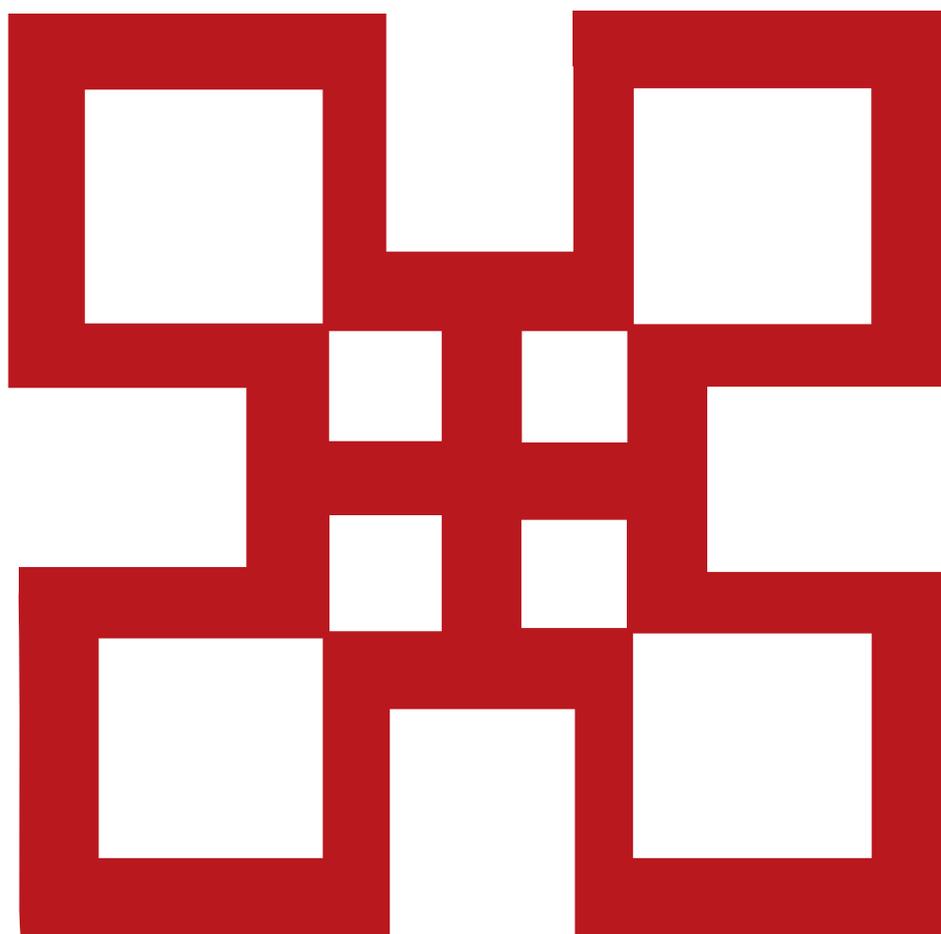


Professional Learning Community Handbook 2 Literacy Across the Curriculum

HANDBOOK FOR TEACHERS



Wisdom, Knowledge
and Prudence



Ghana Education
Service (GES)





GOVERNMENT OF GHANA



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**Professional Learning
Community Handbook 2
Literacy Across the Curriculum**

Teacher Version

Foreword

The importance of teacher professional development cannot be overemphasized not least because educational needs are changing all the time and teachers need to keep abreast of these changes. Structured regular professional development activities for teachers help them to improve their understanding of how to deliver effective learning outcomes.

The Ghana Education Service has collaborated with the National Teaching Council, tutors of Colleges of Education, teacher educators of some Universities and Technical Universities in Ghana, and teachers from 12 Senior High Schools, Senior High Technical Schools and Technical Institutes to develop this second Professional Learning Community (PLC) Handbook. The Professional Learning Community (PLC) Handbook is intended to assist heads and teachers of Secondary Schools to run weekly PLC sessions in schools. These PLC sessions are dedicated periods in the school's weekly schedule where all teachers come together and work collaboratively to improve teaching and learning.

PLC sessions will help teachers to build a collective understanding of how to improve outcomes for all learners in their schools through a series of practical activities such as lesson study, team teaching and action research. The involvement of teachers from 12 Senior High Schools, Senior High Technical Schools and Technical Institutes in the writing of this Handbook means that the primary users of the Handbook are the ones who have been involved in its creation, helping to ensure its relevance and practicality.

This second PLC handbook, focuses on improving literacy across the curriculum and covers the following topics:

- ✓ The concept and importance of literacy across the secondary school (SHS/TVET) curriculum
- ✓ Ways of applying literacy across the secondary school (SHS/TVET) curriculum
- ✓ Identifying subject-specific support using literacy
- ✓ Supporting the teaching and learning of literacy in ICT
- ✓ Supporting the teaching and learning of literacy in business studies
- ✓ Supporting the teaching and learning of literacy in mathematical subjects
- ✓ Supporting the teaching and learning of literacy in science subjects
- ✓ Supporting the teaching and learning of literacy in the social sciences
- ✓ Supporting the teaching and learning of literacy in TVET
- ✓ Supporting literacy across the curriculum through lesson observation.

Based on feedback from the use of the first Handbook, this second PLC Handbook is designed to further improve quality and relevance of teaching and learning through experiential sharing and strategies which promote Gender, Equality and Social Inclusion (GESI).

The Handbook is structured in 10 generic Sessions which are appropriate for all SHSs and four specialized sessions of TVET to cater for the specific needs of technical institutes.

It is our hope and expectation that this PLC Handbook continues to play the much-needed role of supporting the transformation of our secondary education system and that it will be used effectively across all Ghanaian secondary education institutions.

Professor Kwasi Opoku-Amankwa
Director-General
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PROFESSIONAL LEARNING COMMUNITY HANDBOOK 2

LITERACY ACROSS THE CURRICULUM – TEACHER VERSION

Background to the Professional Learning Community Sessions in this Handbook

There are ten weekly Professional Learning Community (PLC) Sessions in this Handbook, which aim to guide teachers to support the teaching of literacy across the Senior High School (SHS) curriculum. The Sessions are not subject specific although teachers who teach Technical and Vocation Education and Training (TVET) subjects have access to subject specific versions of four Sessions, namely TVET Sessions 1, 2, 3 and 4. Teachers in this category will also complete generic Session 5-10.

In addition to supporting the teaching of literacy across the SHS curriculum, the PLC Sessions are designed to support:

- ✓ Professionalising teaching by supporting teachers in developing communities of practice and enhancing their professionalism.
- ✓ Improving the learning outcomes and life chances for all learners.

Features of the PLC Sessions

- ✓ The main resources for the weekly teacher Sessions are the teacher version of the Handbook and the PLC Teacher version of the Handbook.
- ✓ Both versions are written to provide information to guide the 10 weekly PLC Sessions that are linked directly to the teaching of literacy.
- ✓ The PLC Teacher version of the Handbook have prompts for leading the PLC Session.
- ✓ The teacher version of the Handbook contains activities for teachers and guidance for what they will do during the Session.
- ✓ The times suggested for the activities in the various sections of the Sessions are a guide only and can be reviewed as appropriate.
- ✓ The extension activities may be completed outside the PLC Session individually or in groups.
- ✓ The weekly PLC Sessions are of 90-minute duration although schools may extend this duration to enable teachers to complete the extension activities in specific sessions together.

PLC Session 1: The Concept and Importance of Literacy across the Secondary Education Curriculum

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
1. Introduction to Handbook	<p>1.1 Participate in the icebreaker.</p> <p>1.2 Read the introduction to the Handbook.</p> <p>Introduction: Literacy (comprising listening, speaking, reading, and writing) cuts across all disciplines so every teacher is a teacher of literacy. Literacy is the main mode of communication used in schools for teaching and learning, and for developing thinking in all disciplines. Literacy supports learning because learners need to understand the vocabulary, expression and organizational structures of a subject in order to understand concepts in that subject and cope with its cognitive demands. Responding to higher order questions encourages the development of thinking skills and use of effective literacy skills. In the learning process, learners make and revise meaning through language. However, there is the tendency for this all-important element of learning to be de-emphasised in schools. There is also a general notion that literacy development among learners is the sole responsibility of the language teacher.</p> <p>In order to improve learning outcomes of all learners at the secondary education level, teachers must be equipped with adequate subject knowledge and pedagogical skills to enable them to incorporate literacy in their disciplines.</p>	15 mins
Purpose of the Handbook	<p>Purpose: The purpose of this Handbook is therefore to equip teachers with the skill to incorporate more subject specific literacy in their disciplines to enhance learners' academic success. The Handbook introduces teachers to the concept of literacy <i>in English</i> across the curriculum, the importance of cross-curricular literacy, principles and practice of cross-curricular literacy and planning for cross-curricular literacy. Additionally, the Handbook exposes teachers to ways they can apply literacy skills in teaching their subject areas. It also aims at assisting teachers to know how to integrate more subject specific literacy into planning, teaching and assessing across the secondary education curriculum.</p> <p>The strategies introduced in the Handbook will help teachers to develop skills that can be used to improve literacy across the curriculum.</p>	

	<p>The Handbook covers the following topics:</p> <ol style="list-style-type: none"> 1. The concept and importance of literacy across the secondary education curriculum 2. Ways of applying literacy across the secondary education curriculum 3. Identifying subject-specific support using literacy 4. Supporting the teaching and learning of literacy in ICT 5. Supporting the teaching and learning of literacy in business studies 6. Supporting the teaching and learning of literacy in mathematical subjects 7. Supporting the teaching and learning of literacy in science subjects 8. Supporting the teaching and learning of literacy in the social sciences 9. Supporting the teaching and learning of literacy in technical and vocational education and training 10. Supporting literacy across the curriculum through lesson observation 	
<p>2. Introduction to the session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>2.1 Read the purpose, learning outcomes (LOs) and learning indicators (LIs) for the session.</p> <p>Purpose:</p> <p>The purpose of this session is to introduce the concept of literacy across the curriculum to encourage teacher to support the teaching and learning of literacy irrespective of the subject they teach. Specifically, the session exposes teachers to ways they can apply literacy skills in teaching their subject areas. It also aims at assisting teachers to know how to integrate subject specific literacy into planning, teaching and assessing across the secondary education curriculum and teaching strategies to use to improve literacy across the curriculum through the teaching of their subjects. The session equips teachers with ways to help learners with listening, speaking, reading and writing skills that can improve literacy across the curriculum.</p> <p><i>Note:</i> <i>LO: This is the expected knowledge, understanding, skills, etc. to be acquired at the end of a lesson</i> <i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activities or products</i></p> <p>LO 1: Demonstrate knowledge, understanding and application of the concept of literacy across the Senior High School (SHS)/ Technical and Vocational Education and Training (TVET) Curriculum.</p> <p>LI 1.1 Explain the concept of literacy across the SHS/ TVET Curriculum.</p> <p>LI 1.2 Give examples of the application of literacy across the SHS/TVET Curriculum.</p>	<p>30 mins</p>

