<i>Image of the school located and inserted.</i>	2
6	<i>Positioned appropriately within the text.</i>	2
7	<i>Body Text: Font size 12, font colour automatic, Header Text – Font size 18.</i>	3
8	<i>Figure Labels: Font size 10.</i>	2
9	<i>Correct use of numbered lists and bullet points.</i>	3
10	<i>Document saved in the “Mid-semester” folder on the desktop.</i>	2
11	<i>Final document free of spelling and grammatical errors.</i>	3
Total		25

S/N	CRITERIA	MARKS
<i>PowerPoint</i>		
1	<i>Presentation saved with the correct file name format (full name and class).</i>	1
2	<i>Paragraph about the school is written on the first slide.</i>	2
3	<i>Relevant details included (name, location, unique aspects).</i>	2
4	<i>Content is clear and coherent across slides.</i>	3
5	<i>Image of the school located and inserted correctly.</i>	2
6	<i>Image positioned appropriately and formatted.</i>	2
7	<i>Slide formatting correct (Background, Body Text, Header Text).</i>	3
8	<i>Correct use of transitions between slides.</i>	3
9	<i>Effective use of bullet points and lists.</i>	3
10	<i>Presentation saved in the “End-of-Term” folder on the desktop.</i>	2
11	<i>Presentation is free of spelling and grammatical errors.</i>	2
Total		25

**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 3n–3p).

E.g.

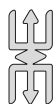
- a) *Prepare a table of test specifications (sample is attached in the session’s **Appendix E**)*
- b) *Provide clear instructions and resources (such as computers with MS office installed and answer booklets) needed for the tasks, etc.*

Refer to Teacher Assessment Manual and Toolkit pages 83–86, 94–97 and 41–43, 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.

E.g.

Encourage learners to reflect on their performance, review their work, and identify 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, 1b).
- 3.2** Identify a critical friend to observe your lesson in relation to PLC Session 12 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 13 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 13 in preparation for the next session (NTS 3a).



Appendix E: Table of Specification for End of Semester Examination

Weeks	Focal Area(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
1	Computer hardware needed to create a document.	Multiple Choice	1	1	1	–	3
		Essay	–	1			1
		Practical	–	–	–	–	–
2	Basic file handling in Word: Creating a new document, saving a document, opening an existing document, printing a document.	Multiple Choice	1	–	1	–	2
		Essay					
		Practical			1		1
3	Formatting tools: Changing font properties (colour, emphasis, capitalisation)	Multiple Choice	1	–	1	–	2
		Essay					
		Practical					
4	Basic layout tools for lines, paragraphs and pages in Word, including page layout, alignment, headers and footers, and page columns	Multiple Choice	1	1	–	1	3
		Essay					
		Practical	–		1	1	2
5	Creating lists – bulleted, numbered, multi-level Editing lists – sorting and renumbering a list	Multiple Choice				1	1
		Essay					
		Practical		1			1
6	Inserting new slides, text, and graphics	Multiple Choice			2	1	3
		Essay		1			1
		Practical			1	1	2
7	Why are digital devices important digital technologies in education	Multiple Choice	1		1		2
		Essay					
		Practical					
8	Identify differences between the digital devices (desktops, laptops, tablets), servers and smart gadgets.	Multiple Choice	2	1		1	4
		Essay					
		Practical					
9	Explore the link between smartphones and the increased use of social media platforms.	Multiple Choice	2	1		1	4
		Essay		1			1
		Practical					

Weeks	Focal Area(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
10	What makes a digital device smart? The different types of wireless connections	Multiple Choice	1	2		1	4
		Essay				1	1
		Practical					
11	Advantages and disadvantages of the internet	Multiple Choice	2	1	1	1	5
		Essay				1	1
		Practical					
12	Describe the functions of an internet service provider	Multiple Choice	3	1		2	6
		Essay		1			1
		Practical					
	Total		4	5	6	1	16

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PLC SESSION 13: Computer Network, its Advantages and Network Hardware

1. Introduction (20 minutes)

- 1.1** Share one thing on the lesson for week 12 and end of semester examination that:
- went well (NTS 1a, 1b and 2a-2e).
 - you found challenging (NTS 1a, 1b and 2a-2e).
- 1.2** Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-3j).

2. Review of Learning Plans (60 minutes)

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

Purpose

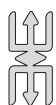
The purpose of the session teachers to review the learning plan for week 13 by aligning the learning plan with Learner Material and appropriate assessment strategies.

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

- 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.
 - Discuss and develop assessment tasks and rubrics/marketing 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 activities in your learning plan (NTS 2a – 2f, 3a – 3j).



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 **class exercise** (NTS 3k, 3p).

E.g.

Research and answer the following questions

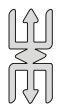
- a) *What does computer networking stand for?*
- b) *Explain the advantages of a computer network over a set of stand-alone computers.*

Refer to Teacher Manual Book 2 pages 11–12, Learner Material Section 4 for more assessment guide.

Hint



It is recommended to give learners an individual mini research homework on week 18's focal area "transmission media – twisted wire, coaxial, and optical and the differences between them" to present their findings in academic week 18, if there is time to teach after the mid-semester examination.



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.*

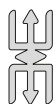
2.4 Discuss (and agree as a subject group) how you will develop the marking scheme/ rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 3k, 3p)

E.g.

- c) *Expected Answers: A computer network is a set of **interconnected computers** that **communicate and share resources** with each other.*

Key components mentioned for marks:

- *1 mark: Interconnected computers*
 - *1 mark: Communication and resource sharing*
- d) *Explanation with these key advantage*
 - *2 marks: **Sharing Resources***
 - *2 marks: **Communication***
 - *2 marks: **Centralised Management and Data***
 - *2 marks: **Increased Efficiency and Productivity***
 - *2 marks: **Flexibility and Scalability, 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 3n–3p).

E.g.

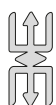
Ensure all necessary resources are available, including access to computers (laptops/ phones/ desktop) with internet, etc.

Refer to Teacher Assessment Manual and Toolkit pages 80–83 for more 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 3l–3n).

E.g.

Provide constructive feedback based on learners' performance and areas needing improvement 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, 1b).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 13 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) read PLC Session 14 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 14 in preparation for the next session (NTS 3a).

PLC SESSION 14: Classification of Network Types and their Differences

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e).
- b) you found challenging (NTS 1a, 1b and 2a–2e).

1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers to review the learning plan for week 14 by aligning the learning plan with Learner Material and appropriate assessment strategies.

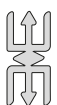
Learning Outcome

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 activities in your learning plan (NTS 2a – 2f, 3a – 3j).



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 3k, 3p).

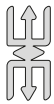
E.g.

Scan the QR code to answer the true or false questions based on your understanding of network areas.



- a. Click or enter “play solo”
- b. Click or enter “Class mode” and play the quiz game.
- c. To use this in class, click on Host Live and sign up onto Kahoot before and follow the prompts that follows. To host the competition and guide others to join.

Refer to Teacher Manual Book 2 page 17, Learner Material Section 4 for more assessment guide.



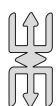
Note

- 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 3k, 3p).

E.g.

Question	Answer	Marks
A Personal Area Network (PAN) is typically designed to cover large geographic areas, connecting multiple buildings.	False	Marks are awarded as points based on correct answer and the speed of answering.
Local Area Networks (LAN) are commonly used in offices and schools to connect computers within a limited area.	True	
Metropolitan Area Networks (MAN) can cover a city-sized area, often used to connect several LANs.	True	
Wide Area Networks (WAN) are used to connect devices that are typically within a few kilometres of each other.	False	
The range of a PAN is typically less than 10 meters, primarily using wireless transmission technologies.	False	
LANs, unlike WANs, cannot use routers to manage network traffic.	False	
WANs are restricted to a single country's borders due to their reliance on public transmission facilities.	True	
MAN, diagrams often depict connections spanning multiple buildings over a city using links like fibre optic cables.	True	
WAN diagrams only include wired connections without any wireless links.	False	
The diagram of a PAN typically includes devices like smartphones, laptops, and Bluetooth peripherals.	True	



Note

- 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.
- Take into consideration different modes of responses provided by learners.
- 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 3n–3p).

