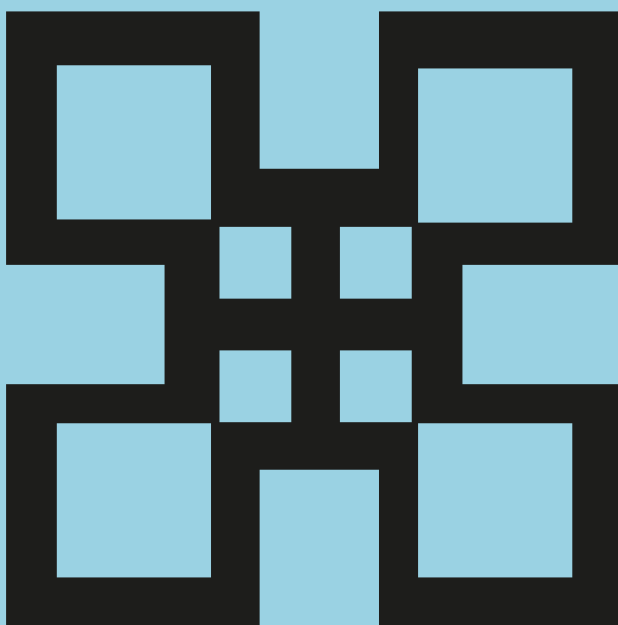


Professional Learning Community Handbook

Design and Communication Technology

Year Two



Ghana Education
Service (GES)



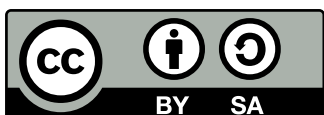
**Professional Learning
Community Handbook**

**Design and
Communication
Technology**

Year Two



REPUBLIC OF GHANA



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Foreword

As Minister for Education, I am delighted to introduce this handbook on Professional Learning Communities (PLCs). The handbook provides practical guidance and resources for teachers to establish and sustain effective PLCs that will drive quality pedagogy and enhance learning outcomes.

Weekly Professional Learning Community (PLC) sessions are the backbone of this Government's commitment to continuous teacher development in every Senior High School. These PLC sessions enable teachers to come together to master the pedagogy, content and assessment needed to successfully implement Ghana's SHS curriculum.

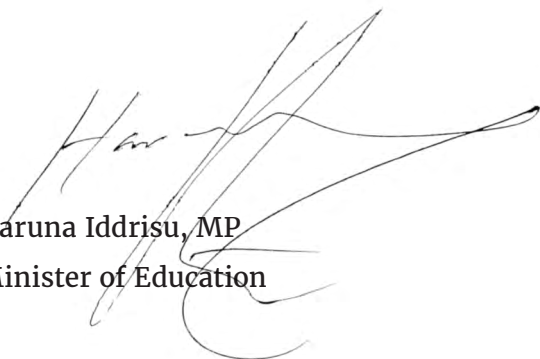
By fostering a culture of collaboration and continuous improvement through PLCs, teachers can enhance their understanding of the new SHS curriculum and effectively facilitate learning in the classroom. This will contribute to our country's resetting agenda by educating a generation of young people with the skills needed to progress to further studies, the world of work and adult life.

PLC sessions are critically important and should be treated with the utmost seriousness. Transforming our education system is a partnership between government, teachers, parents and learners. As teachers gain experience with the new curriculum and assessment regime, PLC sessions can also be tailored to discuss specific issues of concern as a group. It is important that teachers are heard and respected. We have listened to your concerns about PLCs and have factored this feedback into the new Year 2 Subject-Specific PLC Handbooks.

The Handbooks have been designed to be more flexible in structure than those for Year One. Each PLC Handbook is supported by a Subject-Specific App developed by the National Council for Curriculum and Assessment (NaCCA) linked to the revised curriculum. These Apps will help teachers to plan learning activities, assessments and differentiated learning. From our early interactions with teachers to develop and test these Apps we can see the level of excitement about their potential to save teachers time and improve their teaching and learning. These Ghanaian-owned Apps are the first of their kind at this scale anywhere in Africa, helping teachers save time and deliver lessons that truly meet the needs of every learner. I am confident that it will have a significant impact on our education system and ultimately benefit our students, teachers, and communities. All teachers are encouraged to embrace the principles and

practices outlined in this handbook and to work together to build strong, vibrant PLCs that promote enhanced learning outcomes.

I commend the authors and contributors for their tireless efforts in developing this valuable resource, which will enhance the quality of teaching and learning. Thank you to each one of you for your dedication and commitment to helping build the Ghana we want, together.

A handwritten signature in black ink, appearing to read 'Haruna Iddrisu', with a large, sweeping flourish extending to the right.

Haruna Iddrisu, MP
Minister of Education

Acknowledgements

Special thanks to Professor Samuel Ofori Bekoe, Director-General of the National Council for Curriculum and Assessment (NaCCA) and all who contributed to the successful writing of the Year Two Professional Learning Community Handbook.

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Links to APPs

Year One App



<https://www.playlab.ai/project/cmd94caqa07a5jiouyg6tvivz>

Year Two App



<https://www.playlab.ai/project/cme6gaio409uyjdouh3we9cz3>

PLC Session 0: Introduction to the Year Two Professional Learning Community Handbook and the Subject Specific App

1.0 Introduction and Purpose of the Handbook (15 minutes)

The purpose of the Year Two Professional Learning Community (PLC) Handbook is to support teachers to effectively deliver the new Senior High School (SHS) curriculum. This Handbook is accompanied by a Subject Specific App tailored to SHS curriculum. The App is designed to assist teachers with lesson planning, delivery and assessment. The Subject Specific App uses information directly from the following materials:

1. Curriculum
2. Teacher Manual
3. Learner Materials
4. Vision and Philosophy of the SHS curriculum
5. 21st century skills and competencies
6. National Teachers' Standards
7. West African Examinations Council (WAEC) Scheme of Assessment and Detailed Syllabus
8. Learning Planning Template
9. Teacher Assessment Manual and Toolkit
10. Socio Emotional Learning
11. National Values
12. Gender Equality and Social Inclusion (GESI), etc.

Learning Outcome (LO): To explore how the Subject Specific App can assist teachers with lesson planning, delivery and assessment (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Use the Subject Specific App to explore the Year Two Curriculum Materials (Teacher Manual and Learner Materials)

Learning Indicator (LI) 2: Discuss the advantages and disadvantages of using the Subject Specific App to design lessons and assessment strategies.

2.0 Exploring the Subject Specific App (65 minutes)

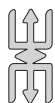
2.1 Scan the QR Code or use the link to access your Subject Specific App – <https://www.playlab.ai/project/cme6gaio409uyjd0uh3we9cz3>



2.2 Have a chat with the Subject Specific App (NTS 3j).

E.g.

- a. *Select a section and the number of lessons you have in a week to start the App*
- b. *Provide information about your class. For instance, the number of learners in your class, etc.*
- c. *Select a week you are interested in and continue chatting with your App*
- d. *Refer to your Teacher Manual and confirm the information provided by the App or otherwise*



Note

Always refer to your Teacher Manual to confirm the information the App provides.

2.3 Explore the following key areas using the App (NTS 2b, 2c, 2e and 3a–3q)

E.g.

a. Learning activities

I have a 60-minute lesson in a rural farming community in Lawra without enough tables and chairs. I can have my lesson outside the classroom if possible.

b. Assessments

Based on the recommended assessments for the week how can I assess my learners at level 2 at the end of the lesson. I want to give one question during the lesson and one at the end as homework

c. Differentiation strategies

There are two learners in wheelchairs. Another one cannot hear unless you speak very loudly. Finally, 5 learners are comfortable in the local language than in English. How can they be catered for in the lesson and assessment?

Hint

Remember to ask your App to help you add 21st Century Skills, National Values, GESI and SEL to your learning activities, assessment, etc., where applicable.

2.4 Share your experience with the larger group (NTS 3j).

- a.** two things you learnt using the App and how you plan to apply them.
- b.** two advantages of using the App
- c.** two disadvantages of using the App without the appropriate curriculum materials (e.g. Teacher Manual, etc.)

3.0 Reflection**3.1** Reflect and share your views on the session (NTS1a, 1b).**3.2** Remember to read PLC Session 0.5 and bring along your laptop in preparation for next week's session.

PLC SESSION 0.5: Using the Subject Specific App to deliver assessments at appropriate DoK levels

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session

Purpose: The purpose of this session is to refresh our knowledge and understanding of assessment in the SHS curriculum. WAEC's visits to schools show that teachers are generally doing well with setting assessment tasks at DoK Levels 1 and 2 but there are issues with Levels 3 and 4. This session will look at how the subject specific App can assist teachers in developing assessments at all DoK Levels.