	<p>2.6 Examine ways of planning cross-curricular literacy across SHS/TVET Curriculum (NTS 1a, 2b, 2c, 2d, 2e, 3a, 3e, 3g, 3i and 3j). E.g.</p> <ul style="list-style-type: none"> a) <i>Planning for lesson introduction:</i> <ul style="list-style-type: none"> i. <i>Learners to read learning outcomes on the board</i> ii. <i>Learners to write down their expectations from the lessons, etc.</i> b) <i>Planning the main lessons:</i> <ul style="list-style-type: none"> i. <i>Using listening and speaking skills to engage with others in groups and in class discussion</i> ii. <i>Reading and answering comprehension passages during teaching and learning</i> iii. <i>Explaining learners' writings in their subject areas through presentations, etc.</i> c) <i>Planning for lesson evaluations:</i> <ul style="list-style-type: none"> i. <i>Setting questions on comprehension passages and tasking learners to answer them</i> ii. <i>Grouping learners to do presentations on lessons learnt, etc.</i> <p>2.7 Analyse ways of formatively assessing cross-curricular literacy across the SHS/TVET Curriculum (NTS 3k, 3l and 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Assessment for learning:</i> <ul style="list-style-type: none"> i. <i>The use of cross-word puzzle in writing words</i> ii. <i>Writing of project works, etc.</i> b) <i>Assessment as learning:</i> <ul style="list-style-type: none"> i. <i>Learners using language games such as scrabble, hangman, word worm, etc. to assess themselves, etc.</i> 	
<p>3 Implementing literacy across the curriculum in teaching, learning and assessment giving regard for misconceptions, GESI, ICT, 21st century skills and challenges in implementing literacy across the curriculum</p>	<p>3.1 In subject groups, identify possible misconceptions regarding the development of literacy across the SHS/TVET Curriculum (NTS 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Literacy development in learners is the work of language teachers</i> b) <i>Literacy is developed in learners in only English language lesson, etc.</i> <p>3.2 Ask teachers in subject groups to come out with suggested solutions to the possible misconceptions in Activity 3.1. E.g.</p> <ul style="list-style-type: none"> a) <i>Language teachers may not have the appropriate registers in all disciplines therefore all teachers of various disciplines should be made aware that they have roles to play in literacy development</i> b) <i>Literacy development cuts across all subject disciplines and teachers should be encouraged to appreciate this, etc.</i> 	<p>30 mins</p>

<p>Planning teaching and assessing learning</p>	<p>3.3 Discuss in your subject groups and come out with strategies on how GESI can be integrated into your specific subject areas to support literacy development (NTS 1a,2e, 2f, 3e, 3f and 3g). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Using multiple methods (question and answer, discussion, videos, role play, etc.) in lessons to support literacy development of learners with diverse backgrounds</i> <i>b) Using different learning resources (audio, visuals, audio-visuals, tactile, etc.) to support literacy development of all learners, etc.</i> <p>3.4 Discuss in groups how to use ICT to develop literacy in learners (NTS 3g, 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Using digital learning materials such as e-textbooks, e-workbooks, e-tests and educational videos to help in their reading and communication skills</i> <i>b) Using sound simulation apps and devices such as Google Translate, recorded videos, audio devices, etc., to help in developing speaking and phonic skills, etc.</i> <p>3.5 Mention at least three 21st century skills that can be integrated into literacy development (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Collaboration skills (Group work)</i> <i>b) Problem-solving skills (project work)</i> <i>c) Creativity skills (guided composition writing), etc.</i> <p>3.6 In groups, think-square-share and prepare an outline of a lesson plan that can be used to teach a lesson that will support literacy development in a particular subject in any class (NTS 3a).</p> <p><i>Note:</i> <i>Teachers would be guided to tease out the Learning Outcomes (LOs) and Learning Indicators (LIs) from the lesson, so they know the relationship between lesson objectives and learning outcomes</i></p> <p><i>E.g.</i></p> <p><i>Sample lesson plan for teaching based on the 2010 SHS Social Studies Teaching Syllabus Year 1, emphasising the incorporation of literacy skills at different sections is provided below</i></p> <ul style="list-style-type: none"> a) Topic: <i>Resource Development and Utilization in Ghana</i> b) Sub-topic: <i>Human Resource Development</i> c) Objectives: <i>By the end of the lesson, the learner will be able to:</i> 	
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	<p>i. Write one sentence explaining the concept 'Human Resource'</p> <p>ii. Discuss at least three ways that human resource contributes national development</p> <p>iii. Tease out and write from a given text at least three ways of developing human resource</p> <p>d) Teaching Learning Resources (TLRs): Pictures and videos of people in various occupations, computer, projector</p> <p>e) Relevant Previous Knowledge (RPK): Learners can identify some occupations in their communities</p> <p>f) Introduction: Display pictures of various occupation on the board and ask learners in pairs to write and present on five occupations identified</p> <p>g) Tasks/activities:</p> <p>i. Using shower thoughts, guide learners to come out with the meaning of the concept 'Human resources'</p> <p>ii. Guide learners in groups to read content related text and tease out the ways of developing human resource and present their findings</p> <p>iii. Show a video of some human economic activities Guide learners in groups to discuss the ways that human resource contributes to national development and present their findings using concept mapping</p> <p>h) Core points:</p> <p>i. Explanation of Human Resource: The human ingenuity and capacity of the population to contribute to the effective functioning and coordination of a country</p> <p>ii. Ways of exploiting Natural Resource:</p> <ul style="list-style-type: none"> • Formal education • On the job training • Apprenticeship • Mentorship <p>iii. Contribution of human resource to national development:</p> <ul style="list-style-type: none"> • They transform raw materials or resources into refined goods • They provide essential services such as health, security, etc. • They exploit and extract other resources for national good • They provide governance and leadership in a country <p>i) Core competencies:</p> <p>i. Communication Skills</p> <p>ii. Collaboration skills</p> <p>iii. Critical thinking</p>	
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	<p>iv. <i>Personal development</i> v. <i>Problem solving</i> vi. <i>Leadership skills</i></p> <p>j) Conclusion: <i>Using talk-to-the-hand strategy, elicit the key things learners have learnt from the lesson</i></p> <p>k) Evaluation:</p> <p>i. <i>Write one sentence explaining the concept 'Human Resource'</i> ii. <i>Use a concept map to present at least three ways of developing human resource</i> iii. <i>Write at least three ways human resource contributes to national development</i></p> <p>l) Remarks:</p> <p>3.7 Tease out the LOs and LIs from the sample lesson plan. E.g. <i>LO: Demonstrate knowledge and understanding of the benefits of natural resources to the development of Ghana</i></p> <p><i>LI 1.1 Write one sentence explaining the concept 'human resources'</i> <i>LI 1.2 Discuss and present at least three ways of developing human resource</i> <i>LI 1.3 Tease out and write at least three ways human resource contributes to national development</i></p> <p>3.8 Model a teaching activity in the sample lesson plan. (EXTENSION ACTIVITY)</p>	
<p>4 Evaluation and review of session:</p> <ul style="list-style-type: none"> Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session.</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe your lessons and provide written feedback.</p> <p>4.4 Read Session 2 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>

PLC SESSION 2: Ways of Applying Literacy across the Secondary Education Curriculum

<p>Focus: the bullet points provide the frame for what is to be done in the session. The writer should use the bullets to guide what they write for the PLC Coordinators and teachers to do and say during each session. Each bullet needs to be addressed.</p>	<p>Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session</i></p>	<p>Time in session</p>
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and Learning indicators</p>	<p>1.1 Give your views on the use of literacy in teaching your subject areas.</p> <p>1.2 Share your findings on the lesson you observed with the group (NTS 1a, 1b and 1e).</p> <p>1.3 Read aloud the purpose, learning outcomes and learning indicators (LIs) of the session (1b, 2b and 2c).</p> <p>Purpose: The purpose of this session is to identify ways of applying literacy to support teaching and learning across Senior High Schools (SHS) / Technical and Vocational Education and Training (TVET) Curriculum.</p> <p>The session also seeks to assist teachers in strengthening their ability to train learners to use listening, speaking reading and writing to enhance their learning of the various subjects in the SHS/TVET Curriculum.</p> <p><i>Note:</i> <i>LO: This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum)</i></p> <p><i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum)</i></p> <p>LO1: Demonstrate knowledge and understanding of the relevance of listening, speaking, reading and writing in literacy across the SHS/TVET Curriculum.</p>	<p>15 mins</p>