E.g.

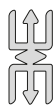
Enable screen readers and give more time to learners with SEN to play the quiz game, etc.

Refer to Teacher Assessment Manual and Toolkit pages 105–107, 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 3l–3n).

E.g.

Review questions with learners to strength their understanding, 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, 1b).
- 3.2** Identify a critical friend to observe your lesson in relation to PLC Session 14 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 15 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 15 in preparation for the next session (NTS 3a).

PLC SESSION 15: Classification of Network Types According to Architecture

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e).
- b) you found challenging (NTS 1a, 1b and 2a–2e).

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers to review the learning plan for week 15 by aligning the learning plan with Learner Material and appropriate assessment strategies.

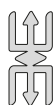
Learning Outcome

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 activities in your learning plan (NTS 2a – 2f, 3a – 3j).



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 **class exercise** (NTS 3k, 3p).

E.g.

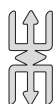
In your own words explain what client-server and peer-to-peer are

Refer to Teacher Manual Book 2 pages 20–22, Learner Material Section 4 for more assessment guide.

Hint



Class Exercise— It is recommended that teachers inform learners there will be a class quiz in the last hour of the lesson for the week. Review questions in the Learner Material and key assessment in the Teacher Manual can be used as a guide for the exercise. Ensure the questions are in the order of the DoK Levels and cover's weeks 13–15 focal areas.



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 3k, 3p).

E.g.

Client-Server Network Explanation (3 marks): In a client-server network, there is a clear distinction between server machines and client machines. The server hosts, manages, and provides resources or services such as data, files, or applications, while the clients connect to the server to request these services. The server processes these requests and sends back the appropriate responses.

Example: Web Browsing.

Criteria for Marks:

Detailed description of the roles of server and client machines (1 mark).

Explanation of the interaction between client and server (1 mark).

Relevant, correct example provided (1 mark).

Peer-to-Peer Network Explanation (3 marks): In a P2P network, each node, or peer, acts both as a client and a server. This model is decentralised, meaning that there is no central server managing the network. Each peer is autonomous, directly interacting with other peers to share and access resources.

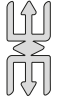
Example: Bluetooth File Sharing.

Criteria for Marks:

Detailed description of how peers function as both client and server (1 mark).

Explanation of the decentralised nature of the network (1 mark).

Relevant, correct example provided (1 mark).

**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 3n–3p).

E.g.

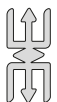
Observe learners as they work on the exercise, etc.

Refer to Teacher Assessment Manual and Toolkit pages 80–83, 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 3l–3n).

E.g.

Provide constructive feedback for learners' performance for discussions, 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, 1b).

3.2. Identify a critical friend to observe your lesson in relation to PLC Session 15 and provide feedback on your lesson (NTS 1f, 3g).

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–3n)
- b) read PLC Session 16 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 16 in preparation for the next session (NTS 3a).

PLC SESSION 16: Cloud Networks and Traditional Networks

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-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 teachers to review the learning plan for week 16 by aligning the learning plan with Learner Material and appropriate assessment strategies.

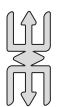
Learning Outcome

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 2a – 2f, 3a – 3j).



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 3k, 3p).

E.g.

Based on your understanding of network computing, critique the concept map shown in Fig.1 and provide alternative concept map based on your critique.

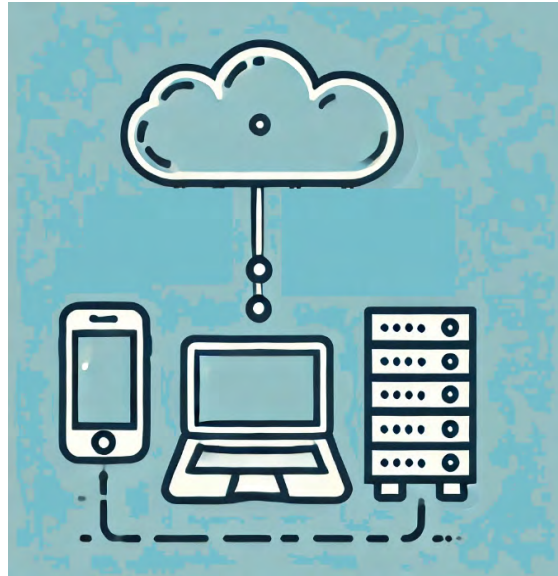


Figure 1: cloud computing

Refer to Teacher Manual Book 2 pages 26–27, Learner Material Section 4 for more assessment guide.

Hint

Remind learners about the presentation in week 18.

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 3k, 3p).

E.g.

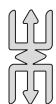
A sample of the rubric for critiquing and suggesting an alternative network computing concept map is attached on the next page. The soft copy version is available in this QR code

Scan the QR code to answer the true or false questions based on your understanding of network areas.



Criteria	Excellent (5 marks)	Good (3 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
<i>Accuracy of Critique</i>	<i>Thoroughly identifies and explains both the correct and missing elements in the concept map, such as the absence of security measures or data encryption between devices. Articulates how each element impacts the overall system functionality.</i>	<i>Identifies and discusses most inaccuracies or missing elements like data synchronisation issues or lack of redundancy features but misses subtler details.</i>	<i>Notes basic inaccuracies or missing elements such as missing links between devices but lacks depth in explanation.</i>	<i>Fails to identify critical inaccuracies or misunderstands fundamental components like the cloud or server roles in data handling.</i>
<i>Understanding of Network Components</i>	<i>Demonstrates comprehensive knowledge of each depicted network component (cloud, server, laptop, smartphone), articulating their specific roles, data flow, and interdependencies clearly and accurately.</i>	<i>Shows solid understanding of major components and their basic relationships, but minor misconceptions about roles like cloud storage versus local storage might appear.</i>	<i>Has foundational understanding of components but shows noticeable gaps, like confusing server capabilities with cloud functions.</i>	<i>Shows limited or incorrect understanding of network components, significantly misrepresenting the relationships or functionalities.</i>

Criteria	Excellent (5 marks)	Good (3 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
<i>Clarity and Logic of Alternative Concept Map</i>	<i>Crafts a highly detailed and logically coherent alternative concept map that introduces advanced concepts such as multi-tier architecture or hybrid cloud solutions, effectively enhancing the understanding of network relationships.</i>	<i>The alternative concept map is clear and improves upon the original by addressing major flaws or adding missing links like VPNs for secure connections.</i>	<i>Shows effort in organisation but the alternative concept map is still disorganised, making the network's operational flow unclear.</i>	<i>Produces an alternative concept map that lacks logical organisation, with critical errors like misplacing components or overlooking data paths.</i>
<i>Innovativeness of Alternative</i>	<i>Presents an innovative and technically sound alternative that significantly enhances the original concept map by introducing modern technologies or configurations, such as incorporating IoT devices or edge computing elements.</i>	<i>Provides a thoughtful alternative that enhances understanding, such as clearer delineation of public vs. private network components.</i>	<i>Minimal innovation is evident; the alternative slightly modifies the original without introducing significant new insights or technologies.</i>	<i>Does not provide a viable alternative; the new concept map is too like the original, lacking any creative or technical improvements.</i>
<i>Use of Technical Language</i>	<i>Expertly utilises precise technical language to describe complex network concepts, correctly employing terms like 'latency,' 'bandwidth,' or 'protocol compatibility.'</i>	<i>Generally, uses appropriate technical language, with minor errors in terms like mixing up 'bandwidth' with 'throughput.'</i>	<i>Occasionally uses technical terms inaccurately or fails to employ necessary technical language to fully explain network concepts.</i>	<i>Misuses or completely lacks technical language necessary for describing network components, resulting in significant comprehension issues.</i>

**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 3n–3p).

E.g.

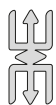
Comment on the clarity and organisation of learners' work, etc.