Learning Outcome (LO): To strengthen teachers' skills and competencies in developing assessment tasks and items to reflect all the DoK Levels (NTS 3k, 3o-3p).

Learning Indicator (LI) 1: Use the subject specific App to develop assessments linked to the learning indicators and the required DoK levels.

Learning Indicator (LI) 2: Use the subject specific App to review existing assessments to check whether they are linked to the required Learning Indicators and DoK levels.

2.0 Planning and Delivering of Assessment using the Subject Specific App (65 minutes)

- 2.1** Open your App and have a chat with it.

E.g.

- a.** *Select a section and the number of lessons you have in a week to start the App*
- b.** *Provide information about your class. For instance, the number of learners in your class, etc.*

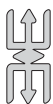
- c. *Select a week you are interested in and continue chatting with your App*
- d. *Refer to your Teacher Manual and confirm the information provided by the App or otherwise.*

2.2 Explore assessment using the App (NTS 3h, 3j, and 3o–3q)

E.g.

Select Assessment

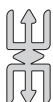
- a. *Look at the LIs for the week and select the appropriate DoK Level or Levels required for the week's lesson. For instance, 'the LI requires modelling, I would like to assess at level 3'*
- b. *Review the responses on the formats from your App, select any that meets your needs or continue chatting with your App to provide other assessment formats.*
- c. *Continue chatting with your App, for instance*
 - i. *'suggest 10 scenario based MCQs'*
 - ii. *'suggest level 3 task taking into consideration the learning activities and differentiation'*
 - iii. *Generate marking scheme for the task and add an explanation why an option is the right answer*



Note

Check that the MCQs are arranged alphabetically, vertically and the options are of similar length

- d. *Now repeat the process for different assessment strategies, for instance*
 - i. *Essay questions at level 3*
 - ii. *Case study questions at level 4*
 - iii. *3-week project task at level 4, etc.*



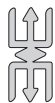
Note

You may select a different section or week for Activity 2.2d

2.3 Use the subject specific App to review the task or items you developed by having a chat with the App to provide justifications as to why the task is at DoK level 3 or 4 (NTS 3j, 3k, 3m, 3o and 3p–3q).

E.g.

Explain why the tasks or items are at DoK level 3.

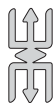


Note

You may repeat this for DoK levels 1, 2 or 4.

3.0 Using your subject specific App to explore one of the key assessment modes

- 3.1** Identify and select an assessment mode you found challenging in the last academic year and explore with your subject specific App how to use this assessment strategy effectively in your lesson delivery (NTS 3k).



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.*
- ii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your assessment task, rubrics/mark scheme and how to score them appropriately*

- 3.2** Share your experience with the larger group (NTS 3j).
- a.** two things you learnt using the App in developing assessments
 - b.** how you plan to apply the experiences
 - c.** any challenges you faced in using the App to develop assessments and how you addressed them

4.0 Reflection (15 minutes)

- 4.1** Reflect and share your views on the session (NTS 1a, 1b)

- 4.2** Remember to

- a.** read PLC Session 1, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook on Week 1 in preparation for the next session (NTS 3a).

PLC Session 1: Basic Shapes and Rendering Techniques

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 1 on Basic Shapes and Rendering Techniques with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on basic shapes and rendering techniques with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject-specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 1 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject-specific App to develop your learning plan for Week 1 on basic shapes and rendering techniques (NTS 3a-3q).

E.g.

i. Learning activities

Create detailed learning activities on “Basic shapes and rendering techniques” for 120minutes each for lesson having learners at the centre of the lesson.

ii. Assessment tasks

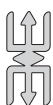
Generate two DoK Level 4 questions with rubrics to be used for group discussion and outline guidelines for the discussion.

iii. Differentiation

Suggest differentiation strategies for teaching “Basic shapes and rendering techniques.” to a mixed-ability SHS class in Ghana, ensuring both struggling and advanced students are engaged. Include group roles and scaffolded tasks.

iv. Essential questions

Considering a class of 42 learner, 28boys and 14 girls in a school in Odumase – Krobo with a drawing studio but no ICT tools, generate three essential questions addressing 2- teacher focus 1 learner focus on “Basic shapes and rendering techniques”.



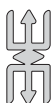
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans. Click the link or Scan the QR code to download the template.
<https://curriculumresources.edu.gh/wp-content/uploads/2025/09/Year-Two-Lesson-Planner-Template-20.docx>
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.



3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 1 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. read PLC Session 2, Teacher Manual and related Learner Material (NTS 3a).
 - b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 2: Preparing for Student Transcript Portal Assessment – Portfolio

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 1 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for week 2 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

- 1. review the completed learning plan for week 2
- 2. prepare assessment tasks and rubrics for portfolio assessment

Learning Outcome (LO): To review the learning plan for week 2 and address any challenges in planning and developing assessment tasks for the portfolio assessment (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the portfolio assessment.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your completed learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Assessment tasks

The uploaded document is the learning plan for week 2 on “Experiment with freehand sketches to create designs in two- point perspective with emphasis on proportions using basic shapes and rendering techniques” developed on the following parameters:

Number of students 42, male/female composition 70%/30% respectively. The school is located within Kumasi metropolis without drawing tools and technological equipment for teaching. Strictly review my assessment tasks with reference to the teacher manual and suggest areas for improvement.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.

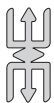
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 3.1** Refer to your Teacher Manual for the key assessment to be recorded in the Student Transcript Portal and have a chat with the subject-specific App to review or develop your assessment tasks and mark schemes/rubrics (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Portfolio Assessment

Refer to appendix A of the teacher manual and review the portfolio assessment task and mark scheme taking into consideration the task, marking criteria, submission guidelines, timelines for submissions and how feedback be given on progress of work. Note that learners are reading 8 other subjects, etc.



Note

One chat may not be enough for the App to provide all that you may need for the tasks

- 3.2** Have a chat with your App to verify the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the suggestions to refine the assessment tasks (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

i. Task

In view of the review done, fine-tune the assessment tasks to meet the demand of the teacher manual and the situation of the learner, etc.

ii. Mark scheme and score distribution

Check the mark scheme and the score distribution to ensure that the scores match the weights of the deliverables, etc.

iii. Resources needed for assessment administration

Suggest a cost-effective resources to be used in administering the assessment, etc.

iv. How to provide feedback

Outline appropriate feedbacks to be provided for learners to enable them progress steadily, etc.

4.0 Reflection (10 minutes)

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

- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 2 to provide feedback on your lesson (NTS 1f, 1g).

- 4.3** Remember to:

- a.** mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
- b.** read PLC Session 3, Teacher Manual and related Learner Material (NTS 3a).
- c.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d.** identify areas you found challenging in your teaching and administration of the individual portfolio assessment for discussion during the next session.

PLC Session 3: Preparing for Student Transcript Portal Assessment – Group Project

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 2 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for week 3 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

- 1. review the completed learning plan for week 3
- 2. prepare assessment tasks and rubrics for group project

Learning Outcome (LO): To review the learning plan for week 3 and address any challenges in planning and developing assessment tasks for the group project (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the group project.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your completed learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Essential questions

I have 42 learners with 30% HP, 50% P and 20% AP, also there 5 hard of hearing, 10 low vision learners critically check the appropriateness of the essential questions in the learning plan and suggest amendment where necessary, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. learning activities
- b. differentiation
- c. assessment tasks, etc.

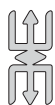
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 3.1** Refer to your Teacher Manual for the key assessment to be recorded in the Student Transcript Portal and have a chat with the subject-specific App to review or develop your assessment tasks and mark schemes/rubrics (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Group Project

Refer to appendix B in the teacher manual study the structure of the group project and generate a similar tasks and mark rubrics, etc.



Note

One chat may not be enough for the App to provide all that you may need for the tasks

- 3.2** Have a chat with your App to verify the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the suggestions to refine the assessment tasks (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

- i. Task**

Re-look at the tasks and ensure it is clear to the learner, etc.

ii. Mark scheme and score distribution

Adjust the mark scheme to the refined task and ensure that the total score is 24marks, etc.

iii. Resources needed for assessment administration

Suggest resources that are readily available within Kumasi and of low cost to be used to administer the assessment, etc.

iv. How to provide feedback

How can feedback be provided to meet the needs of each learner? etc.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 3 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
- b.** read PLC Session 4, Teacher Manual and related Learner Material (NTS 3a).
- c.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d.** identify areas you found challenging in your teaching and administration of the group project assessment for discussion during the next session.