	<p>LI 1.1 Explain how listening, speaking, reading and writing embedded in literacy support in the teaching and learning of other subjects.</p> <p>LI 1.2 Examine the importance of listening, speaking, reading and writing across the teaching of other subjects.</p> <p>LO2: Demonstrate knowledge, understanding and practice of literacy across the SHS/TVET curriculum.</p> <p>LI 2.1 Analyse the use of listening, speaking, reading and writing skills in literacy in guiding teaching and learning of other subjects.</p> <p>LI 2.2 Identify the relevance of literacy across the curriculum.</p> <p>LI 2.3 Discuss evidence of learning and behavioural changes in integrating literacy into the teaching and learning of other subjects.</p> <p>LO3: Demonstrate knowledge and understanding of the various strategies used to support learners who are struggling with reading.</p> <p>LI 3.1 Identify the various strategies used in diagnosing learners’ reading difficulties.</p> <p>LI 3.2 Explain how an appropriate strategy can be used to address learners’ reading difficulties.</p> <p>LI 3.3 Identify challenges that are associated with interventions used in addressing learners’ reading difficulties.</p> <p>LI 3.4 Identify ways of addressing the challenges associated with interventions used in addressing learners’ difficulties.</p> <p>1.4 In subject groups, indicate how listening, speaking, reading and writing as components of literacy support in the teaching and learning of other subjects (NTS 1a, 1b, 1c, 2a, 2b, 2c, 3a and 3b).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Teachers read out the key words related to their subject areas to help learners listen to how the words are pronounced</i> <i>b) Teachers write key words in the lesson of their subject areas to help learners grasp the spelling of the words, etc.</i> <p>1.5 In your subject groups, discuss the importance of listening, speaking, reading and writing across the teaching of their subjects (NTS 1a, 1b, 1c, 2a, 2b and 2c).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) They help teachers and learners to develop vocabulary in different subject areas</i> <i>b) They help teachers and learners to develop communication skills, etc.</i> 	
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	<p>1.5 Analyse the use of listening, speaking, reading and writing skills in literacy in guiding teaching and learning of other subjects (NTS 1a, 1b, 2a, 2b, 2c and 3a). E.g.</p> <ul style="list-style-type: none"> a) <i>They create awareness of the language in using the various words</i> b) <i>They create awareness of print, and the relationship between letters and their sounds, etc.</i> <p>1.6 Indicate how relevant the literacy across the curriculum concept is to the teaching and learning of your subject areas (NTS 1e, 1f, 1g, 2a, 2b, 2c, 2e, 3e and 3g). E.g.</p> <ul style="list-style-type: none"> a) <i>Literacy across the curriculum enables learners to have skills which enable them to interpret and compose texts across different disciplines</i> b) <i>It develops a sense of the way disciplinary knowledge is organised, for instance, by ensuring that topics are sequenced in a way that reflects the language competencies of learners</i> c) <i>It supports learners to vary texts and grammatical choices which shape and establish disciplinary knowledge in their subject areas, etc.</i> <p>1.7 Think-pair-share evidence of learning and behavioural changes in integrating literacy into the teaching and learning of your subjects (NTS 1a, 1l, 2e, 2f, 3e, 3f and 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Learners are able to engage in academic conversation in pairs or in groups using vocabulary in other subjects</i> b) <i>Learners are able to give contextual analysis as evidence of reading text in different subjects, etc.</i> <p>1.8 In your groups think-pair-share some of the signs indicating a learner's reading difficulties (NTS 1a, 1e, 2e, 2f, 3e, 3f and 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Learner's inability to recognise letters and pronounce words accurately</i> b) <i>Learner's poor retention of information in text read</i> c) <i>Learner takes too long to complete in-class assignments, etc.</i> <p>1.9 Think-pair-share the various strategies they use in diagnosing learners' reading difficulties (NTS 1a, 1c, 2c, 2f, 3e, 3f and 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Teacher tasks learners to read a text and listening to find out their reading difficulties</i> b) <i>Dictating words to learner to write/spell, etc.</i> 	
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	<p>1.10 Think-pair-share ideas on appropriate strategies that can be used to assist learners with reading difficulties (NTS 1a, 1b, 1c, 1e, 2a, 2c, 3a, 3d and 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Listen to learners reading aloud</i> b) <i>Have learners read the same text several times to build fluency and confidence</i> c) <i>Have learners use a ruler or finger to follow along while reading</i> d) <i>Try different font and text sizes, etc.</i> e) <i>Pre-teach key words using the synthetic phonics approach (See Appendix 2.1)</i> <p>1.11 Think-pair-share ideas on challenges that are associated with the interventions discussed in Activity 1.11 (NTS 1a, 1b, 1c, 2a, 2e, 2f, 3e, 3f and 3m). E.g.</p> <ul style="list-style-type: none"> a) <i>Limited time on the side of teachers to create extra activities to improve upon reading abilities of learners struggling with reading. For instance, teaching loads of teacher and other school-related responsibilities may make it difficult to support reading in other subjects</i> b) <i>Lack of relevant reading materials and other teaching learning resources such as assistive technology like Audiobooks, etc.</i> <p>1.12 Think-pair-share ideas on how to address the challenges discussed in Activity 1.12 (NTS 1a, 1b, 1c, 2a, 2b and 2c). E.g.</p> <ul style="list-style-type: none"> a) <i>Teachers should be encouraged to use effective classroom management skills such as using groupwork to reduce time for giving individual learners attention</i> b) <i>Providing relevant reading materials as well as teaching and learning resources to enable teachers to implement reading interventions using the synthetic phonic approach (See Appendix2.1)</i> c) <i>Teach letter sounds and blending (See Activity 1.13a and Appendix2.1)</i> <p>1.13 In pairs/groups, show how any appropriate classroom-based activity can be used to support the use of synthetic phonics approaches in teaching reading. (NTS 2a, 2e, 2f, 3e, 3f and 3m) E.g.</p> <ul style="list-style-type: none"> a) <i>Matching letters to sounds</i> b) <i>Formation of words using learned sounds</i> c) <i>Clapping sounds/syllables in words and sentences</i> 	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing</p>	<p>1.14 Discuss in your subject groups and come out with strategies on how GESI and literacy can be integrated into your specific subject areas (NTS 1a, 3e, 3f and 3g).</p>	

<p>literacy across the curriculum.</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using multiple means of representation and variety of methods to present information and provide a range of means to support learning such as:</i> <ul style="list-style-type: none"> i. <i>Cooperative learning (mixed gender and mixed ability with Special Education Needs (SEN) group work)</i> ii. <i>Differentiated teaching to cater for different learning needs</i> iii. <i>Project-based learning for learners to have first-hand information and write a report for oral presentation</i> iv. <i>Multisensory teaching and using teaching learning resources and GESI responsive materials to meet diverse learning styles</i> b) <i>Multiple means of engagement – tapping into learners’ interests by offering choices of content and tools such as:</i> <ul style="list-style-type: none"> i. <i>Teaching new concepts using pictures, artifacts, posters, videos and other materials</i> ii. <i>Learners interpret content orally and write summaries using gender responsive language</i> iii. <i>PowerPoint presentations to engage learners’ auditory and visual, using large visual aids such as slides, graphics, charts and assistive technology</i> c) <i>Multiple means of action and expression by providing learners with alternative ways to act skillfully and demonstrate what they know:</i> <ul style="list-style-type: none"> i. <i>Using different assessment methods (written assignments, oral assessment and online assessment)</i> ii. <i>Allowing learners to demonstrate what they have learnt, in multiple ways that include visual and oral presentation, reading and writing, etc., to cater for different learning styles, etc.</i> <p>1.15 Mention at least three 21st century skills that can be integrated into literacy development (NTS 3j).</p> <p><u><i>E.g.</i></u></p> <ul style="list-style-type: none"> a) <i>Communication skills: Using talk for learning and thinking about issues from different perspectives during presentations in class to arrive at conclusions</i> b) <i>Critical thinking skills: Thinking carefully about what they read and how it relates to the task at hand and writing examples related to real life situations, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making</p>	<p>2.1 Discuss samples of your lesson plans in your various subject areas and how you can incorporate literacy into them (NTS 1a, 1b, 1c, 2a, 2b and 2c).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Explaining in writing the terms used in the lesson plan</i> 	<p>30 mins</p>

<p><u>links to literacy across the curriculum</u></p>	<p><i>b. Reading a textbook on the lesson and writing a summary of the lesson, etc.</i></p> <p>2.2 Write the possible challenges you are likely to encounter in the delivery of your lesson (NTS 1a, 1c, 2c and 3m). <i>E.g.</i></p> <p><i>a) Inadequate prescribed text- books</i> <i>b) Poor literacy skills of the learners, etc.</i></p> <p>2.3 Discuss possible ways of addressing the challenges identified in Activity 2.3. <i>E.g.</i></p> <p><i>a) <u>Attend continuous professional development programmes in order to upgrade their pedagogical knowledge and teaching approaches</u></i> <i>b) <u>Integrate literacy in the teaching of all subjects, etc.</u></i></p>	
<p>3. Teaching, learning and assessment making <i>explicit</i> links to literacy across the secondary school curriculum</p>	<p>3.1 List and discuss how your lesson makes use of literacy resources to support relevant activities (NTS 3j). <i>E.g.</i></p> <p><i>a) Use prerecorded videos for learners to write key aspects of what they observe</i> <i>b) Project text for learners to read, etc.</i></p> <p>3.2 Discuss how your lesson uses literacy in formative assessment, i.e., assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m). <i>E.g.</i></p> <p><i>a) Assessment for learning:</i></p> <p><i>i. Project- based learning, such as searching for information and writing findings for oral presentation</i> <i>ii. Reflective writing</i></p> <p><i>b) Assessment as learning:</i> <i>Self-assessment such as using given criteria to identify gaps in own work</i></p> <p>3.3 Model a teaching activity in your sample lesson plan (NTS 3h and 3k). (EXTENSION ACTIVITY)</p>	<p>30 mins</p>

<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Identifying and addressing any outstanding issues relating to the lesson/s for clarification • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 1b, 3n and 3o).</p> <p>4.2 Orally share what you have learnt with the larger group (NTS 3a, 3b and 3l).</p> <p>4.3 Identify a critical friend to observe you in teaching your lesson in relation to PLC Session 2 and provide feedback at the next PLC session (NTS 3a, 3b and 3l).</p> <p>4.4 Read Session 3 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>
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Appendix 2.1

Reading is the complex cognitive process of decoding symbols to derive meaning. It is a form of language processing. Reading is a means for language acquisition and communication. There are several approaches to teaching reading. Some of these approaches are phonics approach, linguistic approach, multisensory approach, neurological impress technique, language experience approach and reading comprehension support. The phonics approach has become a commonly used practice and approach to teaching learners to read. There are two main approaches to the teaching of phonics: synthetic and analytic. The main difference between these two is their methodologies. Whereas the analytic method teaches reading with whole words and their analysis, synthetic phonics teaches the sounds and how they are processed into words (NTS 2d, 3g).

Synthetic phonics

Synthetic phonics is a method of teaching learners to read and write. The learners are taught how the English alphabetic code works before they are expected to do the harder tasks of reading books and writing independently. Synthetic Phonics does not start with whole printed words. It starts with single letters and the sounds that the letters represent. As soon as the learners have been taught a few letters and sounds, including one or two vowels, they are taught to look at the words, produce a sound for each letter (no digraphs should be included at this point) and then blend the sounds all through the word into normal pronunciation. This 'synthesising' (blending sounds) is the essential skill for working out unknown words. Increasing numbers of words can and should be blended as each letter sound is introduced. Once words have been blended a few times, they can be read without blending.

At the same time, the learners are taught how to write letters and how to identify the individual sounds in words. For example, if learners have been taught how to form single letters and can hear that the word 'dig' has the sounds /d-i-g/ in it, then they can write this word. In addition to teaching the sounds made by single letters, synthetic-phonics programmes also teach the sounds made by digraphs, such as /ai/, /ee/, /oa/, /or/ and /ou/. Although learning the sounds made by digraphs is slightly more difficult than learning the sounds made by single letters, the learners just need to learn to say one sound for the two letters. Care is taken to ensure that the new letter knowledge is put into

practice straight away, with plenty of blending and segmenting of regular words that use the new digraphs.

Characteristics of a Synthetic Phonics Programme:

- a) Letter-sound correspondences are explicitly taught before learners begin to read text containing these correspondences. Letter-sound correspondences involve knowledge of the sounds represented by the letters of the alphabet AND the letters used to represent the sounds. Knowledge of **letter**-sound correspondences is key to reading and writing because the learner must recognize the letters in the word and associate each letter with its sound before they can read the word. Also, the learner must break the word into its component sounds and know the letters that represent these sounds before they can write the word.

E.g.

Letter (Grapheme)	Sound (Phoneme)
a	/a/ (æ) at, bad, can, bag
b	/b/ (b) boy, big, cab, crab
c	/k/ (k) cat, cut, cob, cost
d	/d/ (d) Did, drink dress, and
e	/e/ (e) bed, desk, egg, pen
f	/f/ (f) fan, fit, fox, if
g	/g/ (g) get, go, gas, begin

See source for more examples.