Refer to Teacher Assessment Manual and Toolkit pages 74–77, 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.

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, 1b).

3.2. Identify a critical friend to observe your lesson in relation to PLC Session 16 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) Read PLC Session 17 and related Learner Material (NTS 3a).
- c) Bring along your Teacher Manual, PLC Handbook and learning plan on week 17 in preparation for the next session. (NTS 3a).

PLC SESSION 17: Classification of Network Types According to Topology and their Advantages and Disadvantages

1.. Introduction (20 minutes)

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

- a) Went well (NTS 1a, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–3j).

2. Review of Learning Plans (60 minutes)

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

Purpose

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

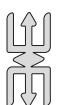
Learning Outcome

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 activities in your learning plan. (NTS 2a–2f, 3a–3j).



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 3k, 3p).

E.g.

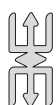
Which topology provides the best security features: Mesh or Star?

Refer to Teacher Manual Book 2 pages 33–35, Learner Material Section 4 for more assessment guide.

Hint



Teachers are to remind learners about their presentation in week 18 and the submission of individual project work 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 3k, 3p).

E.g.

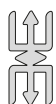
A sample of the assessment rubrics is attached on the next page. Its soft copy version is also available in this QR code



Criteria	Excellent (10 marks)	Good (8 marks)	Satisfactory (6 marks)	Needs Improvement (4 marks)
Accuracy in Describing Topologies	<i>Demonstrates an in-depth understanding by accurately describing multiple network topologies, including their structural features and typical use cases, without any errors.</i>	<i>Mostly accurate descriptions of topologies, including key features and applications, with only minor errors or omissions.</i>	<i>Provides basic descriptions of several topologies but includes inaccuracies and omits details on applications or features.</i>	<i>Provides incorrect or incomplete descriptions, lacking detail on the structural features or practical applications of topologies.</i>

Criteria	Excellent (10 marks)	Good (8 marks)	Satisfactory (6 marks)	Needs Improvement (4 marks)
<i>Comparative Analysis</i>	<i>Thoroughly compares topologies, articulately highlighting distinct advantages and disadvantages of each, providing examples and scenarios where one may be preferred over another.</i>	<i>Provides a clear comparison of topologies with details on advantages and disadvantages but may lack depth in examples or scenarios.</i>	<i>Offers a general comparison of topologies with limited detail on specific advantages or disadvantages.</i>	<i>Fails to provide a meaningful comparison; comparisons are mostly inaccurate or too vague to be useful.</i>
<i>Argumentation on Best Topology</i>	<i>Constructs a compelling and well-supported argument, using evidence such as case studies or empirical data, to justify why a particular topology is optimal for specified scenarios.</i>	<i>Presents clear arguments for the suitability of a topology with good reasoning and support, though the argument may not be as compelling or detailed.</i>	<i>Makes basic arguments with minimal support, showing a superficial understanding of the suitability of topologies for different scenarios.</i>	<i>Lacks coherent arguments; provides unsupported or illogical reasoning for the choice of topology.</i>
<i>Defending Against Counter arguments</i>	<i>Skilfully counters opposing views with logical, well-reasoned arguments and substantial evidence, demonstrating an ability to engage critically with different perspectives.</i>	<i>Addresses opposing views with some effectiveness, using logical reasoning but with limited evidence or depth in the response.</i>	<i>Acknowledges counterarguments but responds with weak or superficial counterpoints that lack depth.</i>	<i>Fails to address or effectively respond to counterarguments; responses may be irrelevant or non-existent.</i>

Criteria	Excellent (10 marks)	Good (8 marks)	Satisfactory (6 marks)	Needs Improvement (4 marks)
<i>Use of Technical Knowledge</i>	<i>Exhibits superior technical knowledge, using accurate and relevant terminology precisely; demonstrates a deep understanding of how different topologies impact network performance and suitability.</i>	<i>Displays good technical knowledge with minor inaccuracies; uses relevant terminology correctly most of the time.</i>	<i>Shows adequate technical understanding, but with notable gaps in knowledge or occasional misuse of technical terms.</i>	<i>Demonstrates limited or incorrect technical knowledge; frequent misuse of terms or fundamental misunderstandings.</i>
<i>Clarity and Organisation</i>	<i>Presentation is exceptionally well-organised and engaging, with clear, logical flow and professionally executed visuals that significantly enhance comprehension and retention of the material.</i>	<i>Presentation is well-organised with a clear structure, though minor lapses in flow or visual presentation may occur.</i>	<i>Presentation is organised well enough to follow, but lacks engaging elements or clarity, which hinders understanding.</i>	<i>Presentation is poorly organised and confusing, with significant issues in flow and clarity, making it difficult for the audience to follow.</i>

**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 3n–3p).

E.g.

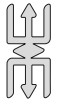
Monitor and take notes and select resources and materials needed, etc.

Refer to Teacher Assessment Manual and Toolkit pages 52 and 53 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 3l–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, 1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 17 and provide feedback on your lesson (1f, 3g).
- 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–3n).
 - b) read PLC Session 18 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 18 in preparation for the next session (NTS 3a).

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, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-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 teachers 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.

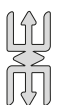
Learning Outcome

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 learning 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 activities in your learning plan (NTS 2a-2f, 3a-3j).



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 3k, 3p).

E.g.

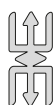
a) Section A: Multiple Choice – 15 items

- I. What do IT teams need to consider as they plan to migrate to cloud network environments?
 - A. Business requirements
 - B. How much the migration will cost
 - C. Level of performance monitoring
 - D. The risk involved
 - E. All the above

b). Section B: Essay – 3 items

- i. Draw annotated diagrams to illustrate the difference between a client-server and a peer-to-peer network.

Refer to Teacher Manual Book 2 pages weeks 13–17 key assessment, Learner Material Section 4 for more assessment guide.



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 3k, 3p).

E.g.

a) Multiple Choice

What do IT teams need to consider as they plan to migrate to cloud network environments?

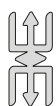
- A. Business requirements
- B. How much the migration will cost
- C. Level of performance monitoring
- D. The risk involved
- E. All the above (**Answer** – 1 mark)

b) **Essay**

Refer to Teacher Manual Book 2 pages 18 for sample annotations of client and P2P.

Scoring Criteria

Criteria	Excellent (12 marks, 3 for each category)	Good (8 marks, 2 for each category)	Satisfactory (4 marks, 1 for each category)	Poor (2 marks, 0.5 for each category)
Accuracy of Diagrams	Diagrams are meticulously drawn, displaying both network types with precise labelling of all components including nodes, connections, and any specific network devices.	Diagrams accurately represent the network types with most components correctly labelled; minor inaccuracies or omissions in labelling may be present.	Diagrams identify the major components of each network type but may omit detailed labelling of lesser-known elements.	Diagrams are inaccurately represented or oversimplified with significant labelling errors.
Clarity of Annotations	Annotations are detailed and articulate, thoroughly explaining the function and role of each network component, including how they interact within the network.	Annotations are mostly clear and provide a good explanation of component functions, though some minor ambiguities remain.	Annotations describe the basic functions of major components but lack depth and detail, making some explanations vague.	Annotations are minimal, incorrect, or completely lacking, providing no useful information.
Distinction of Types	Provides a comprehensive analysis that excellently highlights and explains the structural and functional differences between client-server and peer-to-peer architectures.	Effectively identifies and describes the key differences between the architectures with only slight oversights.	Identifies basic differences between the network types but explanations lack depth or detail, leaving some ambiguity.	Provides inadequate or incorrect distinctions, failing to clearly differentiate the network types.
Presentation	Diagrams are exceptionally well-drawn and organised, using a logical layout that enhances the viewer's understanding and appreciation of the network concepts.	Diagrams are neat and adequately organised, making it easy to understand the layout and flow of the networks.	Diagrams are organised but lack the neatness and clarity that would facilitate easier comprehension.	Diagrams are disorganised, poorly drawn, and challenging to interpret, detracting from the educational value.

**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 3n–3p).

E.g.