PLC Session 4: Modifying Two-Dimensional Shapes Using Freehand Drawing Techniques

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 3
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 4?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



*You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan*

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 4 on Modifying Two-Dimensional Shapes Using Freehand Drawing Techniques, using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 4 on modifying two-dimensional shapes using freehand drawing techniques (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Support me craft 3 essential questions on “Modifying Two-Dimensional Shapes Using Freehand Drawing Techniques” with on taking care of application SEL in the lesson, one on how learners will apply the concept and one on the best resources for the lesson

ii. Differentiation

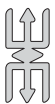
Consider 42 learners. 30% HP, 50% P, 20% AP with 50% of the class being girls and suggest 3 different ways to effectively handle all the learners to understand the lesson. Tailor your suggestions to my local community (Odumase-Krobo), etc.

iii. Learning activities

Generate activities for the 2 lessons based on the class situation previously described, consider a 120minute duration for each lesson, etc.

iv. Assessment tasks

Design assessment tasks to cover DoK levels 1,2 and 3 that can be performed within 25minutes and generate a detailed mark scheme with a total mark of 15. The assessment mode for the week is e-assessment, etc.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint

Move to Activity 3.0



2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

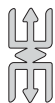
Study the attached learner planner carefully and create assessment tasks that will cater for all levels of learners and will last for 30 minutes. Prepare a comprehensive mark scheme to the tasks, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.



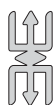
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. **Transfer the information from your SS App into your learning planner template to complete your plans**
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

2.0 Enactment (25 minutes)

- 2.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 2.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 2.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

3.0 Reflection (10 minutes)

- 3.1 Reflect and share your views on the session (NTS 1a, 1b).
- 3.2 Identify a colleague to observe your lesson in relation to PLC Session 4 to provide feedback on your lesson (NTS 1f, 1g).
- 3.3 Remember to:
 - a. read PLC Session 5, Teacher Manual and related Learner Material (NTS 3a).
 - b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 5: Experimenting with Free-Hand Drawing to Modify 2-Dimensional Shapes to Achieve New Forms

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 4
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 5?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 5 on experimenting with free-hand drawing to modify 2-dimensional shapes to achieve new forms using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 5 on experimenting with free-hand drawing to modify 2-dimensional shapes to achieve new forms (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Generate 2 essential questions each on “Experimenting with Free-Hand Drawing to Modify 2-Dimensional Shapes to Achieve New Forms” suitable for the teacher and the learner respectively, taking into consideration the AP and HP learners.

ii. Differentiation

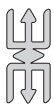
What differentiation consideration should I make in planning for a class of 75 learners, 25% HP, 40% P and 35% AP on the focal area “Experimenting with Free-Hand Drawing to Modify 2-Dimensional Shapes to Achieve New Forms”

iii. Learning activities

Generate learning activities on experimenting with free-hand drawing to modify 2-dimensional shapes to achieve new forms for 75 learners in 120-minute sessions, etc.

iv. Assessment tasks

Generate an experimental assessment task and rubrics on ‘Experimenting with Free-Hand Drawing to Modify 2-Dimensional Shapes to Achieve New Forms’ covering DoK Levels 1,2,3 and 4 for 75 learners to completed within 45minutes



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Essential questions

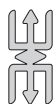
Check the relevance of the essential questions in the uploaded learner planner to the characteristics of the class and the focal area of the lesson, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. learning activities
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks

- ii. *Transfer the information from your SS App into your learning planner template to complete your plans*
- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

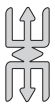
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 5 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. read PLC Session 6, Teacher Manual and related Learner Material (NTS 3a).
- b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 6: Preparing for Mid-Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 5 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while pre-populating your learning plan for week 6 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for week 6
2. prepare assessment tasks and rubrics for mid-semester examination

Learning Outcome (LO): To review the learning plan for week 6 and address any challenges in planning and developing assessment tasks for the mid-semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the mid-semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Learning activities

The uploaded document is my week 6 lesson on “Generate simple objects in line with the concepts and narratives associated with objects and designs”. The plan is for 42 learners within Kumasi metropolis with a classroom that has pc and a projector. Check the plan and see if the activities are appropriate for the learners per the location of the school and the learning materials available.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.

3.0 Prepare for Mid-Semester Examination (50 minutes)

- 3.1** Refer to your Teacher Manual for the format of the mid-semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

I have not been able to teach from week 5, I did week 1 to week 4 only. Adjust the table of specification for mid-semester examination to suit week 1 to 4.

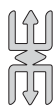
Based on the adjusted table of specification, generate 20 multiple choice questions strictly adhering to the following:

The options must have one and only one key.

The options must be arranged alphabetically.

The options must have equal number of words.

Generate a mark scheme for the assessment task with a total mark of 20 properly distributed over the tasks

**Note**

In preparing for mid-semester examination, one chat may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)

- 3.2** Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses and complete the set questions (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

- i. Whether the assessment tasks generated follow 30%, 40%, 30% DoK distribution**

Check the composition of the mid-semester examination questions, compare them with DoK 1–30%, DoK 2–40% and DoK 3&4 – 30% and confirm if it is correct.

- ii. Mark scheme and score distribution**

Vividly check the marks distribution and confirm its appropriateness.

- iii. Resources needed for assessment administration**

Suggest resources that will be appropriate for administering the assessment tasks.

- iv. How to provide feedback**

Based on the assessment tasks and the mark scheme, outline plausible feedback to be provided to learners and how it should be done.

4.0 Reflection (10 minutes)

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

- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 6 to provide feedback on your lesson (NTS 1f, 1g).

- 4.3** Remember to:

- a.** mark, record and upload your learners' assessment scores in the Student Transcript Portal.
- b.** read PLC Session 7, Teacher Manual and related Learner Material (NTS 3a).
- c.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).

- d. identify areas you found challenging in your planning and administering of the mid-semester assessment for discussion during the next session.**

PLC Session 7: Advanced Freehand Drawing Techniques for 2-Dimensional Templates and Patterns

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 6
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 7?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 7 on advanced freehand drawing techniques for 2-dimensional templates and patterns using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 7 on advanced freehand drawing techniques for 2-dimensional templates and patterns (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

What thought-provoking questions would guide students to connect historical, cultural and practical factors in the development of community templates and patterns?

ii. Differentiation

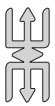
Develop resource accessibility strategies for 'Drawing Materials Selection' ensuring equitable access to varied tools and materials for 50 learners.

iii. Learning activities

Create material exploration activities for 'Advanced Freehand Drawing Techniques for Templates and Patterns' with 50 learners in 90-minute sessions, focusing on tool and material selection.

iv. Assessment tasks

Generate gamification assessment tasks and rubrics for 'Drawing Materials and Tools Selection' evaluating knowledge and application for 50 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

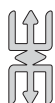
Create a detailed lesson plan for teaching students to investigate the origins and purposes of templates and patterns that incorporates community engagement, primary research, documentation techniques, and critical analysis. Use the plan to review my activities, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks

- ii. *Transfer the information from your SS App into your learning planner template to complete your plans*
- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

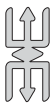
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 7 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. read PLC Session 8, Teacher Manual and related Learner Material (NTS 3a).
- b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 8: Appropriate Dimensions for Freehand Drawing Techniques for 2-Dimensional Templates and Patterns

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 7
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 8?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 8 on appropriate dimensions for freehand drawing techniques for 2-dimensional templates and patterns using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 8 on appropriate dimensions for freehand drawing techniques for 2-dimensional templates and patterns (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

What essential questions should I use to help students analyse the relationship between design tools, materials and techniques in template creation, and how can I sequence questions to develop their technical understanding, etc.

ii. Differentiation

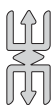
Create precision-support strategies for 'Dimensional Planning' accommodating learners with varying mathematical and spatial skills in a class of 65, etc.

iii. Learning activities

Design measurement and planning activities for 'Appropriate Dimensions for Templates and Patterns' with 65 learners in 100-minute sessions, emphasising framework development, etc.

iv. Assessment tasks

Generate observation assessment protocols and make scheme for 'Template Framework Development' evaluating process and dimensional accuracy for 65 learners, etc.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

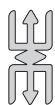
Assess my assessment tasks in connection with the content of the uploaded learning plan and review it where appropriate, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.