Source: [Letter-Sound-Correspondences-in-English.pdf](#)

- b) Phonics blending is a way for students to decode words. With phonics blending, learners fluently join together the individual sound-spellings as in called letter-sound correspondence in a word. With a word like jam, students start by sounding out each individual sound-spelling (/j/, /ă/, /m/). Each letter within the blend is pronounced individually, but quickly, so they 'blend' together. Blending is taught as the first and main strategy for reading unknown words.
- c) Reading and spelling are taught side by side so that learners understand that the alphabet code is reversible (decoding and encoding). Learners are typically taught reading and spelling for around 30 minutes then given follow-up activities for application and reinforcement of skills (including handwriting) later in the day, with provision made for catch-up and extension.
- d) Phonics is taught at the level of the individual phoneme from the outset, NOT consonant blends or onset and rhyme. Students are moved through 'levels' of the alphabet code, from the simple to the complex, in a systematic way:
- A phoneme can be represented by one grapheme, e.g., 'c' for /k/.
 - A phoneme can be represented by two to four graphemes, e.g., 'ck' for /k/.
 - A phoneme can be represented in multiple ways, e.g., ay, ai, a, a-e, aigh, eigh.
- e) Letter names are only taught when learners need to learn two letter and three letter graphemes, as they need the vocabulary to refer to the letters making the grapheme. e.g. 'c' and 'h' together can represent /ch/.
- f) Phonics blends or clusters are groups of consonants whose sounds blend together. As learners become more confident with consonants, they start to blend these letters together. Consonant blends do not have any vowels between. They are usually composed of two or three consonants and can begin or end a syllable or word.
- g) Consonant blends that appear at the beginning of a word, are referred to as *Initial Consonant Blends or beginning blends*, and those that appear at the end of a word are referred to as *Final Consonant Blends or end blends*.

Initial consonant word blends

bl-	br-	cl-	cr-	dr-	fl-	fr-	gl-	gr-	pl-	pr-
sc-	sk-	sl-	sm-	sn-	sp-	sq-	st-	str-	sw-	tr-

Final consonant word blends

-ct	-ft	-lb	-lt	-mp	-nd	-ng
-nk	-nt	-pt	-sk	-sp	-st	

- h) Irregular words and trickier words are introduced slowly and systematically. The teacher starts with what is known and draws attention to the 'tricky bit'.
- i) Learners are provided with plenty of phonetically decodable reading material to practise sounding out and blending – first single words, followed by short sentences, then decodable stories.
- j) Use of pictures and context are made for reading and spelling of homophones and to help with the meaning of words once they have been successfully decoded.
- k) Students read and spell nonsense words as well as real words to ensure that they are using phonics skills rather than visual memory. They are taught to think about whether what they have decoded or encoded makes sense or not.
- l) In spelling, the emphasis is on hearing the sounds in sequence through the word rather than 'look, cover, write, check'. However, this visual strategy plays a larger part with unusual spellings and spelling variations.
- m) Letter sequences forming 'chunks' such as 'tion' are taught in the latter part of spelling instruction.
- n) Dictation is a regularly used teaching technique from letter level to word spelling, and eventually sentences.
- o) Fluency (i.e., speed, accuracy, expression, and comprehension) will come with time, but the learner's understanding of the relationship between letters and sounds is the all important first step.
- p) Teachers read a range of literature with the learners and ensure that all learners experience activities associated with literacy such as role play, drama and poetry, but the learners are not expected to 'read' text, which is beyond them. The focus here is on comprehension and enjoyment.
- q) Multisensory activities are used to increase enjoyment and intensify learning.
- r) Multisensory mnemonics are taught as a means to an end, which are correct identification of sounds, letters and shapes.

Reference

<http://www.getreadingright.com.au/wp-content/uploads/components-of-a-systematic-synthetic-phonics-program.pdf>

PLC Session 3: Identifying Subject-Specific Support for Literacy Development

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Write one thing you have learnt in the previous session and share it with your colleagues.</p> <p>1.2 Read the purpose, learning outcomes (LOs) and learning Indicators (LIs) of the session.</p> <p>Purpose: The purpose of this session is to share ideas on how the teaching and learning of the various subjects can promote the teaching and learning of literacy. This concept has become necessary in recent times to dispel the notion that acquiring literacy skills like listening, speaking, reading and writing is the responsibility of language teachers. Different subject areas can also help learners to acquire literacy skills. For instance, learners acquire subject-specific vocabulary by deconstructing complex subject-specific text structures, making graphic and mathematical representation against explanation in text, posing subject-specific question and providing evidence to support and evaluate claims.</p> <p><i>Note:</i> <i>LO: This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson.</i></p> <p><i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</i></p> <p>LO1: Demonstrate knowledge and understanding of subject-specific support for literacy development. LI 1.1 Identify and interpret concepts in subject areas for literacy development. LI 1.2 Discuss the relevance of subject-specific content for literacy development. LI 1.3 Identify subject-specific approaches in teaching and learning that can support literacy development.</p> <p>LO2: Demonstrate knowledge and understanding of how subject-specific areas support literacy development using media and technology (NTS 2b, 2c). LI 2.1 Identify some elements of multimedia that can be integrated into subject-specific content areas for literacy development. LI 2.2 Identify how the use of multimedia in the teaching and learning other subjects can create opportunities for literacy development.</p>	15 mins

	<p>LO3: Demonstrate knowledge and understanding of the application of Gender Equality and Social Inclusion (GESI) to promote literacy development.</p> <p>LI 3.1 Identify and discuss how GESI concepts in the teaching and learning of other subjects can promote literacy development.</p> <p>LI 3.2 Analyse the challenges of GESI application in subject-specific areas for literacy development.</p> <p>LO: 4 Demonstrate knowledge and understanding of 21st century skills that support literacy development.</p> <p>LI 4.1 Identify some 21st century skills in the teaching and learning of other subject areas that can promote literacy development.</p> <p>LI 4.2. Discuss possible ways of integrating 21st century skills into subject-specific areas for literacy development.</p> <p>1.3 Identify and interpret concepts in your subject areas for literacy development (NTS 1a, 1b, 1c, 2a, 2b, 2c and 3e). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) The conceptual understanding of “functions” in mathematics will help learners to meaningfully use the word when they are speaking and writing. Again, understanding the concepts “scale of preference” in economics, “metamorphosis” in science, “booting” in ICT will help learners use the words appropriately when they are communicating</i> <i>b) Interpreting the concept “photosynthesis” to learners in a science lesson and asking them to write the individual syllables of the word</i> <i>c) Learners using their knowledge about crops to write the new breeds that are more resistant to pest, etc.</i> <p>1.4 Discuss the relevance of your subject content areas for literacy development (NTS 1a, 1b, 2a, 2b, 2c and 3e). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) In composing and revising text in different subject areas, learners can write and organize initial ideas in visual, graphical, and in written formats and read their work aloud. For instance, learners who are tasked with narrative exercises in a language class can read their text aloud to themselves, circle overuse words and replace them with more precise words</i> <i>b) Interpreting text across different subjects. For instance, encouraging learners to ask clarifying questions, read headings of text to make predictions, summarize passages and analyse words, etc.</i> <p>1.5 Identify pedagogical approaches that can support literacy development (NTS 1a, 1b, 1c, 1d, 2b and 2c).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Using story-telling approach to enable learners to interpret a case study in business management.</i> <i>b) After a field trip to a historical site, geography learners could be asked to write a report on their trip for oral presentation in class</i> <i>c) Science learners could be asked to debate on the motion “A doctor is more important than a farmer”, etc.</i> 	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.6 Identify some elements of multimedia that can be used in the teaching and learning of your subject-specific content areas for literacy development (NTS 1a, 1b, 1e, 1f, 2b, 2c and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Newspapers</i> <i>b) Graphics</i> <i>c) Projector, etc.</i> <p>1.7 Discuss how using multimedia in the teaching and learning of other subjects can create opportunities for literacy development (NTS 1a, 1b, 1d, 1e, 2b, 2c, 3a, 3d, 3e and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Reading a story in a newspaper like the Daily Graphic to identify key words and find meaning to the words online to help develop literacy</i> <i>b) Learners write articles on a given topic for publication in the school magazine or a national newspaper to help them develop their writing skills</i> <i>c) Learners listen to news on the radio or television and write a report on the main headlines, etc.</i> <p>1.8 Identify and discuss how GESI concepts in the teaching and learning of your subject areas can promote literacy development (NTS 1a, 1b, 1c, 1e, 2d, 2f, 3a and 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) A female learner is made the main speaker in a debate competition on a motion</i> <i>b) Both female and male as well as Special Education Needs (SEN) learners are given equal opportunities to interpret mathematical concepts such as “inequalities” either in writing or orally</i> <i>c) In writing agricultural project in groupwork, a learner with a physically challenged condition is made the leader of the group, etc.</i> <p>1.9 Analyse the challenges of GESI application in your subject areas for literacy development (NTS 1d, 1e, 1f, 2d, 2e, 1f, 2f, 3a, 3e, 3f, 3g and 3h).</p>	

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Learners with visual impairment may have difficulty during ICT practical lessons designed to enhance presentation skills</i> <i>b) Teacher’s unconscious biases, cultural values and beliefs may promote inequality in the classroom, etc.</i> <p>1.10 Identify some 21st century skills in the teaching and learning of your subject content areas that promote literacy development (NTS 1a, 1b, 2a, 2b, 2c, 2d, 2e, 3b, 3e and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Communication and collaboration skills</i> <i>b) Critical thinking and problem-solving skills, etc.</i> <p>1.11 Discuss possible ways of integrating 21st century skills in your subject areas for literacy development (NTS 1a, 1b, 1e, 1g, 2d, 2e, 3e and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Learners could be asked to write their own stories to assess how creative they are</i> <i>b) Word problems in mathematics could be given to learners to analyse in order to enhance their critical thinking ability</i> <i>c) Learners could be given a group task or exercise in science to show how collaborative they are, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Discuss samples of your lesson plans and link them to how they support literacy development (NTS 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l).</p> <p><i>An example of a lesson plan for based on the 2010 SHS Integrated Science Syllabus, emphasising on the incorporation of literacy skills at different sections</i></p> <ul style="list-style-type: none"> a) Topic: Diversity of matter b) Sub-topic: Animal cell c) Objectives: By the end of the lesson, the learner will be able to orally and in writing: <ul style="list-style-type: none"> <i>i. Explain what an animal cell is</i> <i>ii. Name and describe the functions of each organelle in the animal cell</i> d) Relevant Previous Knowledge (RPK): Learners have body cells e) Teaching Learning Resources (TLRs): <ul style="list-style-type: none"> <i>i. charts showing animal cell</i> <i>ii. projector</i> <i>iii. textbook</i> <i>iv. Laptop, etc.</i> f) Introduction: Ask learners in GESI responsive groups to discuss what a cell is g) Tasks/Activities: <ul style="list-style-type: none"> <i>i. Using videos, discuss with learners the structure of an animal cell</i> 	<p>30 mins</p>