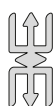
- a) *Prepare a table of test specifications (sample is attached in the session's appendix F)*
- b) *Clarify any doubts about the assessment task and control the environment to prevent cheating, etc.*

Refer to Teacher Assessment Manual and Toolkit pages 83–86, 94–97 and 41–43, 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.

E.g.

Encourage learners to reflect on their performance, review their work, and identify 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, 1b).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 18 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) read PLC Session 19 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 19 in preparation for the next session (NTS 3a).



Appendix F: Table of Specification for Mid-Semester Examination

Weeks	Focal Area(s)	Type of Questions	DoK Levels				Total
			1	2	3	4	
13	1. What is a computer network?	Multiple Choice	1	1	1	-	3
	2. Advantages of a computer network over a set of stand-alone computers	Essay	-	1			1
	3. Network hardware						
14	1. Classification of network types according to area	Multiple Choice	1	-	1	-	2
	2. Comparing different area networks	Essay			1		1
15	1. Classification of network types according to architecture – client-server networks and peer-to-peer networks	Multiple Choice	1	-	1	-	2
	2. Comparing client-server networks to peer-to-peer networks	Essay		1			1
16	1. An overview of cloud networks	Multiple Choice	1	1	-	-	2
	2. The differences between cloud computing and traditional computing						
17	1. Classification of network types according to topology	Multiple Choice				1	1
	2. Advantages and disadvantages of bus, star, ring and mesh topologies	Essay			1		1
	Total		4	4	5	1	14

PLC SESSION 19: Features of the Guided and Unguided Transmission Media and their Differences

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, 1b and 2a-2e)
 - b) you found challenging (NTS 1a, 1b and 2a-2e)
- 1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-3j).

2. Review of Learning Plans (60 minutes)

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

Purpose

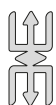
The purpose of the session teachers to review the learning plan for week 19 by aligning the learning plan with Learner Material and appropriate assessment strategies.

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/marketing 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 activities in your learning plan (NTS 2a-2f, 3a-3j).



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 3k, 3p).

E.g.

- a) *What are unguided transmission media?*
- A. *Media that requires direct line-of-sight between transmitting and receiving stations*
 - B. *Media that uses electromagnetic waves to transmit data through air or vacuum*
 - C. *Media that uses physical cables to transmit data*
 - D. *None of the above*

Scan this QR code for the assessment



Refer to Teacher Manual Book 2 pages 46–48, Learner Material Section 4 for more assessment guide.

Hint

Teachers are to remind learners about the submission of their individual project work.

Note

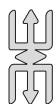
- i. *The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*
- ii. *The selected activities should be included in the 'Assessment DoK aligned to Curriculum and TM' section below teacher/learner activities of the learning plan.*

2.4 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 3k, 3p).

E.g.

- a) *What are unguided transmission media?*
- A. *Media that requires direct line-of-sight between transmitting and receiving stations*
 - B. *Media that uses electromagnetic waves to transmit data through air or vacuum*
 - C. *Media that uses physical cables to transmit data*
 - D. *None of the above*

Correct Answer: *Media that uses electromagnetic waves to transmit data through air or vacuum.*

**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 3n–3p).

E.g.

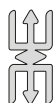
Create learner instructions that specify how learners use the assessment platform, etc.

Refer to Teacher Assessment Manual and Toolkit pages 86–88, for more task examples.

2.6 Discuss how to provide feedback, and where appropriate, record and submit the assessment scores for each learner in the class. (N TS 3l–3n).

E.g.

Reflects on activity with the goal of improving the use of the technologies used in e-Assessment, 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, 1b).

3.2 Identify a critical friend to observe your lesson in relation to PLC Session 19 and provide feedback on your lesson (NTS 1f, 3g).

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–3n).
- b) read PLC Session 20 and related Learner Material (NTS 3a).
- c) bring along your Teacher Manual, PLC Handbook and learning plan on week 20 in preparation for the next session (NTS 3a).

PLC SESSION 20: Connections with Wireless and Wired Networks

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers to review the learning plan for week 20 by aligning the learning plan with Learner Material and appropriate assessment strategies.

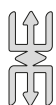
Learning Outcome

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 activities in your learning plan (NTS 2a–2f, 3a–3j).



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 3k, 3p).

E.g.

Create a poster illustrating the steps of how to connect a computer (phone/laptop/desktop) to a Wi-Fi network.

Refer to Teacher Manual Book 2 pages 56–57, Learner Material Section 4 for more assessment guide.

Hint

Teachers are to remind learners about the submission of their portfolio.

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.*

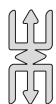
2.4. Discuss (and agree as a subject group) how you will develop the marking scheme/rubrics for scoring the assessment task(s)/item(s) for the week's recommended assessment (NTS 3k, 3p).

E.g.

Sample of rubrics is attached on the next page

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Needs Improvement (2 marks)	Unacceptable (1 mark)
Accuracy of Content	<i>Poster accurately presents all steps: selecting the Wi-Fi icon, choosing the network, entering the password, and confirming connection. Each step is correct and includes all necessary details.</i>	<i>Steps are presented in correct order, with only minor inaccuracies in descriptions that do not mislead.</i>	<i>Key steps are correct, but one essential detail is either missing or incorrect.</i>	<i>Several steps are either incorrect or missing, leading to potential confusion about the process.</i>	<i>Poster contains multiple factual errors; steps are mostly incorrect or missing, misleading the user.</i>

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Needs Improvement (2 marks)	Unacceptable (1 mark)
Clarity of Instructions	<i>Instructions are succinct, clearly written in an active voice, and directly address the user, making each step easy to follow.</i>	<i>Instructions are clear but may include slight ambiguities; still, they direct the user adequately.</i>	<i>Instructions cover all necessary points but lack conciseness or clarity in some parts.</i>	<i>Instructions are unclear or too complex, making it hard to understand without prior knowledge.</i>	<i>Instructions are confusing and lack logical flow, making them difficult to follow.</i>
Visual Appeal and Design	<i>The poster is aesthetically pleasing, with a harmonious blend of text and visuals that are aligned and well-spaced, enhancing readability.</i>	<i>The poster is visually appealing and well-organised but may benefit from better alignment or spacing of elements.</i>	<i>The design is functional with all elements present but lacks creative appeal or visual balance.</i>	<i>The design is cluttered with poor use of space, which detracts from the content's readability.</i>	<i>The design is unprofessional and visually jarring, hindering engagement and comprehension.</i>
Use of Icons and Illustrations	<i>Icons and illustrations are professionally designed, accurately represent each step, and are placed appropriately to enhance comprehension.</i>	<i>Icons and illustrations are appropriate and relate to the steps but could be more descriptive or better positioned.</i>	<i>Icons and illustrations are used but may not clearly depict the action or are too generic.</i>	<i>Icons and illustrations do not clearly correspond to the steps, causing confusion.</i>	<i>Icons and illustrations are either completely irrelevant or absent, providing no support.</i>
Overall Organisation	<i>The poster has a strong narrative structure, with a clear introduction, detailed body, and a summarising conclusion, guiding the viewer effortlessly through the content.</i>	<i>Organisation is logical with a clear beginning, middle, and end, though transitions could be smoother.</i>	<i>The organisation allows for basic understanding but lacks fluid transitions between sections.</i>	<i>Poor organisation with abrupt or confusing transitions between sections.</i>	<i>The layout is chaotic, with no discernible order, making it impossible to understand the procedure.</i>

**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 3n–3p).

E.g.

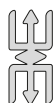
Brief learners on the assessment criteria to be used and clearly let learners understand the reason of assessing them by Poster Assessment process, etc.

Refer to Teacher Assessment Manual and Toolkit pages 97–99, 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 3l–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, 1b).
- 3.2. Identify a critical friend to observe your lesson in relation to PLC Session 20 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 21 and related Learner Material (NTS 3a).

bring along your Teacher Manual, PLC Handbook and learning plan on week 21 in preparation for the next session (NTS 3a).