Note

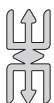
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a colleague to observe your lesson in relation to PLC Session 8 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. read PLC Session 9, Teacher Manual and related Learner Material (NTS 3a).
 - b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 9: Appropriate Freehand Drawn 2-Dimensional Templates and Patterns

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 8
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 9?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 9 on appropriate freehand drawn 2-dimensional templates and patterns using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 9 on appropriate freehand drawn 2-dimensional templates and patterns (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

What essential questions would help the learner understand “appropriate freehand drawn 2-dimensional templates and patterns,” and how can he/she recognise their applications in design and everyday life?

ii. Differentiation

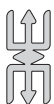
Design completion support strategies for ‘Pattern Finalisation’ helping learners at different completion stages achieve quality outcomes in a class of 40.

iii. Learning activities

Create finalisation and refinement activities for ‘Template and Pattern Design Completion’ with 40 learners in 120-minute sessions, focusing on finishing techniques.

iv. Assessment tasks

Generate peer assessment rubrics for ‘Finalised Template and Pattern Design’ including self-reflection components for 40 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint

Move to Activity 3.0



2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

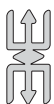
Provide practical approaches for differentiating instruction on appropriate freehand drawn 2-dimensional templates and patterns that support struggling learners while challenging advanced students, including manipulatives, visual supports, and extension problems, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. learning activities
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

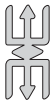
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 9 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 10, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 10: Exploded View

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 9
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 10?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 10 on exploded view using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 10 on exploded view (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Generate 3 essential questions to guide my lesson on “Exploded view” with 2 focusing on planning and 1 on the content, etc.

ii. Differentiation

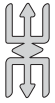
Create technical complexity differentiation for ‘Exploded View Drawing’ offering varied object complexity levels for 55 learners, etc.

iii. Learning activities

Generate technical drawing activities for ‘Exploded View Creation’ with 55 learners in 90-minute sessions, focusing on component separation and assembly visualisation, etc.

iv. Assessment tasks

Generate technical assessment task using DoK levels 2 and 3 with rubrics on ‘Exploded View Drawing’ evaluating precision and clarity for 55 learners, etc.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

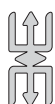
Re-create a detailed workshop plan for teaching exploded views that incorporates demonstration, guided practice, problem-solving challenges, and design applications suitable for 55 students with varied spatial abilities and do a vivid comparison with the uploaded one, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- essential questions
- differentiation
- assessment tasks, etc.



Note

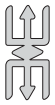
- Chatting once may not be enough for the App to provide all that you may need for the tasks
- Transfer the information from your SS App into your learning planner template to complete your plans

- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a colleague to observe your lesson in relation to PLC Session 10 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. read PLC Session 11, Teacher Manual and related Learner Material (NTS 3a).
 - b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 11: Working Drawing

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 10
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 11?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 11 on working drawing using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 11 on working drawing (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Generate three essential questions on working drawing focusing on how the lesson must be taught, bridging the gap between what learners know and what is to be taught.

ii. Differentiation

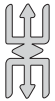
Develop technical skill scaffolding for 'Working Drawing Standards' supporting learners with varying technical drawing experience and attention to detail in a class of 42

iii. Learning activities

Create technical drafting activities for 'Working Drawing Creation' with 42 learners in 110-minute sessions, focusing on neat, accurate technical documentation and industry standards.

iv. Assessment tasks

Generate technical proficiency assessment rubrics for 'Working Drawing Quality' evaluating neatness, accuracy, and professional standards compliance for 42 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** **Transfer the information from your SS App into your learning planner template to complete your plans.**
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Essential questions

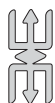
Study the essential questions in the uploaded learning plan and suggest possible changes, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. learning activities
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

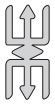
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 11 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 12, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 12: Preparing for End of Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 11 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while pre-populating your learning plan for week 12 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for week 12
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for week 12 and address any challenges in planning and developing assessment tasks for the end of semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the end of semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Differentiation strategies

The uploaded learning plan is for week 12 on “Draw orthographic projections of given objects”. With a class of 42 learners having access to a drawing studio with all the required tools and a projector. having inculcated the Ghanaian core values and 21st century skills, strictly check the appropriateness of differentiation as planned.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. learning activities
- c. assessment tasks, etc.

3.0 Prepare for End of Semester Examination (50 minutes)

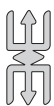
- 3.1** Refer to your Teacher Manual for the format of the end of semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Generate 40 multiple-choice questions from week 1 to 12. Make reference to the table of specification for the number of questions for each DoK level. The four options must be similar with only one key. the options should be of equal lengths arranged in alphabetical order.

Generate 4 theory questions 3 practical questions from week 1 to 12. Make reference to the table of specification for marks allocation for each DoK level.

Provide a mark scheme or a rubric where necessary. The rubrics should be Clear categories with specific mark allocations. Four performance levels (Excellent, Very Good, Satisfactory, Needs Improvement). Specific, measurable criteria for each level. Detailed descriptions of what constitutes each performance level. Precise technical requirements rather than general statements. All in one table.

**Note**

In preparing for mid-semester or end of semester examination, one chat may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)

- 3.2** Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses and complete the set questions (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

- i. Whether the assessment tasks generated follow 30%, 40%, 30% DoK distribution**

Review my test items and confirm their appropriateness to the 30%, 40% and 30% DoK levels

- ii. Mark scheme and score distribution**

Study my mark scheme and rubrics and ensure that the marks allocation matches the weight of the tasks.

- iii. Resources needed for assessment administration**

Considering the structure of the assessment, the number of learners (70) and 2hours, 45minutes duration, suggest resources that will make it easy to administer the assessment.

- iv. How to provide feedback**

Considering the class size and the nature of the assessment, suggest the form of feedback to be given to learners and how it should be done.

4.0 Reflection (10 minutes)

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

- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 12 to provide feedback on your lesson (NTS 1f, 1g).

- 4.3** Remember to:

- a.** mark, record and upload your learners' assessment scores in the Student Transcript Portal.
- b.** read PLC Session 13, Teacher Manual and related Learner Material (NTS 3a).
- c.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).

- d. identify areas you found challenging in your planning and administering of the end of semester assessment for discussion during the next session.**

PLC Session 13: Loci

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 12
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 13?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 13 on loci using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 13 on loci (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Generate 3 essential questions with 2 to help the teacher prepare and teach effectively and 1 to help the learner apply the concept of loci.

ii. Differentiation

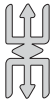
Develop mathematical scaffolding for 'Loci Concepts' supporting learners with varying geometry backgrounds and providing concrete-to-abstract progressions for 52 learners.

iii. Learning activities

Create mathematical exploration activities for 'Loci Principles and Construction' with 52 learners in 90-minute sessions, focusing on geometric principles and practical construction techniques.

iv. Assessment tasks

Generate construction assessment rubrics for 'Loci Principles Application' evaluating understanding of geometric principles and construction accuracy on DoK Level 2,3,4 for 52 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** *Transfer the information from your SS App into your learning planner template to complete your plans.*
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

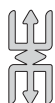
Develop a well-differentiated plan for supporting learners with varying geometry backgrounds on 'Loci Concepts' and providing concrete-to-abstract progressions for 52 learners, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. learning activities
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. **Transfer the information from your SS App into your learning planner template to complete your plans**
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

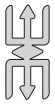
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 13 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 14, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 14: Preparing for Student Transcript Portal Assessment – Individual Project

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 13 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for week 14 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

- 1. review the completed learning plan for week 14
- 2. prepare assessment tasks and rubrics for individual project

Learning Outcome (LO): To review the learning plan for week 14 and address any challenges in planning and developing assessment tasks for the individual project (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the individual project.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your completed learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Assessment tasks

Strictly check the assessment tasks in the uploaded learning plan and advise on its suitability to the needs of the class and alignment to the teacher manual, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.

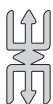
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 3.1 Refer to your Teacher Manual for the key assessment to be recorded in the Student Transcript Portal and have a chat with the subject-specific App to review or develop your assessment tasks and mark schemes/rubrics (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Group Project

The assessment mode for week 14 is individual project, refer to appendix E in the teacher manual, review the assessment tasks and mark rubrics against my class situation and make appropriate recommendations, etc.



Note

One chat may not be enough for the App to provide all that you may need for the tasks

- 3.2 Have a chat with your App to verify the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the suggestions to refine the assessment tasks (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

i. Task

Check to improve the clarity of tasks and properly state the deliverables with timelines, etc.

ii. Mark scheme and score distribution

Revise the mark scheme to ensure that the total mark is 20. Properly distribute the marks over the deliverables in accordance to their complexity, etc.

iii. Resources needed for assessment administration

Recommend appropriate and no cost resources for administering the assessment, etc.

iv. How to provide feedback

Assist me with the kind of feedback to be offered to learners, the timeline and the process of doing it, etc.

4.0 Reflection (10 minutes)

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

4.1 Identify a colleague to observe your lesson in relation to PLC Session 14 to provide feedback on your lesson (NTS 1f, 1g).