	<p>ii. Ask learners in groups orally describe the function of each organelle in the animal cell</p> <p>h) Core Points:</p> <p>i. An animal cell is a type of eukaryotic cell that lacks a cell wall and has a true membrane bound nucleus along with other cellular organelles. An animal cell is usually irregular and round in shape</p> <p>ii. Organelles and their functions</p> <ul style="list-style-type: none"> • Nucleus is a large organelle surrounded by a nuclear membrane which contains many pores. The primary function of nucleus is to control and regulate cell activities of growth and maintain cell metabolism • Cell membrane is a thin semipermeable protein membrane layer that surrounds an animal cell. It encloses and protects the cell content. • Smooth Endoplasmic reticulum lies adjacent rough endoplasmic reticulum. It contains lipid and serves as detoxification agent in the body • Rough endoplasmic reticulum is a system of membrane enclosing a fluid filled space. The surface is covered with ribosomes. It produces protein in particular for export out of the cell • Cytoplasm is a jelly-like material that contains all the cell organelles enclosed within the cell membrane. Cytoplasm is where chemical reactions take place, etc. <p>i) Core Competencies:</p> <p>i. Communication and Collaboration skills</p> <p>ii. Critical thinking and problem-solving skills</p> <p>iii. Observation and enquiry skills</p> <p>j) Conclusion:</p> <p>Conclude the lesson by asking learners to explain orally what they have learnt.</p> <p>k) Evaluation:</p> <p>i. Explain what an animal cell is</p> <p>ii. Describe the functions of the following organelles in the animal cell:</p> <ul style="list-style-type: none"> • Nucleus • Cytoplasm • Rough endoplasmic reticulum • Cell membrane <p>l) Remarks:</p>	
<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Identify possible challenges in your sample lesson plans (NTS 1a, 3d, 3e, 3f, 3g and 3m). E.g.</p> <p>a) Inadequate textbooks</p> <p>b) Inadequate equipment in the science laboratory for practical lessons, etc.</p>	<p>30 mins</p>

	<p>3.2 In groups, identify possible solutions in your sample lesson plans to the challenges in Activity 3.1(NTS 1a, 1b, 1d, 1g, 2d, 2e, 3a, 3e, 3g and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>There is the need for teachers to cater for individual learning needs and styles through differentiated teaching, etc.</i> b) <i>There is the need to improvise teaching and learning resources to be used in teaching and learning, etc.</i> <p>3.3 Deduce the learning outcomes and the learning indicators from your sample lesson plans (NTS 1a, 1b, 1e, 2a, 2b, 2c, and 3g).</p> <p><i>LO: Demonstrate knowledge and understanding of diversity of matter</i></p> <p><i>LI 1 Explain what an animal cell is</i></p> <p><i>LI 2 Mention and describe the functions of each organelle in the animal cell</i></p> <p>3.4 Identify and write the activities that promote GESI responsiveness in your sample lesson plans (NTS 1a, 1b, 1f, 2b, 2c, 2d, 2e, 2f, 3e, 3f, 3g and 3k).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using varied methods such as question and answer, discussion, videos, role play, oral or written summaries, etc., in lessons to cater for different learning needs and styles</i> b) <i>Using mixed gender groups to encourage collaboration between male, female including and SEN learners, etc.</i> <p>3.5 Identify and write authentic assessment strategies that can be used to deliver the sample lessons (NTS 1a, 1b, 1f, 2b, 2c, 2d, 2e, 2f, 3e, 3k and 3l).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Review learners' progress through oral and written questions and answers</i> b) <i>Provide oral and written feedback (corrections) to learners</i> c) <i>Conduct quizzes on a regular basis, etc.</i> <p>3.6 Model a teaching activity from the sample lesson plan (NTS 1a, 1b, 1d, 1f, 1g, 2a, 2b, 2c, 2e, 3a, 3b, 3c and 3o).</p> <p>(EXTENSION ACTIVITY)</p>	
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<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, ab, 1d, 1e, 1f, 2a, 2b, 2c, 2d and 3i).</p> <p>4.2 Share what you have learnt in the session with the larger group (NTS 1a, ab, 1d, 1e, 1f, 2a, 2b, 2c, 2d and 3i).</p> <p>4.3 Remind teachers to identify a critical friend to observe their lessons and provide written feedback (NTS 1b, 1f, 3a, 3k, 3l and 3n).</p> <p>4.4 Read Session 4 of the PLC Handbook in preparation for the next PLC session (NTS 1a, 1b, 1d, 2a and 3b).</p>	<p>15 mins</p>
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PLC Session 4: Supporting the Teaching and Learning of Literacy in Information Communication and Technology (ICT)

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Participate in the PLC session with an icebreaker.</p> <p>1.2 Share your findings with the group (NTS 1a, 1b and 1e).</p> <p>1.3 Read the purpose, learning outcomes (LOs) and the corresponding learning indicators (LIs) of the session.</p> <p>Purpose: As indicated in the LOs and LIs below, this session is intended to use the Information Communication and Technology (ICT) in developing literacy in learners across Senior High School (SHS)/ Technical and Vocational Education and Training (TVET) schools. Specifically, the session is intended to:</p> <ol style="list-style-type: none"> Help teachers plan and teach learner-centred lessons in ICT using literacy strategies. Equip teachers with skills to use literacy to support the teaching and learning of ICT. Identify ICT tools that can be used to support the teaching and learning of literacy. Describe how ICT can be used to support the teaching and learning of literacy. <p><i>Note:</i> <i>LO: This is the expected knowledge, understanding, skills, etc. to be acquired at the end of a lesson</i></p> <p><i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activities or products</i></p> <p>LO 1: Demonstrate knowledge and understanding of how literacy supports the teaching and learning of ICT. LI 1.1 Identify literacy strategies that can support the teaching and learning of ICT. LI 1.2 Explain how literacy supports the teaching and learning of ICT.</p> <p>LO 2: Demonstrate knowledge and understanding of how ICT can be applied to support the teaching and learning of literacy. LI 2.1 Identify ICT tools that can be used to support the teaching and learning of literacy. LI 2.2 Describe how ICT tools can be used to support the teaching and learning of literacy.</p>	15 mins

	<p>1.4 In groups, identify literacy strategies that can support the teaching and learning of ICT (NTS 2d, 3e and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>The use of guided comprehension: Learners are given ICT related text to read and pick information from it</i> b) <i>The use of guided composition: Learners are given ICT related topics to write on collaboratively or individually, etc.</i> <p>1.5 Explain how literacy supports the teaching and learning of ICT (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Literacy provides appropriate vocabulary and registers that make it possible to explain concepts clearly to enhance learners' understanding</i> b) <i>Literacy equips learners with transferable skills such as communication, critical thinking, collaboration, and digital literacy that enable them to perform well in school and beyond, etc.</i> <p>1.6 Identify ICT tools that can support the teaching and learning of literacy (NTS 3e, 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>ICT Applications:</i> <ul style="list-style-type: none"> i. <i>Story making software: Flippad, Scrivener, Wondermedia, etc.</i> ii. <i>Language translation software: Google Translate, Amazon Translate, Bing Microsoft Translator, etc.</i> b) <i>ICT devices:</i> <ul style="list-style-type: none"> i. <i>Smart phones</i> ii. <i>Audio devices</i> iii. <i>Laptops, etc.</i> <p>1.7 Describe how ICT tools can support the teaching and learning of literacy (NTS 2d, 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Language games such as puzzles and scrabble could be used to build and consolidate learners' vocabulary as they read, write and form words</i> b) <i>The use of grammar and writing software such as Grammarly can help check spellings and sentence constructions, etc.</i> 	
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<p>Give regard for GESI, 21st century skills and challenges of implementing literacy across the SHS/TVET Curriculum.</p>	<p>1.8 In groups, discuss and come out with strategies on how GESI can be integrated into the teaching and learning of ICT to improve literacy (NTS 1a, 2e, 2f, 3e, 3f and 3g). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Using a variety of teaching methods such as questioning and answering, discussion, videos, role play, oral or written summaries, etc. in lessons to cater for different learning styles and abilities</i> <i>b) Using different learning resources, for instance, print text, audio, Join Access with Speech (JAWS), Non-Visual Desktop Access (NVDA) and tactile materials for teaching learners with visual impairment. In addition, visual and audio-visual resources, etc., can be used to cater for other different learners' needs, etc.</i> <p>1.9 Mention at least three 21st century skills that can be integrated into literacy development through the teaching and learning of ICT (NTS 3e, 3h and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Collaboration skills can be developed through group work, collaborative writing, etc., in ICT lessons</i> <i>b) Problem-solving skills can be developed through project work and case studies in ICT etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Think-square-share and prepare an outline of a lesson plan on ICT topic that can be used to teach a lesson that will support literacy development (NTS 3a, 3e, 3f, 3g, 3h, 3i, 3j and 3k). <i>Note:</i> <i>Teachers would be guided to tease out the LOs and Lis from the lesson, so they know the relationship between lesson objectives and learning outcomes</i></p> <p><i>E.g.</i> <i>Sample lesson plan for teaching ICT based on the 2010 SHS ICT Teaching Syllabus Year 1, emphasising the incorporation of literacy skills at different sections</i></p> <ul style="list-style-type: none"> a) Topic: <i>Word processing applications</i> b) Sub-topic: <i>Introduction to word processing applications</i> c) Objectives: <i>By the end of the lesson, the learner will be able to:</i> <ul style="list-style-type: none"> <i>i. Explain at least three key terms related to word processing</i> <i>ii. Write at least three examples of word processing applications (packages)</i> <i>iii. Create a document using a word processor (MS Word)</i> <i>iv. Edit and save word document using MS Word editing tools</i> d) Teaching and Learning Resources (TLRs): <i>computers, projector, printed materials, etc.</i> 	<p>30 mins</p>