PLC SESSION 21: Computer Safety Risks

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-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 teachers to review the learning plan for week 21 by aligning the learning plan with Learner Material and appropriate assessment strategies.

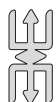
Learning Outcome

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 activities in your learning plan (NTS 2a-2f, 3a-3j).



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 3k, 3p).

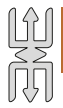
E.g.

Discuss at most 2 musculoskeletal disorders that could be caused by the prolonged or improper use of a computer and write your thoughts on a paper.

Refer to Teacher Manual Book 2 pages 66–68, Learner Material Section 5 for more assessment guide.

Hint

Teachers are to remind learners about the submission of their portfolio 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.*

2.4. 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 3k, 3p).

E.g.

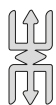
a) *Carpal Tunnel Syndrome (CTS) – 4 marks*

- i. *Understanding of Condition (1 mark): Discuss what Carpal Tunnel Syndrome is and why it occurs, focusing on its relation to repetitive motions like typing.*
- ii. *Identification of Symptoms (1 mark): Describe the common symptoms of CTS and how they might affect daily activities.*
- iii. *Preventative Measures (1 mark): Propose strategies or workplace adjustments to prevent the onset of Carpal Tunnel Syndrome*
- iv. *Impact Discussion (1 mark): Discuss the potential long-term effects of CTS if left untreated or not managed properly.*

b) *Tendonitis – 4 marks*

- i. *Understanding of Condition (1 mark): Explain what tendonitis is and its common causes, especially in relation to office work.*
- ii. *Identification of Symptoms (1 mark): Identify and describe symptoms that are particularly relevant to repetitive office tasks.*
- iii. *Preventative Measures (1 mark): Suggest practical changes in workplace habits or ergonomic improvements to reduce the risk of developing tendonitis.*

- iv. *Impact Discussion (1 mark): Evaluate how untreated tendonitis can impact work performance and personal life, 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 3n–3p).

E.g.

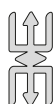
Establish discussion guidelines or rules (let learners know what is expected of them, the content of the discussion and the format of the discussion i.e., individual, small or whole class), etc.

Refer to Teacher Assessment Manual and Toolkit pages 66–68, 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 3l–3n).

E.g.

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, 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, 1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 21 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 22 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 22 in preparation for the next session (NTS 3a).

PLC SESSION 22: Physical Safety Risks and Preventives in Using Computers

1. Introduction (20 minutes)

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

- a) went well (NTS 1a, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-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 teachers to review the learning plan for week 22 by aligning the learning plan with Learner Material and appropriate assessment strategies.

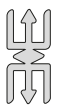
Learning Outcome

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 activities in your learning plan (NTS 2a-2f, 3a-3j).



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 3k, 3p).

E.g.

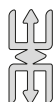
- Use your assigned rubrics scheme to score your colleagues presentation on the following questions.*
- How eyestrain is a vision problem from using computers*
- what its symptoms are*
its causes and preventative measures.

Refer to Teacher Manual Book 2 pages 74–76, Learner Material Section 5 for more assessment guide.

Hint



Teachers are to create and share (e.g. print, etc.) a sample of an assessment scheme for learners to use to peer assessment their colleagues.



Note

- The assessment tasks/items may cover levels 1 to 4 where appropriate to ensure that assessment is differentiated for all.*
- 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 3k, 3p).

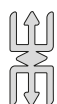
E.g.

The assessment rubrics is attached on the next page. A soft copy is available via this QR code



Criteria	Description	Marks	Groups	Group's Score
Understanding of Eyestrain as a Vision Problem	clearly defines eyestrain and establishes it as a common vision-related issue due to prolonged computer use.	5 marks	Group 1	
			Group 2	
			Group 3	
			Group 4	
			Group 5	

Criteria	Description	Marks	Groups	Group's Score
Symptoms of Eyestrain	Detailed description of the symptoms associated with computer-related eyestrain, such as sore or irritated eyes, blurred vision, headache, and difficulty concentrating.	5 marks	Group 1	
			Group 2	
			Group 3	
			Group 4	
			Group 5	
Causes of Eyestrain	Comprehensive explanation of the causes leading to eyestrain from computer use, including poor lighting, glare on the computer screen, improper viewing distances, poor seating posture, and uncorrected vision problems.	5 marks	Group 1	
			Group 2	
			Group 3	
			Group 4	
			Group 5	
Preventative Measures	Describes multiple effective preventative measures to reduce or prevent eyestrain, such as proper monitor placement, lighting adjustments, use of anti-glare screens, regular eye breaks (20-20-20 rule), and ensuring proper vision correction.	5 marks	Group 1	
			Group 2	
			Group 3	
			Group 4	
			Group 5	
Clarity and Coherence	Information is presented in a clear, logical, and coherent manner, with each point effectively contributing to the overall understanding of the topic.	5 marks	Group 1	
			Group 2	
			Group 3	
			Group 4	
			Group 5	
Use of Examples and Evidence	Incorporates relevant examples or cites evidence to support claims about symptoms, causes, and prevention of eyestrain.	5 marks	Group 1	
			Group 2	
			Group 3	
			Group 4	
			Group 5	

**Note**

- 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.
- Take into consideration different modes of responses provided by learners.
- 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 3n–3p).

E.g.

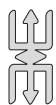
Guide learners with special educational needs in scoring their peers through questioning, etc.

Refer to Teacher Assessment Manual and Toolkit pages 91–93, for more 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 3l–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, 1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 22 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 23 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 23 in preparation for the next session (NTS 3a).

PLC SESSION 23: Sleep Disorders, Weight Problems, Depression and Anxiety from Using Computers

1. Introduction (20 minutes)

1.1. Share one thing on the lesson for week 22 delivered last week that:

- a) went well (NTS 1a, 1b and 2a-2e)
- b) you found challenging (NTS 1a, 1b and 2a-2e)

1.2. Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d-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 teachers to review the learning plan for week 23 by aligning the learning plan with Learner Material and appropriate assessment strategies.

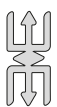
Learning Outcome

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 2a-2f, 3a-3j).



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 3k, 3p).

E.g.

- a) *To prevent weight issues while using computers extensively, one should regularly engage in _____.*
- b) *What are some lifestyle changes you can make to avoid developing sleep disorders and weight issues from computer use?*

Hint



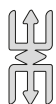
Submission of portfolio: teachers are expected to score learners presentation.

- 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 3k, 3p).

E.g.

- a) *2 marks: Correctly filled in with "physical activity," "exercise," or any similar activity that implies regular movement or body engagement*
- b)
 - i. *1 mark for mentioning reduced screen time before bedtime to improve sleep quality*
 - ii. *1 mark for including regular exercise or physical activities as a method to manage weight and improve overall health*
 - iii. *1 mark for suggesting diet-related changes such as healthy eating habits that avoid heavy meals close to bedtime, which can affect sleep and weight, 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 3n–3p).

E.g.

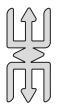
Ask one question at a time and wait for responses from learners to allow time to think through responses critically, etc.

Refer to Teacher Assessment Manual and Toolkit pages 37–41, for more 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 3l–3n).

E.g.

Analyse learners' responses, 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, 1b).
- 3.2.** Identify a critical friend to observe your lesson in relation to PLC Session 23 and provide feedback on your lesson (NTS 1f, 3g).
- 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–3n).
 - b) read PLC Session 24 and related Learner Material (NTS 3a).
 - c) bring along your Teacher Manual, PLC Handbook and learning plan on week 24 in preparation for the next session (NTS 3a).

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, 1b and 2a–2e)
- b) you found challenging (NTS 1a, 1b and 2a–2e)

1.2 Share your experience in conducting and/or recording the assessment for 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 2e, 2f and 3d–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 teachers 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.

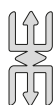
Learning Outcome

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/marketing 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 activities in your learning plan (NTS 2a–2f, 3a–3j).



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 3k, 3p).