4.1 Remember to:

- a.** mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
- b.** read PLC Session 15, Teacher Manual and related Learner Material (NTS 3a).
- c.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d.** identify areas you found challenging in your teaching and administration of the individual project assessment for discussion during the next session.

PLC Session 15: Surface development of pyramids

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 14
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 15?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 15 on surface development of pyramids using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 15 on Surface development of pyramids (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Generate 3 essential questions with 2 to help the teacher prepare and teach effectively and 1 to help the learner apply the concept of Surface development of pyramids.

ii. Differentiation

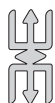
Develop 3D visualization support for ‘Pyramid Surface Development’ using physical models and step-by-step visual guides for learners with varying spatial skills in a class of 35

iii. Learning activities

Design 3D unfolding activities for ‘Surface Development of Pyramids’ with 35 learners in 80-minute sessions, focusing on geometric net construction and spatial relationships.

iv. Assessment tasks

Generate geometric construction assessment rubrics for ‘Pyramid Surface Development’ evaluating accuracy and understanding of 3D-to-2D transformation for 35 learners. Focus on DoK level 3, etc.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Assessment tasks

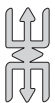
Design DoK level 3 assessment tasks where learners construct pyramid surface developments with specific requirements, including evaluation criteria for technical accuracy and problem-solving based on the uploaded learning plan, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.



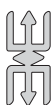
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

- 2.2** Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3** Share your experience with the group.

3.0 Enactment (25 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1** Reflect and share your views on the session (NTS 1a, 1b).
- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 15 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3** Remember to:
 - a.** read PLC Session 16, Teacher Manual and related Learner Material (NTS 3a).
 - b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 16: Drawing Curves of Intersection

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 15
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 16?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 16 on drawing curves of intersection using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 16 on drawing curves of intersection (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

What essential question should I use to guide learners through constructing and representing curves of intersections and how can I sequence questions to develop their spatial skills?

ii. Differentiation

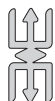
Design complexity scaffolding for ‘Intersection Curve Drawing’ providing varied geometric complexity and visual support tools for 48 learners.

iii. Learning activities

“Create intersection analysis activities for ‘Drawing Curves of Intersection’ with 48 learners in 100–minute sessions, focusing on geometric relationships when objects meet at right angles

iv. Assessment tasks

Generate geometric accuracy assessment tasks and mark scheme for ‘Intersection Curve Construction’ evaluating precision and understanding of geometric intersections at DoK level 3 for 48 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Learning activities

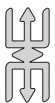
Study the uploaded learning plan and create problem-solving activities where learners analyse real-world examples of intersecting objects and draw accurate intersection curves, understanding geometric relationships and spatial connections, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

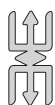
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 16 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 17, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 17: Designing with Solid Geometry

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 16
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 17?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 17 on designing with solid geometry using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 17 on designing with solid geometry (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Generate two essential questions for the learner and one for the teacher on designing with solid geometry that incorporate critical thinking, etc.

ii. Differentiation

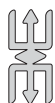
Create geometric application differentiation for ‘Solid Geometry Design’ offering varied design challenges and mathematical support levels for 60 learners.

iii. Learning activities

Generate design synthesis activities for ‘Designing with Solid Geometry’ with 60 learners in 110-minute sessions, focusing on applying geometric concepts to create functional designs.

iv. Assessment tasks

Generate design application assessment rubrics for ‘Solid Geometry Artefacts’ at DOK Level 3–4, evaluating geometric understanding and design innovation for 60 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Differentiation

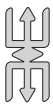
I have attached my learner plan for week 17 check the appropriateness of the differentiation strategy I used and recommend changes, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

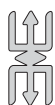
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 17 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 18, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 18: Preparing for Mid-Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 17 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while pre-populating your learning plan for week 18 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for week 18
2. prepare assessment tasks and rubrics for mid-semester examination

Learning Outcome (LO): To review the learning plan for week 18 and address any challenges in planning and developing assessment tasks for the mid-semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the mid-semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Essential questions

The uploaded document is my week 18 lesson on “Basic Concepts in Computer Aided Designs (CAD)”. The plan is for 42 learners within Kumasi metropolis with a classroom that has pc and a projector. Check the appropriateness of the proposed essential questions and suggest adjustment where possible.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. learning activities
- b. differentiation
- c. assessment tasks, etc.

3.0 Prepare for Mid-Semester Examination (50 minutes)

- 3.1** Refer to your Teacher Manual for the format of the mid-semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

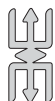
Based on the table of specification for mid-semester examination, generate 20 multiple choice questions covering weeks 13 to 18. Strictly adhere to the following:

The options must have one and only one key.

The options must be arranged alphabetically.

The options must have equal number of words.

Generate a mark scheme for the assessment tasks with a total mark of 20, properly distributed over the tasks.



Note

In preparing for mid-semester examination, one chat may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)

- 3.2** Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses and complete the set questions (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

- i. Whether the assessment tasks generated follow 30%, 40%, 30% DoK distribution**

Check and confirm if the mid-semester examination questions cover DoK 1–30%, DoK 2–40% and DoK 3&4 – 30%, etc.

- ii. Mark scheme and score distribution**

Check the mark distribution and confirm its appropriateness, etc.

- iii. Resources needed for assessment administration**

Suggest resources that will enhance effective administration of the assessment tasks.

- iv. How to provide feedback**

Based on the assessment tasks and the mark scheme, suggest plausible feedback to be provided to learners and how it should be done.

4.0 Reflection (10 minutes)

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

- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 18 to provide feedback on your lesson (NTS 1f, 1g).

- 4.3** Remember to:

- a.** mark, record and upload your learners' assessment scores in the Student Transcript Portal.
- b.** read PLC Session 19, Teacher Manual and related Learner Material (NTS 3a).
- c.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d.** identify areas you found challenging in your planning and administering of the mid-semester assessment for discussion during the next session.

PLC Session 19: Drawing with Computer Aided Designs (CAD)

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 18
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 19?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 19 on drawing with computer aided designs (CAD) using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 19 on drawing with computer aided designs (CAD) (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

What essential questions would help learners create accurate scaled working drawings, and how do they determine which drawing instruments or CAD techniques are most appropriate for different technical drawing tasks?

ii. Differentiation

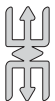
Design progressive complexity for ‘Advanced CAD Techniques’ offering varied project difficulties and peer mentoring opportunities for 25 learners.

iii. Learning activities

Create advanced CAD manipulation activities for ‘Drawing with Computer Aided Design’ with 25 learners with 10 laptops in 100-minute sessions, focusing on editing, plotting, and advanced drawing techniques.

iv. Assessment tasks

Generate technical proficiency assessment and rubrics for ‘CAD Drawing Manipulation’ evaluating editing skills and plotting accuracy for 25 learners with 10 laptops. Suggest how the task should be administered



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint

Move to Activity 3.0



2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Assessment tasks

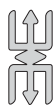
Vividly go through the attached learner plan, compare the assessment task to the assigned DoK Levels and suggest necessary adjustment where possible, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. **Transfer the information from your SS App into your learning planner template to complete your plans**
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

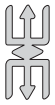
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 19 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 20, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 20: Geometrical Shapes Used to Create Complex Fractal Designs.

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 19
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 20?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 20 on geometrical shapes used to create complex fractal designs using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 20 on geometrical shapes used to create complex fractal designs (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Suggest a sequence of essential questions that help learners understand how geometrical shapes can be used to create complex fractal designs.

ii. Differentiation

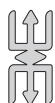
Create pattern complexity differentiation for ‘Fractal Geometry’ offering varied mathematical complexity and visual pattern support for 55 learners.

iii. Learning activities

Generate fractal exploration activities for ‘Geometrical Shapes Used to Create Complex Fractals’ with 55 learners in 90-minute sessions, focusing on pattern recognition and geometric repetition

iv. Assessment tasks

Generate pattern creation assessment tasks and rubric for ‘Complex Fractal Design’ at DOK Level 2–3, evaluating geometric understanding and pattern development for 55 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Learning activities

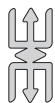
Assess the attached learning plan, specifically the activities and recommend its suitability for 55 learners with 50% of them being beginners in complex fractal design creation, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. **Transfer the information from your SS App into your learning planner template to complete your plans**
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

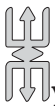
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 20 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 21, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 21: Creating Complex Fractal Designs

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 20
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 21?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 21 on Creating Complex Fractal Designs using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 21 on Creating Complex Fractal Designs (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Create two essential questions for learners involving national values on complex fractal designs, etc.