	<p>e) Relevant Previous Knowledge (RPK): Learners have been reading printed textbooks and materials</p> <p>f) Introduction:</p> <ol style="list-style-type: none"> i. Ask learners in mixed ability groups to write at least three examples of printed documents they have been reading and present their findings until there is saturation ii. Guide learners to orally describe how the printed documents are produced <p>g) Tasks/Activities:</p> <ol style="list-style-type: none"> i. Discuss with learners the meaning of at least three key terms relating to word processing ii. Guide learners in mixed ability groups to discuss and write at least two examples of word processing applications iii. Ask learners to compose a one paragraph text on any topic of their interest and type same using a word processor (Microsoft Word), Braille machines, JAWS application (visually impaired) iv. Using a computer and a projector, project a document and guide learners through the processes of editing and saving a document using MS word <p>h) Core points:</p> <ol style="list-style-type: none"> i. Terms in word processing: <ul style="list-style-type: none"> • Word processors are computer applications used to create, edit, save, and format text documents • Document is a file that provides information • Save is writing a data to a storage medium • Edit is improving the accuracy of language, and the overall readability of text ii. Examples of word processors <ul style="list-style-type: none"> • Microsoft Word • WordPad • Writer • Text editor • Star word, etc. iii. Steps in creating a document using word processor (MS Word) <ul style="list-style-type: none"> • Click the MS Word on the task bar • Click on “New” on the quick access toolbar • Observe a new blank document template appear in the word window • Type your text in the blank document template iv. Edit word document using common editing tools: <ul style="list-style-type: none"> • Spell check functions • Copy/cut and paste tools • Undo and redo tools 	
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	<ul style="list-style-type: none"> • <i>Find and replace tools, etc.</i> <p>i) Core competencies:</p> <ol style="list-style-type: none"> i. <i>Communication skills</i> ii. <i>Collaboration skills</i> iii. <i>Critical thinking skills</i> iv. <i>Problem-solving skills</i> v. <i>Personal development skills</i> vi. <i>Leadership skills</i> <p>j) Conclusion: <i>Using create-new-headlines, pair learners according to mixed ability to write headlines that summarise what they have learnt and share with the larger class</i></p> <p>k) Evaluation:</p> <ol style="list-style-type: none"> i. <i>Write any three terms that relate to word processing</i> ii. <i>Draw a spidergram and in it, write three examples of word processors</i> iii. <i>Use MS Word to create (type) and edit your own one paragraph text. Save the document in your name</i> <p>l) Remarks:</p>	
<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Identify from the sample lesson, activities related to literacy (NTS 2d). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Describing documents (speaking and listening skills)</i> b) <i>Writing of key terms, and examples of word processors (writing skills), etc.</i> <p>3.2 Tease out the LOs and LIs from the sample lesson plan (NTS 3a, 3o). <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding on the use of word processors to create, edit, and save documents</i></p> <p><i>LI 1 Explain key terms related to word processing</i> <i>LI 2 Write at least three examples of word processing packages</i></p> <p>3.3 Identify possible challenges in the lesson delivery (NTS 1a, 3m). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Inadequate computers</i> b) <i>Inadequate textbooks, etc.</i> <p>3.4 Identify possible solutions to the challenges in Activity 3.3 (NTS 1a, 3m). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Grouping learners to share the few computers available</i> b) <i>The use of library and e-learning resources to access information, etc.</i> 	<p>30 mins</p>

	<p>3.5 Discuss how lessons could link literacy and ICT in your formative assessment practices i.e., assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l, 3m and 3p). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Assessment for learning:</i> <ul style="list-style-type: none"> i. <i>The use of crossword puzzle in writing words</i> ii. <i>Writing of project works, etc.</i> b) <i>Assessment as learning:</i> <i>Learners using language games such as scrabble, hangman, word worm, etc. to assess themselves, etc.</i> <p>3.6 List and discuss how teaching and learning resources could support the integration of literacy into ICT lessons (NTS 2e, 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos: Learners watch and write key things observed</i> b) <i>Charts: Learners can use charts to show steps in creating a folder, etc.</i> <p>3.7 Model a teaching activity in the sample lesson plan (NTS 3a, 3e and 3j).</p> <p>(EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session.</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe your lesson and provide feedback at the next session.</p> <p>4.4 Read Session 5 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>

PLC Session 5: Supporting the Teaching and Learning of Literacy in Business Studies

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Share your findings with the group.</p> <p>1.2 Read the purpose of the session as well as the learning outcomes (LOs) and learning indicators (LIs).</p> <p>Purpose: The purpose of the session is how literacy can support the teaching and learning of business studies and vice-versa across the Senior High School (SHS)/Technical and Vocational Education and Training (TVET) Curriculum.</p> <p><i>Note:</i> <i>LO: This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum)</i></p> <p><i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activities or products</i></p> <p>LO 1: Demonstrate knowledge and understanding of how literacy supports the teaching and learning of business studies in the SHS/TVET Curriculum.</p> <p>LI 1.1 Identify literacy concepts embedded in business studies. LI 1.2 Discuss how to apply the literacy skills in business studies. LI 1.3 Give examples of how to use literacy in the teaching and learning of business studies. LI 1.4 Identify the opportunities provided by literacy in the teaching and learning of business studies in the SHS/TVET Curriculum.</p> <p>LO 2: Demonstrate knowledge and understanding of how business studies can support the teaching and learning of literacy across the SHS/TVET Curriculum.</p> <p>LI 2.1 Enumerate how the concepts in business studies support the teaching and learning of literacy. LI 2.2 Identify how business studies as a discipline provides opportunities for the teaching and learning of literacy. LI 2.3 Analyse the importance of business studies to the teaching and learning of literacy in the SHS/TVET Curriculum.</p> <p>1.3 Write any literacy skills embedded in business studies (NTS 1a, 1b).</p>	15 mins

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Content literacy (Reading and writing business studies concepts urge teachers to teach learners how to learn with texts)</i> <i>b) Interpretation skills (Discovering, determining and discerning the right meaning of information in business studies help teachers to interpret concepts in business studies through writing and presentations, etc.)</i> <p>1.4 Identify literacy skills that can be applied in the teaching and learning of business studies (NTS 3h, 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Listening</i> <i>b) Speaking, etc.</i> <p>1.5 Discuss how to apply literacy skills listed in Activity 1.4 in business studies (NTS 1a, 2f and 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Establish read-aloud routines</i> <i>b) Encourage learners to read in small groups, etc.</i> <p>1.6 In groups, state how poor literacy skills can affect the teaching and learning of business studies (NTS 1e, 2e and 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Poor literacy skills can affect how activities are performed in the classroom among teachers and learners</i> <i>b) Poor literacy skills affect effective communication among teachers and learners, etc.</i> <p>1.7 State three examples of how to use literacy in the teaching and learning of business studies (NTS 1f, 1g, 2b and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Projecting a business plan on the board for learners to read and discuss</i> <i>b) Writing, reading and interpreting an income statement and taking decisions, etc.</i> <p>1.8 Write the benefits provided by literacy in the teaching and learning of business studies (NTS 1a, 1b).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Literacy makes answering of questions easier</i> <i>b) Literacy gives room for learners to comprehend, etc.</i> <p>1.9 Discuss how literacy plays an effective role in assessment in business studies (NTS 3o, 3m, 3n and 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Learners responding to teacher's questions both orally and in writing</i> <i>b) Guiding learners to make oral presentations, etc.</i> 	
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	<p>1.10 Identify some vocabulary in business studies that will provide opportunities for discussion among learners and promote literacy development in them (NTS 2c, 2e and 3e). E.g.</p> <ul style="list-style-type: none"> a) <i>Balance sheet</i> b) <i>Trial balance, etc.</i> <p>1.11 Read a case study below for the larger group to discuss and answer given questions (NTS 3g, 3l). E.g.</p> <p><i>External influences such as environmental influences can provide market opportunities for businesses. As consumers become more environmentally aware, new needs emerge in the market. Jacob Moisob’s Businesses can provide products that fill these needs and build a successful business. For example, Trolley Enterprise sells reusable shopping bags that fit inside a shopping trolley. They have been very successful in Ghana where the government has put a levy on plastic shopping bags by taking advantage of environmental influences.</i></p> <ul style="list-style-type: none"> a) <i>What are the external environmental factors that can lead to the establishment of reusable shopping bags? Expected oral and written responses Readily available raw materials, etc.</i> b) <i>What are the effects of government levy on plastic shopping bags? Expected oral and written responses</i> <ul style="list-style-type: none"> i. <i>It increases prices of plastic shopping bags</i> ii. <i>It reduces demand for such bags, etc.</i> <p>1.12 Analyse the opportunities provided by business studies in the teaching and learning of literacy and share them with the larger group by writing (NTS 1b, 2c and 3l). E.g.</p> <ul style="list-style-type: none"> a) <i>Explaining orally and in writing the concept of “SWOT” analysis, etc.</i> <p><i>Note:</i></p> <p><i>SWOT analysis which is also known as situational analysis is based on the assumption that organisations can better formulate a successful strategy after the organisation has carefully reviewed the internal resources (strengths and weaknesses) and its external situation (opportunities and threats)</i></p> <p><i>The strength of an organisation is the characteristics that gives its enhanced competitiveness. For instance, vehicle, physical assets, resource advantage, etc.</i></p> <p><i>The weakness of an organization is the limitations that impede the effective performance with regards to the organisations’ competitors. For instance, the weaknesses</i></p>	
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	<p><i>of an organisation may include, no clear strategic direction, using obsolete facilities, etc.</i></p> <p><i>The opportunities of an organisation are the major favourable conditions in its environment. The opportunities may include, identification of overlooked market segment, regulatory circumstances, etc.</i></p> <p><i>The threat is a major unfavourable situation on an organisation's environment. They are factors in an organisation's external environment that pose threats to its profitability ad market standing. For instance, the threats of an organization may include likely entry of potent new competitors, loss of sales to substitute products, etc.</i></p> <p>1.13 In groups, analyse the importance of business studies to the teaching and learning of literacy (NTS 1a, 2b and 3b).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Case studies build vocabulary of learners for literacy</i> <i>b) Case studies build language proficiency of learners, etc.</i> 	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.14 Discuss what can be done to ensure equal participation of male learners, female learners including SEN learners in the business enterprise to support the teaching and learning of literacy in business studies (NTS 1d, 2f and 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Make adjustments in the learning of literacy in business studies such as using bigger font sizes and allowing more/less time for completion of task for SEN learners</i> <i>b) Encourage both males and females to read about entrepreneurship</i> <p>1.15 Identify ways of incorporating ICT to support the teaching and learning of literacy in business studies (NTS 1b, 2c 3e and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Use Open Educational Resources (OERs) to download literacy development programs like "Starfall ABCs", "Starfall Fun to Read" Starfall I'm Reading, "Starfall Learn to Read", etc.</i> <i>b) Use online reading materials, such as electronic textbooks, Talking Dictionary, electronic workbooks, electronic tests and educational videos to promote literacy development</i> <p>1.16 In mixed gender groupings (where possible), list at least three 21st century skills related to supporting teaching and learning of literacy in business studies (NTS 1c, 2e and 3g).</p>	<p>15 mins</p>