E.g.

a) Section A: Multiple Choice – 40 items

- i. What are unguided transmission media?
 - A. Media that requires direct line-of-sight between transmitting and receiving stations
 - B. Media that uses electromagnetic waves to transmit data through air or vacuum
 - C. Media that uses physical cables to transmit data
 - D. None of the above
- ii. Which of the following is **not** an unguided transmission media?
 - A. Coaxial Cables
 - B. Infrared
 - C. Microwaves
 - D. Radio Waves

b) Section B: Essay– 6 items, answer 4

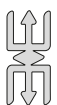
- i. Explain how sleep deprivation in teenagers by using prolonged computers can contribute to emotional issues and behavioural problems that may affect their academic progress (10 marks).

c) Section C: Practical – 2 items, choose 1

Task 1

- i. Demonstrate your ability to connect a laptop to our school's wireless network, ensuring you can access the internet successfully. Check your connectivity by accessing <https://ges.gov.gh/>.
- ii. Take screenshots of each step as you complete them and compile them into a single MS word file with description to each screenshot.
- iii. Save the file with your full name and class (e.g.: "Sir_RaF_HomeEconomics_Form_1A").
- iv. Submit the file via the provided email.

Refer to Teacher Manual Book 2 weeks 13–24, Learner Material Sections 4–5 for more assessment guide.



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 3k, 3p).

E.g.

a) Multiple Choice – 40 marks (1 mark each)

- i. What are unguided transmission media?
 - A. Media that requires direct line-of-sight between transmitting and receiving stations
 - B. Media that uses electromagnetic waves to transmit data through air or vacuum **(Answer 1 mark)**
 - C. Media that uses physical cables to transmit data
 - D. None of the above
- ii. Which of the following is **not** an unguided transmission media?
 - A. Coaxial Cables **(Answer 1 mark)**
 - B. Infrared
 - C. Microwaves
 - D. Radio Waves

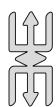
b) Essay

- i. Explain how sleep deprivation in teenagers by using prolong computers can contribute to emotional issues and behavioural problems that may affect their academic progress (10 marks).

Criterion	Description	Marks
Explanation of Sleep Deprivation	The learner must provide a clear and accurate explanation of what sleep deprivation is, specifically in the context of prolonged computer use.	2
Connection to Emotional Issues	The learner needs to explain how sleep deprivation can lead to emotional issues such as mood swings, anxiety, or depression.	2
Link to Behavioural Problems	The learner should discuss how these emotional issues can translate into behavioural problems, including examples such as decreased motivation, increased irritability, or changes in social interactions.	2
Impact on Academic Progress	The learner is required to detail how emotional and behavioural changes affect academic performance, such as problems with concentration, decreased performance, and potential truancy.	2
Evidence and Examples	Marks are awarded for the use of relevant examples and evidence to support their explanations, demonstrating a deeper understanding of the topic.	2

c) **Practical task(s)– 25 marks**

Criteria	Screenshots	Marks
Step 1: Enabling Wi-Fi	Correctly identifies and enables Wi-Fi on the laptop.	3 Marks
Step 2: Selecting the Network	Accurately selects the school's Wi-Fi network from the list.	3 Marks
Step 3: Entering Password	Correctly enters the Wi-Fi password and achieves connection status.	3 Marks
Step 4: Verifying Connection	Successfully accesses the specified website to confirm internet connectivity.	3 Marks
Documentation: Screenshots	Provides clear screenshots of each step (Wi-Fi enabled, network selection, password entry, final connection with the website loaded).	5 Marks
Documentation: Descriptions	Each screenshot is accompanied by a concise and accurate description explaining what is depicted.	5 Marks
File Naming and Submission	The file is saved with the correct naming convention and submitted correctly via the specified email.	3 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 3n–3p).

E.g.

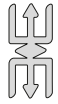
- a) Provide clear instructions and resources (such as Wi-Fi connectively and answer booklets) needed for the tasks.
- b) Prepare a table of test specifications (sample is attached in the session's **Appendix G**)
- c) Ensure questions vary in the levels of DoK.
- d) Provide time allocation (such as 1 hours 30minutes) for the completion of the essay and assign marks to each of the questions (Give additional time for learners with SEN), etc.

Refer to Teacher Assessment Manual and Toolkit pages 83–86, 94–97 and 41–43, 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.

E.g.

Encourage learners to reflect on their performance, review their work, and identify 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, 1b).
- 3.2** Identify a critical friend to observe your lesson in relation to PLC Session 24 and provide feedback on your lesson (NTS 1f, 3g).
- 3.3** Remember to provide constructive feedback to learners and record their assessment scores in the required format and document where appropriate (NTS 3l-3n).



Appendix G: Table of Specification for End of Semester Examination

Weeks	Focal Area(s)	Type of Questions	Dok Levels				Total
			1	2	3	4	
13	What is a computer network? Advantages of a computer network over a set of stand-alone computers Network hardware	Multiple Choice	1	1	1	-	3
		Essay	-	1			1
14	Classification of network types according to area Comparing different area networks	Multiple Choice	1	-	1	-	2
		Essay					
15	Classification of network types according to architecture – client-server networks and peer-to-peer networks Comparing client-server networks to peer-to-peer networks	Multiple Choice	1	-	1	-	2
		Essay					
16	An overview of cloud networks The differences between cloud computing and traditional computing	Multiple Choice	1	1	-	1	3
		Essay					
17	Classification of network types according to topology Advantages and disadvantages of bus, star, ring and mesh topologies	Multiple Choice			1	1	2
		Essay					
		Practical		1			1
18	Classification of network transmission media Features of guided transmission media – twisted wire, coaxial and optical Comparing different guided transmission media	Multiple Choice			2	1	3
		Essay			1		1
		Practical			1		1
19	Features of the unguided transmission media – Bluetooth, NFC, IR, and Wi-Fi Guided (wired) networks versus Unguided (wireless) networks	Multiple Choice	1		1		2
		Essay					
		Practical			1		1

Weeks	Focal Area(s)	Type of Questions	Dok Levels				Total
			1	2	3	4	
20	Connecting to a wireless network Connecting to a wired network Guidelines for using a computer network (optional)	Multiple Choice	2	1		1	4
		Essay					
21	An introduction to computer safety risks when using a computer Musculoskeletal disorders (MSDs) – symptoms, causes and preventive measures Repetitive Strain Injury (RSI) – symptoms, causes and preventive measures	Multiple Choice	2	1		1	4
		Essay		1			1
22	Discuss Physical Safety Risks (Electrocution, Fire hazard, Tripping hazard, Personal injury) in the use of computers Discuss Causes of Physical Safety Risks of computer equipment. Apply preventive measures on physical safety risks (including an increase the number of wall sockets and do not use too many extension blocks)	Multiple Choice	1	2		1	4
		Essay				1	1
23	Discuss Physical Safety Risks (Electrocution, Fire hazard, Tripping hazard and Personal injury) in the use of computers. Discuss Causes of Physical Safety Risks of computer equipment. Apply preventive measures on physical safety risks (including an increase in the number of wall sockets and not using too many extension blocks).	Multiple Choice	2	1	1	1	5
		Essay				1	1

Weeks	Focal Area(s)	Type of Questions	Dok Levels				Total
			1	2	3	4	
24	Discuss Physical Safety Risks (Electrocution, Fire hazard, Tripping hazard, Personal injury) in the use of computers. Discuss the Causes of Physical Safety Risks of computer equipment. Apply preventive measures on physical safety risks (including an increase in the number of wall sockets and not using too many extension blocks)	Multiple Choice	3	1		2	6
		Essay		1			1
	Total		15	12	11	11	49

Appendices

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)

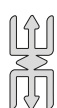
Summative Assessment

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													→	→

Note: How and when to capture learner assessment scores for the Transcript.

- 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.
- 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

21 st 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 • Communalism • 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

21 st 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.

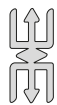
In providing feedback, use the sandwich method (CCC), which starts with a positive aspect of the work (**compliment**), followed by constructive criticism (**correction**), and concludes with another positive note (**compliment**). To set the stage for effective feedback, clearly communicate the learning 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) 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 learners 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 biased 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.