ii. Differentiation

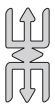
Develop creative exploration strategies for ‘Fractal Design Experimentation’ encouraging varied approaches and providing technical support for 40 learners, etc.

iii. Learning activities

Design learning activities on creating complex fractal designs for 40 learners in 110–minute sessions, focusing on innovative fractal pattern experimentation, etc.

iv. Assessment tasks

Generate creative innovation assessment rubrics for ‘Experimental Fractal Creation’ evaluating originality and technical execution for 40 learners, etc.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

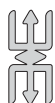
I have 55 learners with 50% beginners and 10 hard of hearing. Look at my uploaded learning plan and include the best differentiation strategy to enhance my lesson, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. learning activities
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. **Transfer the information from your SS App into your learning planner template to complete your plans**
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

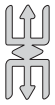
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 21 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 22, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

OPTION 1: BUILDING DRAWING

PLC Session 22: Building Elevations

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 21
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 22?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 22 on building elevations using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 22 on building elevations (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Develop 3 essential questions that guide learners to discover how architectural drawing conventions enable the drawing of building elevations.

ii. Differentiation

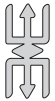
Design architectural complexity differentiation for 'Building Elevation Drawing' offering varied building types and sketching support levels for 50 learners.

iii. Learning activities

Create architectural analysis activities for 'Building Elevations and Freehand Sketches' with 50 learners in 100-minute sessions, focusing on elevation-plan relationships and sketching techniques.

iv. Assessment tasks

Generate architectural accuracy assessment tasks and mark scheme for 'Building Elevation Sketches' evaluating proportion, relationship understanding, and sketching quality for 50 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** *Transfer the information from your SS App into your learning planner template to complete your plans.*
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Essential questions

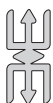
Study the proposed essential questions in the uploaded learning plan and make the necessary adjustments to fit the level of learners, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. learning activities
- b. differentiation
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

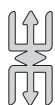
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 22 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 23, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 23: Drawing Building Elevations with Instruments

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 22
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 23?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



*You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan*

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 23 on drawing building elevations with instruments using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 23 on drawing building elevations with instruments (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Create problem-solving questions for ‘Instrumental Building Drawing’ that challenge learners to apply technical drawing principles to architectural representation.

ii. Differentiation

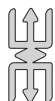
Develop technical symbol support for ‘Circuit Diagram Creation’ using reference materials and progressive complexity levels for learners with varying electrical knowledge in a class of 35.

iii. Learning activities

Design circuit analysis activities for ‘Electrical and Electronic Circuits and Diagrams’ with 35 learners in 90-minute sessions, focusing on symbol recognition, circuit types, and diagram creation.

iv. Assessment tasks

Generate circuit knowledge assessment tasks for ‘Electrical and Electronic Circuit Understanding’ at DOK Level 1–3, evaluating symbol usage and circuit diagram accuracy for 35 learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Assessment tasks

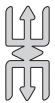
Fine-tune the poster presentation assessment tasks in the learning plan and generate rubrics for marking with a total score of 25marks, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

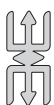
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 23 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 24, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

OPTION 2: MECHANICAL DRAWING

PLC Session 22: Principles of Sectioning

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 21
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 22?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 22 on principles of sectioning using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 22 on principles of sectioning (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Give me four essential questions for a class of 40 learners (23 boys, 17 girls, 4 special learners) that encourage deep thinking about why sectional drawing principles are important for understanding machine parts.

ii. Differentiation

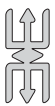
Suggest three differentiation strategies for teaching sectional drawing principles to a class of 40 learners (23 boys, 17 girls, 4 special learners), including adaptations for visual impairment, motor skill challenges, and varied learning paces.

iii. Learning activities

Generate three inclusive, hands-on learning activities for a class of 40 learners (23 boys, 17 girls, 4 special learners) that guide students to explain the principles of sectional drawing through visual demonstrations, tactile models, and peer-led discussions.

iv. Assessment tasks

Prepare a performance-based assessment for a mixed-ability class of 40 learners (23 boys, 17 girls, 4 special learners) where students explain sectional drawing principles and produce an accurate freehand sectional view of a machine part, graded with a rubric across DoK Levels 2-4, with extra time and visual aids for special learners.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** **Transfer the information from your SS App into your learning planner template to complete your plans.**
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint

Move to Activity 3.0



2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

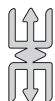
I have included three inclusive, hands-on learning activities for a class of 40 learners (23 boys, 17 girls, 4 special learners) that guide students to explain the principles of sectional drawing through visual demonstrations, tactile models, and peer-led discussions in the attached learning plan, check the appropriateness and suggest possible changes, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.



Note

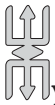
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a colleague to observe your lesson in relation to PLC Session 22 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. read PLC Session 23, Teacher Manual and related Learner Material (NTS 3a).
 - b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 23: Drawing Sectional Views

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 22
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 23?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 23 on drawing sectional views using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 23 on drawing sectional views (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Generate three open-ended questions that connect the skill of drawing sectional views to real-world engineering communication and problem-solving, etc.

ii. Differentiation

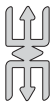
Provide teaching adaptations that allow advanced learners to draw complex sectional assemblies while beginners work on simpler objects, using templates and pre-drawn outlines for learners with special needs, etc.

iii. Learning activities

Generate three hands-on learning activities for a class of 38 learners (22 boys, 16 girls, 3 special learners) where students practise drawing sectional views of machine parts using drawing instruments, with enlarged diagrams and adaptive tools for special learners, etc.

iv. Assessment tasks

Prepare a performance-based assessment for a mixed-ability class of 38 learners (22 boys, 16 girls, 3 special learners) where students produce a sectional view of a specified machine component, graded with a rubric aligned to DoK Levels 2–4, etc.



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint

Move to Activity 3.0



2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Essential questions

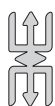
Study the essential questions in the uploaded learning plan and ascertain its suitability to connect the skill of drawing sectional views to real-world engineering communication and problem-solving. Suggest plausible changes, etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- learning activities essential questions
- differentiation
- assessment tasks, etc.



Note

- Chatting once may not be enough for the App to provide all that you may need for the tasks
- Transfer the information from your SS App into your learning planner template to complete your plans
- Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

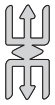
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 23 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 24, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

OPTION 3: GARMENT DESIGN TECHNOLOGY

PLC Session 22: Tools Used in Garment Design, and Their Applications

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 21
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 22?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 22 on tools used in garment design, and their applications using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 22 on tools used in garment design, and their applications (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Give me four essential questions for a class of 45 (20 boys, 25 girls, 3 special learners) that encourage all learners to critically analyse the selection, use, and care of garment design tools, ensuring accessibility for diverse abilities.

ii. Differentiation

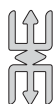
Suggest three differentiation strategies for teaching garment design tools to a class of 45 learners (20 boys, 25 girls, 3 special learners), ensuring kinaesthetic, visual, and auditory learning preferences are catered for, with peer mentoring and step-by-step guided practice.

iii. Learning activities

Suggest two scaffolded group learning activities for a mixed-ability class of 45 learners (20 boys, 25 girls, 3 special learners), ensuring advanced learners research and present on advanced garment tools, while beginners practise identifying and describing basic tools using visual aids.

iv. Assessment tasks

Design two differentiated assessment tasks for a class of 45 learners (20 boys, 25 girls, 3 special learners)—one practical and one written—that evaluate their ability to assess and apply garment design tools, with clear criteria and varying DoK levels (Level 2 for identification, Level 3 for application, Level 4 for analysis)."



Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii.** **Transfer the information from your SS App into your learning planner template to complete your plans.**
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint

Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

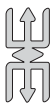
Assessment tasks

In the uploaded learning plan are two differentiated assessment tasks for a class of 45 learners (20 boys, 25 girls, 3 special learners), check if they are appropriate and suggest necessary changes, etc.

Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. learning activities, etc.

**Note**

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks

- ii. *Transfer the information from your SS App into your learning planner template to complete your plans*
- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

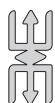
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 22 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. read PLC Session 23, Teacher Manual and related Learner Material (NTS 3a).
- b. bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c. identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 23: Taking Body Measurements Accurately

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 22
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 23?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

Hint



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 23 on taking body measurements accurately using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 23 on taking body measurements accurately (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. **Essential questions**

Generate three thought-provoking questions that connect accurate body measurement skills to professional garment making and customer satisfaction.

ii. **Differentiation**

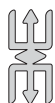
Provide differentiation approaches for teaching accurate body measurement skills to students with varying practical experience, ensuring all achieve competence in preparing a bodice block.

iii. **Learning activities**

Generate three practical classroom activities that help students practise taking accurate body measurements for preparing a bodice block, including step-by-step instructions and required materials.

iv. **Assessment tasks**

Prepare two assessment tasks—one practical and one written—that test learners' knowledge and skill in accurate body measurement for garment design.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. **Transfer the information from your SS App into your learning planner template to complete your plans.**
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

Hint



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Differentiation

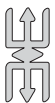
Carefully study differentiation strategies in the attached learning plan and ascertain if it good for teaching accurate body measurement skills to learners with varying practical experience, and ensures all learners achieve competence in preparing a bodice block., etc.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. learning activities
- c. assessment tasks, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

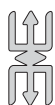
2.3 Share your experience with the group.