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Oral and written presentations enhance communication skills of learners</i> <i>b) Group work enhances collaboration skills of learners, etc.</i> <p>1.17 In groups, discuss challenges associated with implementing literacy in teaching and learning of business studies in SHS/TVET Curriculum (NTS 1a, 2f and 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Inadequate vocabulary on the part of learners and some teachers</i> <i>b) Laziness among learners, which prevents them from reading before their lessons, etc.</i> <p>1.18 Suggest solutions to the challenges identified in using literacy in the teaching and learning of business studies (NTS 1g, 2c, 3d, 3e and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Establishing literacy foundation clubs in business class</i> <i>b) Organising field trips, seminars, workshops and conferences where learners get the opportunity to sharpen their literacy skills, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Discuss a sample lesson plan in business studies and show how it can support the teaching and learning of literacy (NTS 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l).</p> <p><i>An example of an outline for teaching business and society from the 2010 SHS Business Management Syllabus is provided below:</i></p> <ul style="list-style-type: none"> a) Topic: <i>Business and Society</i> b) Sub-topic: <i>Ethical, Social and Legal responsibilities of business</i> c) Objectives: <i>By the end of the lesson, the learner will be able to orally and in writing:</i> <ul style="list-style-type: none"> <i>i. Explain ethical, social and legal responsibilities of businesses</i> <i>ii. Differentiate among ethical, social and legal responsibilities of business</i> d) Teaching and Learning Resources (TLRs): <i>Posters (speech bubbles and concept map), computer and projector</i> e) Relevant Previous Knowledge (RPK): <i>Learners are able to explain the term “business environment”</i> f) Introduction: <i>Ask learners to orally explain the term business environment and drill them on terminologies.</i> g) Tasks/activities: <ul style="list-style-type: none"> <i>i. Guide learners to use think-pair share to mention the new vocabulary written on the posters (ethical, legal and social).</i> 	<p>30 mins</p>

	<p>ii. <i>Guide learners to orally and in writing, define the terms ethical, legal and social presenting them in speech bubbles</i></p> <p>iii. <i>Guide learners in groups to discuss and differentiate between ethical, legal and social responsibilities of business presenting them in concept maps</i></p> <p>iv. <i>Guide learners using projected media reports of food poisoning about Barima Restaurant, to discuss and write the ethical, legal and social responsibilities of Barima Restaurant</i></p> <p>h) Core Points:</p> <p>i. <i>Business environment are the forces, both internal and external, to the business affect and influence its activities</i></p> <p>ii. <i>Legal responsibilities of business refer to the laws and rules that every business operate within the boundaries set by the various agencies at every level of government (for instance, taxes, licence and registration)</i></p> <p>iii. <i>Ethical responsibilities refer to the standards for morally right and wrong conducts in business</i></p> <p>iv. <i>Social responsibilities refer to the firm's functions to accomplish its financial objectives and serve the society as well</i></p> <p>i) Core Competencies:</p> <p>i. <i>Communication and collaboration skills are developed when learners orally respond to questions and engage in group works</i></p> <p>ii. <i>Critical thinking and problem-solving skills are developed when learners analysed and interpret the case study</i></p> <p>iii. <i>Enquiry skills are enhanced during analysis of case studies</i></p> <p>j) Conclusion:</p> <p>i. <i>Recap the lesson and ask various groups to come out with what they have learnt from the lesson.</i></p> <p>k) Evaluation:</p> <p>i. <i>Explain orally and in writing the following terms:</i></p> <ul style="list-style-type: none"> • <i>Legal responsibilities of business</i> • <i>Social responsibilities of business</i> • <i>Ethical responsibilities of business</i> <p>ii. <i>List the responsibilities of a business towards its employees, the community and the government using examples from the Ghanaian business community.</i></p> <p>l) Remarks:</p>	
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<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Identify challenges likely to be encountered in delivering the business studies sample lesson (NTS 1a, 3d, 3e, 3f, 3g and 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Inability to use scaffolding such as guiding learners to define and explain terms in the lesson</i> b) <i>Lack of differentiation for learner diversity</i> c) <i>Inadequate prescribed textbooks for business management, etc.</i> <p>3.2. Identify possible solutions to the challenges identified in Activity 3.1 (NTS 1a, 3d, 3e, 3f, 3g and 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use of videos in teaching and learning</i> b) <i>Diversify teaching methodology and resources to cater for learner’s needs ((role-play, drama, etc.), etc.</i> <p>3.3 Tease out the learning outcomes and learning indicators from the sample lesson plan. <i>E.g.</i> <i>LO: Demonstrate knowledge, understanding and application of ethical, legal and social responsibilities</i> <i>LI 1 Discuss legal, social and ethical responsibilities of businesses</i> <i>LI 2 Differentiate between legal, social and ethical responsibilities of businesses</i> <i>LI 3 Use media report to analyse responsibilities of Barima Restaurant</i></p> <p>3.4 Give examples of how the business studies sample lesson plan can promote GESI responsiveness (NTS 2f, 3f and 3g). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Plan for differences in learner needs</i> b) <i>Use individual tasks reflecting different learning styles, etc.</i> <p>3.6 Give specific examples of how business studies lessons can be assessed orally and in writing (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Debating</i> b) <i>Writing observations after watching YouTube/Pre-recorded videos, etc.</i> <p>3.7 Model a teaching activity in sample lesson (NTS 1a, 1c, 1f and 3a).</p> <p>(EXTENSION ACTIVITY)</p>	<p>15 mins</p>
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<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what they have learnt using the business vocabulary tree (NTS 1a, 1b, 1e and 1f).</p> <p>4.2 Share what they have written with the larger group (NTS 1e, 2e and 3m).</p> <p>4.3 Identify a critical friend to observe them in teaching their lessons in relation to PLC Session 5 and provide oral feedback at the next PLC session (NTS 1a, 3l).</p> <p>4.4 Read ahead on PLC Session 6 (NTS 3b).</p>	<p>15 mins</p>
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PLC Session 6: Supporting the Teaching and Learning of Literacy in Mathematical Subjects

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Share your findings with the group.</p> <p>1.2 Read the purpose, learning outcomes (LOs) and learning indicators (LIs) of the session.</p> <p>Purpose: The purpose of the session is how literacy can support the teaching and learning of mathematical subjects and vice-versa.</p> <p><i>LO: This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson</i></p> <p><i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activities or products</i></p> <p>LO 1: Demonstrate knowledge and understanding of ways of applying literacy in the teaching, learning and assessment of mathematical subjects (NTS 2b). LI 1.1 Discuss ways of integrating literacy into the planning, teaching learning and assessment of mathematical subjects in the Senior High School (SHS)/Technical and Vocational Education and Training (TVET) Curriculum. LI 1.2 Discuss with teachers how to perform mathematical operations using manipulatives that will generate discussion among learners.</p> <p>LO 2: Demonstrate knowledge, understanding and application of mathematical subjects to support the teaching and learning of literacy. LI 2.1 Discuss the application of mathematical concepts in the teaching and learning of literacy in the SHS/TVET Curriculum. LI 2.2 Examine the strategies of using mathematical subjects to support the teaching and learning of literacy.</p> <p>1.3 Discuss orally and in writing ways of using literacy in mathematical subjects in the SHS/TVET Curriculum (NTS 1a, 2c and 3a). <i>E.g.</i> <i>Identifying and explaining orally and in writing terms in mathematical registers, such as “greater than”, “approximately”, “equivalence”, “ratio”, etc., during problem solving</i></p>	15 mins

	<p>1.4 Discuss ways in which literacy can support the teaching and learning of mathematical subjects in the SHS/TVET Curriculum (NTS 1b, 2c). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Using language to write questions for learners to translate them into mathematical statements</i> b) <i>Learners making oral presentations of solutions to mathematical tasks</i> <p>1.5 Analyse how literacy plays an effective role in assessment in mathematical subjects (NTS 3k). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Asking questions using appropriate vocabulary for learners to answer through writing and presentation</i> b) <i>Diagnosing learners' difficulties through oral inquiry</i> <p>1.6 Ask teachers in groups to orally and in writing perform mathematical operations using manipulatives that will generate discussion among learners and improve their literacy skills (NTS 2c, 3a and 3h). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Find the roots of the equation $2x^2 + 6x - 8 = 0$ using a calculator and write down the answers</i> b) <i>Find the area of a circle with radius 7cm using the Geogebra software application.</i> <p>1.7 Provide examples of mathematical tasks that will require significant literacy skills to solve (NTS 1a, 2c and 3e). <i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Investigative strategy:</i> <i>Write the first five counting numbers and find their corresponding set of values by squaring each of the numbers</i> <p><i>Note:</i></p> <p>$A = \{1, 2, 3, 4, 5\}$ $B = \{1, 4, 9, 16, 25\}$</p> <ol style="list-style-type: none"> b) <i>Logical reasoning strategy:</i> <ol style="list-style-type: none"> i. <i>Write simple algebraic expressions/equations from a word problem. For instance, express the following statements algebraically:</i> <ul style="list-style-type: none"> • <i>10 more than a number (solution: $y + 10$)</i> • <i>Five less than a number</i> <i>(Solution: $z - 5$)</i> • <i>Two more than five times a number is seven less than 54</i> <i>(Solution: $2 + 5f = 54 - 7$)</i> • <i>Eight times a certain number is subtracted from five and the result is multiplied by two, etc.</i> <i>(Solution: $2(5 - 8x)$)</i> 	
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	<p>1.8 Using verbal presentations and writing, discuss the application of mathematical concepts in the teaching and learning of literacy in the SHS/TVET curriculum (NTS 2c, 3e). E.g.</p> <p>a) <i>Using read aloud sessions in mathematical lessons</i> b) <i>Discussing mathematical projects orally</i> c) <i>Using mathematics to solve a literacy problem. For instance, one day, Al-Khwarizmi was riding a camel laden down with algebraic manuscripts to the holy city of Mecca. He saw three young men crying at an oasis. "My children why are you crying?" he enquired. "Our father, upon his death, instructed us to divide his 17 camels as follows: 'To my oldest son, I leave half of my camels. My second son shall have one-third of my camels and my youngest son is to have one-ninth of my camels.'" "What, then, is your problem?" Al-Khwarizmi asked. "We have been to school and learned that 17 is a prime number that is, divisible only by one and itself and cannot be divided by two or three or nine. Since we love our camels, we cannot divide them exactly," they answered. Al-Khwarizmi thought for a while and asked, "Will it help if I offer my camel and make the total 18?" "No, no, no," they cried. "You are on your way to Mecca, and you need your camel." "Go ahead, have my camel, and divide the 18 camels amongst yourselves," he said, smiling. So, the eldest took one-half of 18 or nine camels. The second took one-third of 18 or six camels. The youngest took one-ninth of 18 or two camels. After the division, one camel was left: Al-Khwarizmi's camel, as the total number of camels divided among the sons (nine plus six plus two) equalled 17. Then Al-Khwarizmi asked, "Now, can I have my camel back?" (https://www.nairaland.com/)</i></p> <p>Note: <i>These young men had information about prime numbers, but they lacked the expertise to use the information effectively to solve a riddle.</i></p>	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.9 Discuss orally and in writing what you can do to ensure equal participation of males, females and including learners in mathematical lessons supporting literacy development (NTS 2a, 3b and 3f). E.g. <i>Make adjustments in the learning of literacy in mathematical lessons for Special Education Needs (SEN) learners such as using bigger font sizes and allowing more/less time for completion of task, etc.</i></p> <p>1.10 Identify ways of incorporating ICT in teaching and learning of mathematical subjects that will support literacy development (NTS 2a, 3j).</p>	<p>15 mins</p>