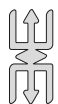
Case Study As An Assessment Strategy

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. Inform 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 too 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 learners 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 learners 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

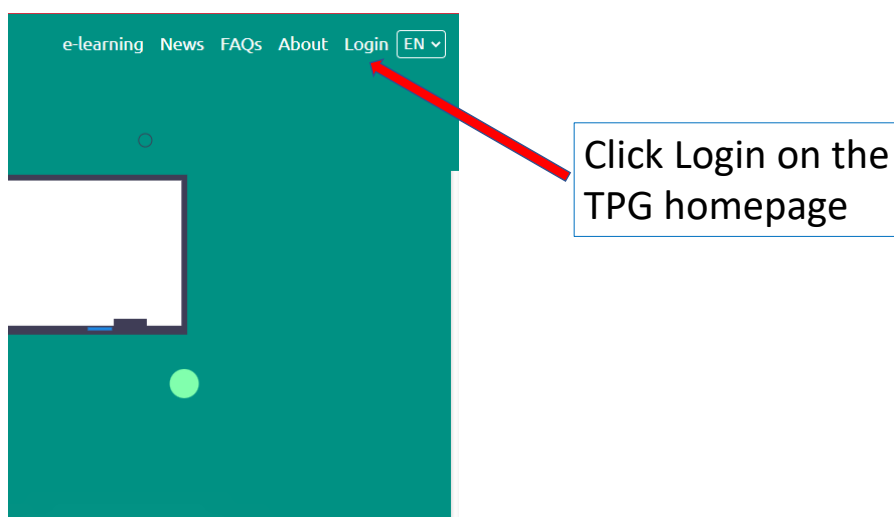
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24. Additional Notes (on teacher's actions, the flow of activities, etc.)

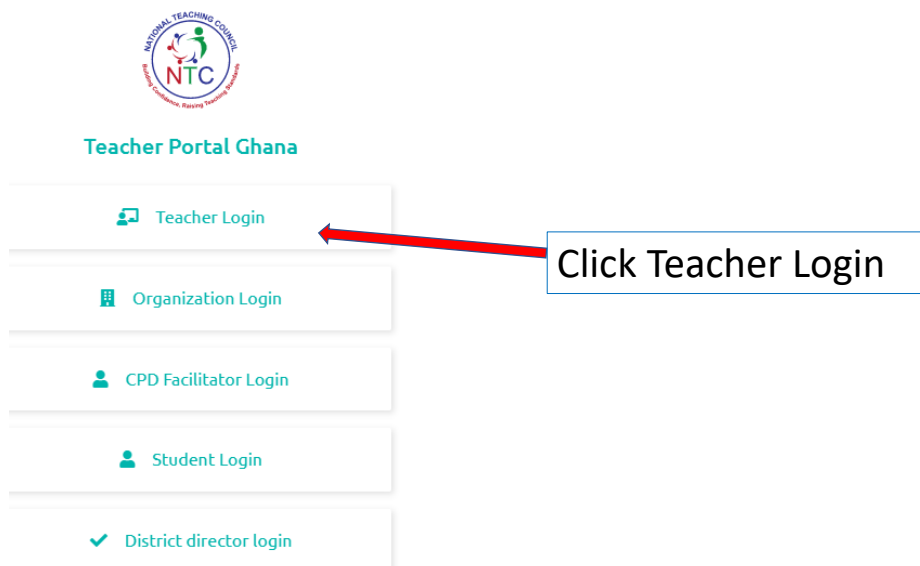
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Appendix 4: How to Check CPD Points and Training Records on Teacher Portal Ghana

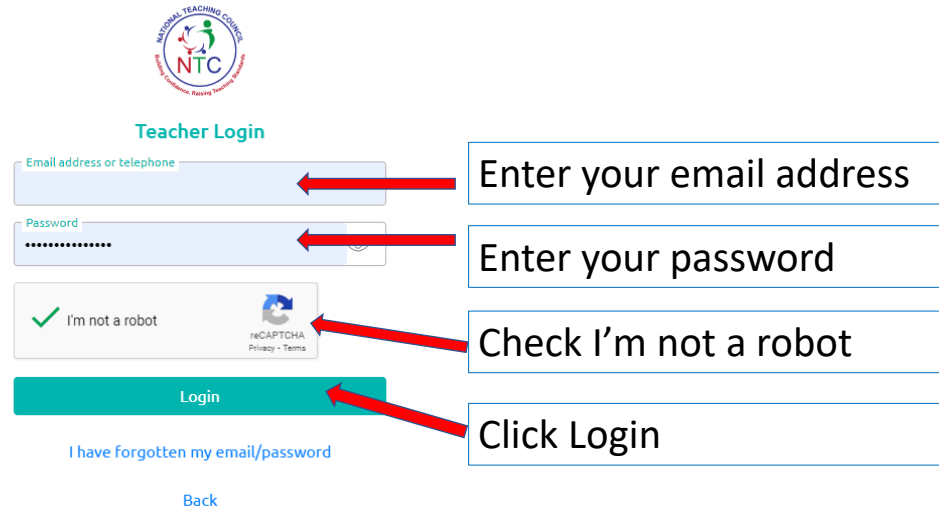
1. Visit tpg.ntc.gov.gh and click Login



2. On the Login page, click Teacher Login



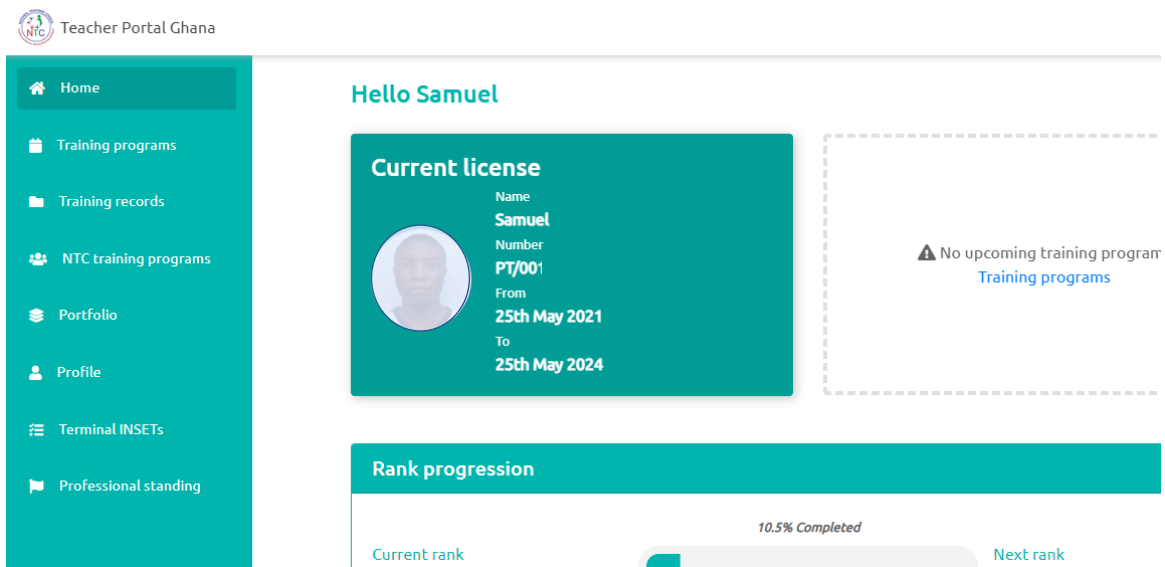
3. On the **Teacher Login** page enter your email address and password and then click **Login**



The image shows the Teacher Login page with the following elements and annotations:

- Teacher Login** (Page Title)
- Email address or telephone** (Input field) → **Enter your email address**
- Password** (Input field) → **Enter your password**
- I'm not a robot** (reCAPTCHA) → **Check I'm not a robot**
- Login** (Button) → **Click Login**
- [I have forgotten my email/password](#)
- [Back](#)