3.0 Enactment (25 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 23 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** read PLC Session 24, Teacher Manual and related Learner Material (NTS 3a).
- b.** bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** identify areas you found challenging in your teaching for discussion during the next session.

PLC Session 24: Preparing for End of Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 23 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while pre-populating your learning plan for week 24 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for week 24
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for week 24 and address any challenges in planning and developing assessment tasks for the end of semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the end of semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

The uploaded learning plan is for week 24 on “Electrical and Electronic Circuit “. With a class of 70 learners having no access to electricity or electronic devices, refine the activities with their corresponding resources to be used for the lesson.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a. essential questions
- b. differentiation
- c. assessment tasks, etc.

3.0 Prepare for End of Semester Examination (50 minutes)

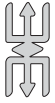
- 3.1** Refer to your Teacher Manual for the format of the end of semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Generate 40 multiple-choice questions from week 13 to 24. Make reference to the table of specification for the number of questions for each DoK level. The four options must be similar with only one key. The options should be of equal lengths arranged in alphabetical order.

Generate 4 theory questions 3 practical questions from week 13 to 24. Make reference to the table of specification for marks allocation for each DoK level.

Provide a mark scheme or a rubric where necessary. The rubrics should be Clear categories with specific mark allocations. Four performance levels (Excellent, Very Good, Satisfactory, Needs Improvement). Specific, measurable criteria for each level. Detailed descriptions of what constitutes each performance level. Precise technical requirements rather than general statements. All in one table.

**Note**

In preparing for mid-semester or end of semester examination, one chat may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)

- 3.2** Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses and complete the set questions (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

- i. Whether the assessment tasks generated follow 30%, 40%, 30% DoK distribution**

Review my test items and confirm their appropriateness to the 30%, 40% and 30% DoK levels

- ii. Mark scheme and score distribution**

Study my mark scheme and rubrics and ensure that the marks allocation matches the weight of the tasks.

- iii. Resources needed for assessment administration**

Considering the structure of the assessment, the number of learners (70) and 2hours, 45minutes duration, suggest resources that will make it easy to administer the assessment.

- iv. How to provide feedback**

Considering the class size and the nature of the assessment, suggest the form of feedback to be given to learners and how it should be done.

4.0 Reflection (10 minutes)

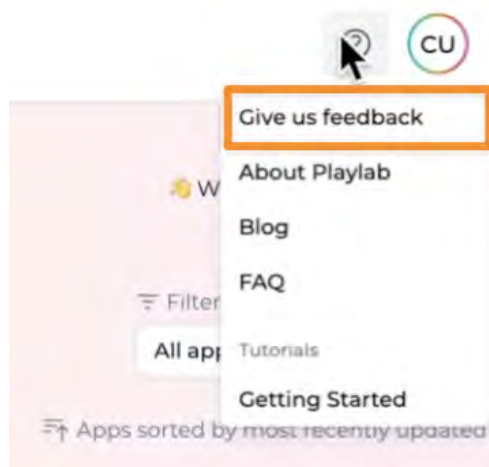
- 4.1** Reflect and share your views on the session (NTS 1a, 1b).
- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 24 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3** Remember to mark, record and upload your learners' assessment scores in the Student Transcript Portal.

Appendix 1: Subject Specific App Teaching & Learning Apps – Issue Reporting Guide

How to Report Issues or Get Support

You have three ways to report issues with the subject-specific apps:

1. Email Support
 - For general issues: Send email to: support@playlab.ai
 - Include:
 - Your school name and region
 - Subject app you're using
 - Description of the issue
 - Screenshots or screen recordings (if possible)
 - Best for: School administrators reporting multiple app issues
 - Response time: Within 24 hours
 - If Urgent please include [URGENT] Message Text in your subject line.
2. Submit Feedback in Playlab
 - In the app, Click the “Give us Feedback” link in the menu and share feedback.



- Access the Feedback Form here
- Complete the form and upload any supporting documentation. (The more detailed your submission is, the more helpful support will be)



User Feedback Form

We want to hear your feedback and learn more about how we can improve Playlab for you. *Please complete this form to submit your feedback to the Playlab team.*

Full Name*

Your answer

Email*

Your answer

What is your role?*

Your answer

Please share your feedback

What challenge are you facing? What feature would you like to see?

Your answer

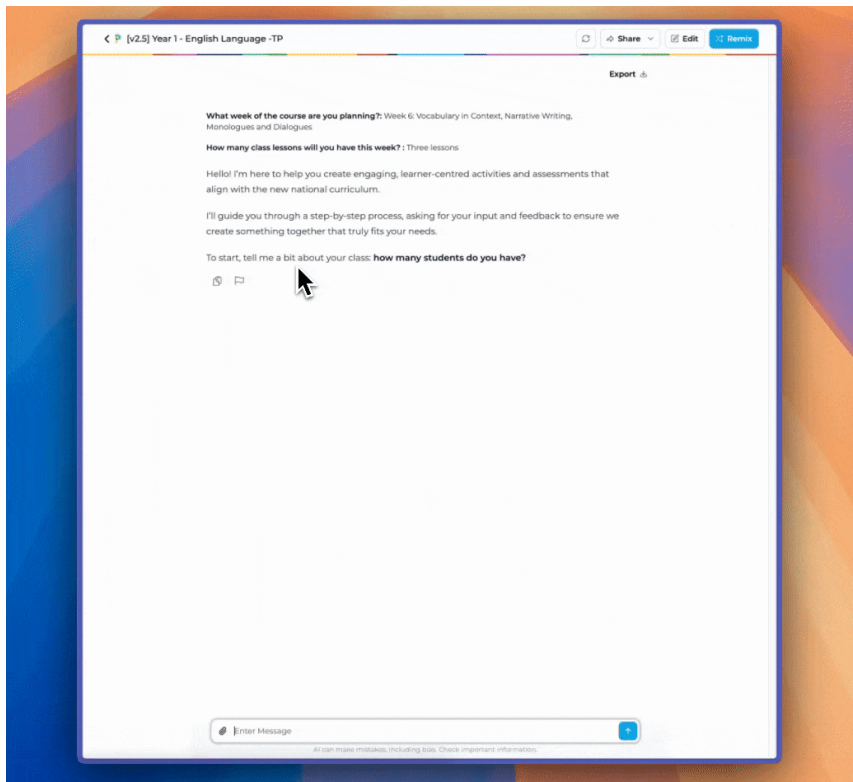
Please share any screenshots or videos that help visualize your feedback.

 **Upload** Size limit: 100 MB. File limit: 10.

Submit

Never submit sensitive personal information, like passwords, through Notion Forms.
[Report abuse](#)

- Best for: Individual teachers reporting specific issues
 - Response time: Within 24–48 hours
3. In-Chat Flagging
- Look for the flag button within your chat conversation



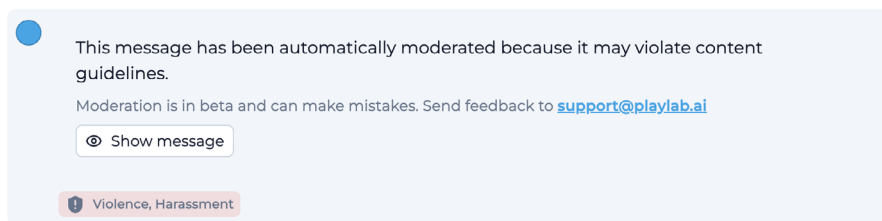
- Click to report biased, inaccurate, or inappropriate messages.
- Best for: Immediate issues with app responses
- There is also in app moderation for both user messages and AI generated responses. You can read more about it here.

What Happens After You Report?

1. The message will be flagged in your user activity. You will see indicators of messages that have been moderated or flagged.

KIPP NYC Restorative Plan Designer	8/21/2025
	 7  1
KIPP NYC Restorative Plan Designer	8/21/2025
	 5
KIPP NYC Restorative Plan Designer	8/15/2025
	 7  1

2. You can review the messages in activity. By default the message is hidden unless you click “show message”.



Thank you for sharing the details of the incident. Here's the step-by-step analysis and proposed restorative plan based on the provided situation:

3. If something is consistently being flagged, you may want to address it in your implementation, make revisions to the app, or contact support@playlab.ai for more guidance.

Tips for Effective Reporting:

- Be specific about what you were trying to do
- Note which subject app you're using
- Include your school and region information
- Describe what happened versus what you expected

Additional Support Resources

1 App Basics:

- Starting a conversation
 - Scan your QR code to use your app.
- If you encounter a problem, follow the directions for Escalating an issue.

Video Tutorials

- a Lesson Planning Walkthrough: Step-by-step guide using a real subject app with sample conversations
 - Lesson Plan Development
 - Watch a sample conversation here.
 - As you're using the apps, you can provide specifics on how you might want to differentiate for class needs
 - Assessment Development
 - Watch a sample conversation here.

- As you're using the apps, you can adjust the DOK levels as you create assessments at different complexity levels
- b For any additional questions please refer to the learn.playlab.ai page.

Key Reminders

- 1 Apps are supplemental tools to support your PLC Handbook and Teacher Manual—not replace them
- 2 Always refer to official curriculum documents as your primary resource
- 3 Use your professional judgment to adapt app suggestions for your classroom context

Appendix 2: Learning Planner Template

Name of Subject:

Learning Planner Template Year Two

Number of Learners in Class		Week		Duration		Form	
Strand							
Sub-Strand							
Content Standard							
Learning Outcome(s)							
Learning Indicator(s)							
Essential Question(s)							
Pedagogical Strategies							
Teaching & Learning Resources							

Key Notes on Differentiation

Identify the different learner needs in your class and make notes on how to cater for them during the lesson

--

Lesson

(complete per number of lessons for the week)

Refer to the Teacher Manual and Learner Material to complete this section

Introduction

Main Lesson

Closure

Key Assessment
1. Formative Assessment Mode: Task: Mark Scheme:
2. Key Assessment for Student Transcript Portal Assessment Mode: Task: Rubric/Mark Scheme:
Reflection & Remarks

Appendix 3: Teacher Lesson Observation Form

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

- b1. 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 behavior 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

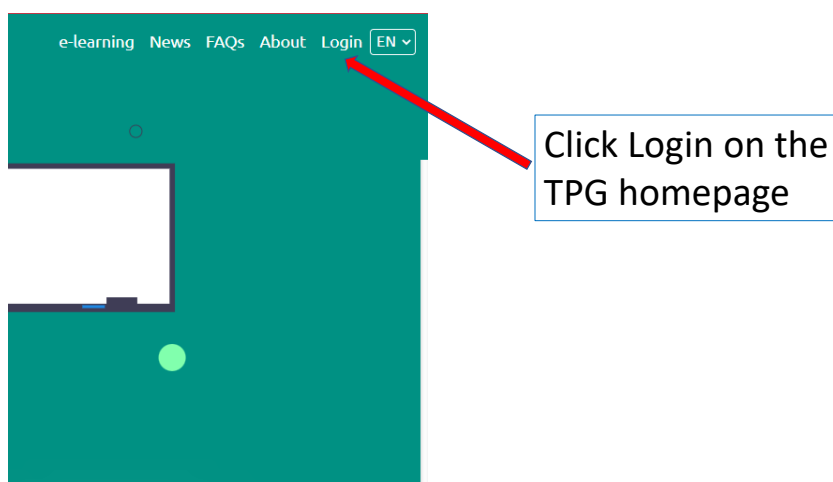
22. Areas for
development

23. Next steps for
teacher

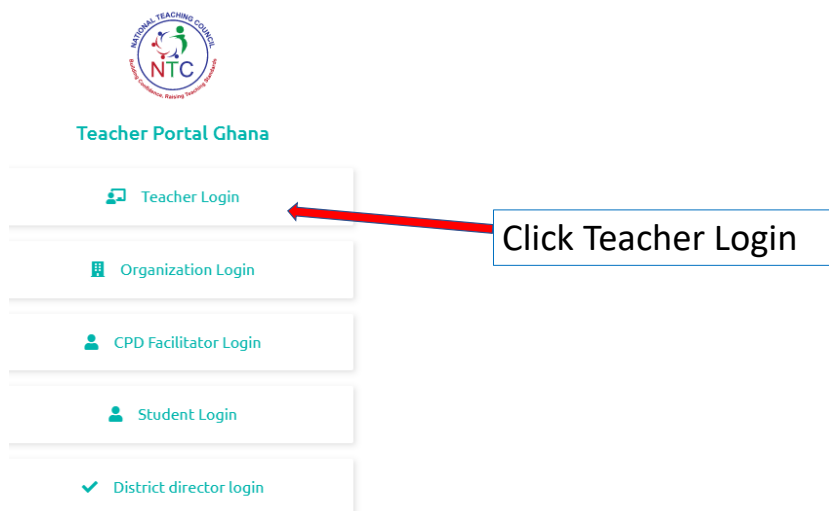
Additional Notes (on teacher's actions, the flow of activities, etc.)

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

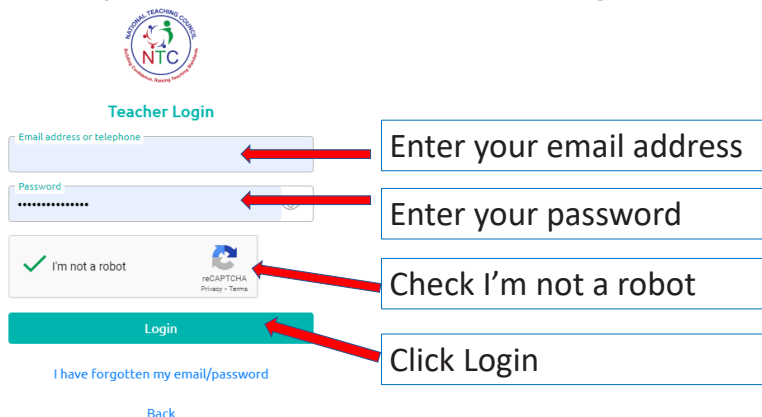
1. Visit *tpg.ntc.gov.gh* and click Login



2. On the Login page, click Teacher Login



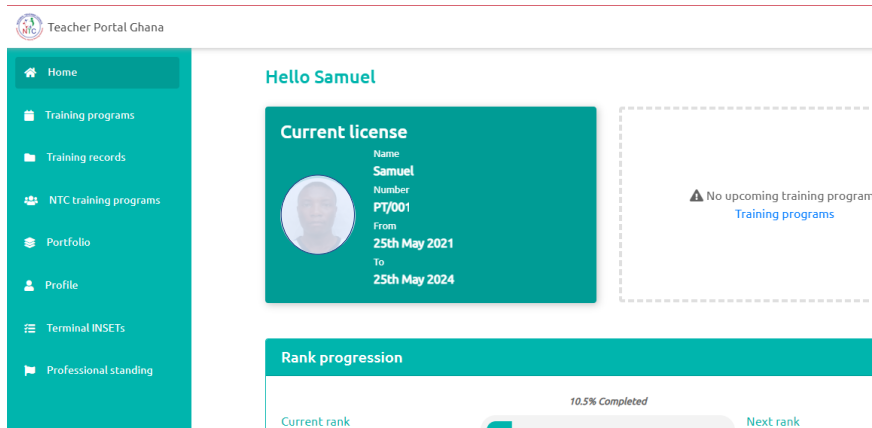
3. On the **Teacher Login** page enter your email address and password and then click **Login**



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** (CAPTCHA) → **Check I'm not a robot**
- Login** (Button) → **Click Login**
- I have forgotten my email/password** (Link)
- Back** (Link)

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 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:**
 - Hello Samuel**
 - Current license:**
 - Name: Samuel
 - Number: PT/001
 - From: 25th May 2021
 - To: 25th May 2024
 - Rank progression:**
 - Current rank
 - 10.5% Completed
 - Next rank
 - No upcoming training program:** 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 image shows the 'Teacher Portal Ghana' interface. On the left is a teal side 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' option to a text box. The main content area is titled 'Training records' and shows 'Records for training programs registered and/or attended'. It displays a list of training programs with their status and credits. A red bracket on the right groups the list of programs under a text box.

Teacher Portal Ghana

Training records

Records for training programs registered and/or attended

Total points: 1.8988

Training Program	Status	Credits
Sensitization on Education Policies	Marked as absent	
Differentiated Learning	Processed	1.32
Advanced Mobile Learning with Multimedia (AMLW)	Processed	0.5788

List of training programs

Click to view training records

THANK YOU