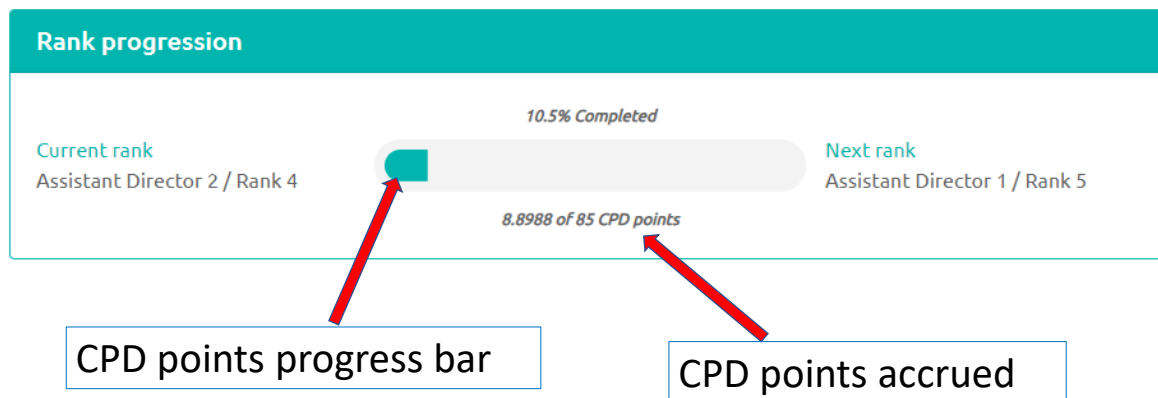
4. After a successful login you will get access to your **TPG account** (Check image below)



The image shows the Teacher Portal Ghana dashboard for a user named Samuel. The dashboard includes the following sections:

- Header:** Teacher Portal Ghana
- Left Sidebar:**
 - Home
 - Training programs
 - Training records
 - NTC training programs
 - Portfolio
 - Profile
 - Terminal INSETs
 - Professional standing
- Main Content Area:**
 - Hello Samuel**
 - Current license**
 - Name: Samuel
 - Number: PTJ/001
 - From: 25th May 2021
 - To: 25th May 2024
 - Rank progression**
 - Current rank
 - 10.5% Completed
 - Next rank
 - No upcoming training program** (with link to [Training programs](#))

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)**

The screenshot shows the 'Teacher Portal Ghana' interface. On the left is a teal sidebar menu with options: Home, Training programs, Training records, NTC training programs, Portfolio, Profile, Terminal INSETs, and Professional standing. A red arrow points from the 'Training records' menu item to a label. The main content area is titled 'Training records' and shows 'Records for training programs registered and/or attended' with 'Total points: 1.8988'. It lists three programs: 'Sensitization on Education Policies' (Marked as absent), 'Differentiated Learning' (Processed, Credits: 1.32), and 'Advanced Mobile Learning with Multimedia (AMLM)' (Processed, Credits: 0.5788). A red bracket on the right groups these programs under a label.

Teacher Portal Ghana

Home
Training programs
Training records
NTC training programs
Portfolio
Profile
Terminal INSETs
Professional standing

Training records
Records for training programs registered and/or attended
Total points: 1.8988

Sensitization on Education Policies	⚠ Marked as absent
Differentiated Learning	✓ Processed Credits: 1.32
Advanced Mobile Learning with Multimedia (AMLM)	✓ Processed Credits: 0.5788

Click to view training records

List of training programs

List of Contributors

NaCCA Team	
Name of Staff	Designation
Matthew Owusu	Deputy Director-General, Technical Services
Reginald Quartey	Ag. Director, Curriculum Development Directorate
Nii Boye Tagoe	Senior Curriculum Development Officer (History)
Abigail Birago Owusu	Senior Research, Planning, Monitoring and Evaluation Officer
Sharon Antwi-Baah	Assistant Instructional Resource Officer
Dennis Adjasi	Instructional Resource Officer

No.	Subject	Name of Writer	Institution
1.	Aviation and Aerospace Engineering	David Kofi Oppong	Kwame Nkrumah University of Science and Technology
2.	Agriculture	Dr. Esther Fobi Donkor	University of Energy and Natural Resources, Sunyani
3.	Arabic	Dr. Murtada Mahmoud Muaz	AAMUSTED
4.		Dr Mohammed Almu Mahaman	University for Development Studies
5.	Applied Technology	Michael Korblah Tsorgali	AAMUSTED
6.		Gilbert S. Odjamgba	Ziavi Senior High Technical School
7.		Engr. Dr. Prosper Mensah	CSIR – Forestry Research Institute of Ghana
8.	Home Economics	Rev. Sr. Jusinta Kwakyewaa	St. Francis Senior High Technical School
9.	Performing Arts	Prof. Emmanuel Obed Acquah	University of Education Winneba
10.	French	Maurice Adjetey	
11.	Art and Design Foundation	Angela Owusu-Afriyie	Opoku Ware School
12.	Ghanaian Language	David Sarpei Nunoo	University of Education Winneba, Ajumako Campus

No.	Subject	Name of Writer	Institution
13.	Art and Design Studio	Dzorka Etonam Justice	Kpando SHS
14.	Agricultural Science	Issah Abubakari	Half-Assini SHS
15.	Manufacturing Engineering	Dr. Kofi Owura Amoabeng	Kwame Nkrumah University of Science and Technology
16.		Ali Morrow Fatormah	Mfantshipim School
17.		Benjamin Atribawuni Asaaga	Kwame Nkrumah University of Science and Technology
18.	Design and Communication Technology	Henry Angmor Mensah	Anglican Senior High School, Kumasi
19.	Religious Studies	Anthony Mensah	Abetifi College of Education
20.	Spanish	Franklina Kabio-Danlebo	University of Ghana
21.	Social Studies	Dr. Frank Awuah	Dambai College of Education
22.	Religious and Moral Education	Clement Nsorwineh Atigah	Tamale Senior High School
23.	Literature-in-English	Angela Aninakwah	West African Senior High School
24.		Blessington Dzah	Ziavi Senior High Technical School
25.	Chemistry	Michael Amissah	St. Augustine's College
26.	Biology	Abraham Kabu Otu	Prampram Senior High School
27.	Mathematics	Collins Kofi Annan	Mando Senior High School
28.	Additional Mathematics	Gershon Kwame Mantey	University of Education, Winneba
29.	General Science	Saddik Mohammed	Ghana Education Service
30.	English Language	Perfect Quarshie	Mawuko Girls SHS
31.	Biomedical Science	Jennifer Fafa Adzraku	Université Libre de Bruxelles
32.		Davidson N.K. Addo	Bosomtwi STEM
33.	Robotics	Dr. Nii Longdon Sowah	University of Ghana
34.		Isaac Nzoley	Wesley Girls High School

No.	Subject	Name of Writer	Institution
35.	Engineering	Valentina Osei-Himah	Atebubu College of Education
36.		Daniel Agbogbo	Kwabeng Anglican Senior High School
37.	Physical Education and Health (Core and Elective)	Benedictus Kondoh	St. Thomas Aquinas Senior High School
38.		Bagonluri Kizito Mwinig-Kumo	Wa Technical Institute
39.	Computing	Osei Amankwa Gyampo	Wesley Girls SHS, Kumasi
40.	Information Communication Technology	Raphael Senyo Dordoe	Ziavi Senior High Technical School
41.	Geography	George Boateng	Berekum College of Education
42.	History	Kofi Adjei Akrasi	Opoku Ware School
43.	Economics	Salitsi Freeman Etonam	Anlo Senior High School
44.	Government	Samuel Kofi Adu	Fettehman Senior High School
45.	Business Studies	Theodosia Larteley Oppong	Aburi Girls Senior High School
46.		Ansbert Avoles Baba	Bolgatanga Senior High School, Winkogo
47.	Physics	John Tetteh	Benso SHTS
48.	Technical Support	Benjamin Sundeme	St. Ambrose College of Education
49.		Edward Mills Dadson	University for Education, Winneba
50.		Eric Abban	Mt. Mary College of Education
51.		Jennifer Fafa Adzraku	Université Libre de Bruxelles