	<p><i>E.g.</i> Using Mathematical Apps (for instance, Geogebra, etc.) to teach geometrical concepts and getting learners to explain steps orally, etc.</p> <p>1.11 Write at least four 21st century skills related to supporting the teaching and learning of literacy in mathematical subjects (NTS 1c, 2e and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) Oral and written presentations enhance communication skills of learners b) Group work enhances collaboration skills of learners, etc. <p>1.12 Discuss the challenges associated with implementing literacy in the teaching and learning of mathematics in the SHS/TVET Curriculum (NTS 2c, 3b). <i>E.g.</i></p> <ul style="list-style-type: none"> a) Inadequate vocabulary on the part of learners and some teachers b) Learners do not see the relevance of literacy in solving mathematical problems, etc. <p>1.13 Discuss orally and in writing the possible solutions to the challenges identified in using literacy in teaching and learning of mathematical subjects (NTS 2c, 3b). <i>E.g.</i></p> <ul style="list-style-type: none"> a) Establishing literacy foundation clubs in mathematical subjects b) Creating connections between real life situations and mathematical problems c) Organising science and mathematics quizzes 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Discuss samples of your lesson plans in mathematical subjects and link them to how they support literacy development (NTS 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l).</p> <p><i>An example of a sample lesson plan for teaching graphical representation of data from the SHS Core Mathematics 2010 Syllabus is provided below:</i></p> <ul style="list-style-type: none"> a) Topic: Statistics b) Sub-topic: Graphical representation of data (Bar Graph/Chart) c) Objectives: By the end of the lesson, the learner will be able to: <ul style="list-style-type: none"> i. Represent the data collected on a bar graph/chart ii. Orally and in writing explain the processes involved in representing data on a bar graph/chart iii. Orally and in writing interpret the data represented on the bar graph/chart 	<p>30 mins</p>

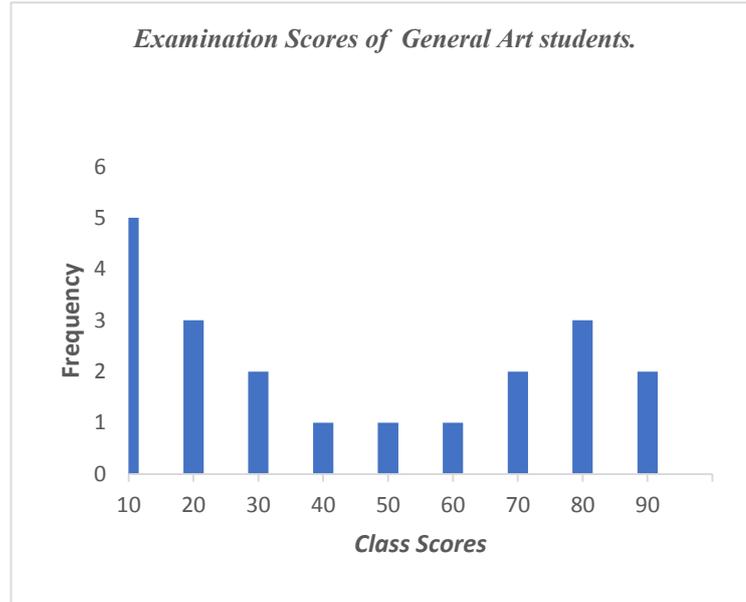
- d) Teaching and Learning Resources (TLRs):** Graph sheets, graph board, data set (students exam scores), rulers, computer and projector
- e) Relevant Previous Knowledge (RPK):** Learners are able to define data and identify sources of data
- f) Introduction:** Orally and in writing, ask learners to define data and identify sources of data
- g) Tasks/Activities:**
- Project data set from (examination scores of learners) using a computer and a projector. For instance, 10, 20, 80, 70, 30, 20, 10, 90, 80, 60, 40, 10, 50, 10, 70, 30, 20, 80, 90, 10
 - Ask learners to orally count the number of observations
 - Ask learners to construct a frequency distribution table using the projected data set

Note:

Class Scores	Tally	Frequency
10	////	5
20	///	3
30	//	2
40	/	1
50	/	1
60	/	1
70	//	2
80	///	3
90	//	2
Total		20

- Demonstrate how to draw a bar graph on the graph board, ask a learner to orally describe the process and guide learners to do same in their graph books using information from the constructed frequency distribution table:
 - Draw two perpendicular axes on a graph sheet
- Label the horizontal axis scores and vertical axis frequencies
 - Calibrate the frequency and score axes taking into account the highest frequency and score
 - Mark out the width of the bar and write the individual score for the bars
 - Ensure equal width for the bars and even spacing between the bars
 - Construct rectangular bars on each score with the height equal to the frequency marks on the frequency axis
 - Give a title to the graph

Note:



- v. Ask learners in mixed ability groups, to interpret the following orally and write their finding:
- How many learners had scores between 30-80 using the bar graph?
 - How many learners scored more than 50 in the examination?

h) Core Points:

- A frequency table is a table that organises raw data in a compact form by displaying a series of scores in ascending or descending order, together with their frequencies
- A bar chart/graph is a graph that presents categorical data with rectangular bars with heights or lengths proportional to the values that they represent

i) Core Competencies:

- Communication and collaboration skills are developed when learners orally respond to questions and engage in group work
- Critical thinking and problem-solving skills are developed when learners interpret the bar graph
- Observation and enquiry skills are developed when learners watch as teacher demonstrates the processes involved in drawing the bar graph
- Personal development and leadership skills are exhibited in group works and presentation of ideas
- Creativity and innovation skills are developed in the drawing of the bar graph
- Digital literacy skill is developed in the use of calculators and projectors

	<p>j) Conclusion:</p> <p>i. Recap lesson by asking at least two learners to orally summarise what they have learnt</p> <p>k) Evaluation:</p> <p>i. Represent the data below on a bar graph. 10, 12, 10, 12, 15, 16, 5, 14, 15, 16, 10, 11, 43, 13, 11, 12, 6, 10, 18, 17, 25, 21, 2, 18, 23, 15, 18, 19, 12, 21, 3, 25, 23, 13, 20, 35, 24, 12, 20, 25, 11, 16, 14, 23, 25, 4, 35, 34, 31, 32, 49, 48, 6, 12</p> <p>ii. Explain orally and in writing the processes involved in representing data on a bar graph/chart</p> <p>iii. Use the bar graph to find the number of people who had marks less than 48.</p> <p>l) Remarks:</p>	
<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Identify possible challenges likely to be encountered in delivering your sample lesson (NTS 1a, 3d, 3e, 3f, 3g and 3m). E.g. <i>Failure to employ creative pedagogical approaches such as learner centred pedagogy, scaffolding, etc.</i></p> <p>3.2 Identify possible solutions to the challenges identified in Activity 3.1 (NTS 1a, 3d, 3e, 3f, 3g and 3m). E.g. a) <i>Organise periodic in-service training to equip teachers with creative pedagogical approaches</i> b) <i>Use of videos in teaching and learning</i></p> <p>3.3 Deduce the LOs and LIs from the sample lesson plan (NTS1a, 2c and 3f). E.g. <i>LO: Demonstrate knowledge, understanding and application of using data to represent graphs such as bar graph</i> <i>LI 1.1 Describe orally and in writing the processes involved in representing data on a bar graph</i> <i>LI 1.2 Interpret orally and in writing data obtained from the bar graph</i></p> <p>3.4 Identify activities that promote GESI responsiveness in your lesson plan (NTS 3f). E.g. a) <i>Provide regular feedback to all learners irrespective of their learning needs</i> b) <i>Use different types of tasks to reflect different learning styles, etc.</i></p> <p>3.5 Recommend assessment strategies in mathematical subjects that could aid in the development of literacy skills in learners (NTS 1a, 2e, 3m and 3f).</p>	<p>15 mins</p>

	<p><i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Role-play</i> b) <i>Debates</i> c) <i>Dramatisations, etc.</i> <p>3.6 Show how ICT can be used in assessing mathematics learners orally and in writing (NTS 3j).</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Watching YouTube/Pre-recorded videos on data analysis and interpretation</i> b) <i>Using calculators to perform mathematical operations and verifying your results</i> c) <i>Using Open Educational Resources (OERs)(https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewjEqa6LhpH4AhV7hv0HHSpNDqEQFnoECAMQAQ&url=https%3A%2F%2Fwww.khanacademy.org%2F&usg=AOvVaw0_s2SBN24MRaNomNW41ICw) or (www.khanacademy.org)</i> <p>3.7 Model a teaching activity based on the sample lesson (NTS 1a, 2c)</p> <p>(EXTENSION ACTIVITY).</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect, write and share what you have learnt with regards to supporting the teaching and learning of literacy in mathematical subjects (NTS 1b, 3c).</p> <p>4.2 Discuss how Al- Khwarizmi ‘solved’ the problem in the scenario given in Activity 1.7 (NTS 1c, 2e and 3i).</p> <p>4.3 Identify a critical friend to observe their lesson in relation to PLC Session 6 and provide written feedback at the next PLC session (NTS 3n, 3o).</p> <p>4.4 Read PLC Session 7 in preparation for next week’s session.</p>	15 mins

PLC Session 7: Supporting the Teaching and Learning of Literacy in Science Subjects

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Participate in the icebreaker.</p> <p>1.2 Share your findings of a lesson you observed with the group (NTS 1a, 1b and 1e).</p> <p>1.3 Read the purpose, learning outcomes (LOs) and learning indicators (LIs) of the session.</p> <p>Purpose: Literacy across the curriculum plays a vital role in helping learners develop appropriate registers for the various disciplines in their academic work. Research conducted by the National Literacy Trust (2018) has found that the strongest factor affecting Senior High Schools (SHS) / Technical and Vocational Education and Training (TVET) learners' science scores is their literacy level. Poor literacy skills can affect how well a student is able to understand scientific vocabulary and to prepare scientific reports. This suggests that strategies that develop learners' listening, speaking, reading, writing, creativity and comprehension skills could have a positive impact on their achievement in science (National Literacy Trust, 2018). As a result, this session is designed to help teachers in the Senior High /TVET Schools to possess the various skills and abilities to teach learners to develop the appropriate language register in the Science domains to support literacy development (NTS 2a, 2f).</p> <p>LO 1: Demonstrate knowledge and understanding of the relevant concepts in science that can support the acquisition of literacy skills.</p> <p>LI 1.1 Discuss concepts in science that can promote literacy development.</p> <p>LI 1.2 State at least three examples of using science concepts to support literacy development.</p> <p>LO 2: Demonstrate knowledge and understanding of using appropriate language/vocabulary of science to support literacy development.</p> <p>LI 2.1 Identify appropriate vocabulary associated with the various science domains to support literacy development.</p> <p>LI 2.2 Discuss how to use the vocabulary in science to improve literacy skills.</p> <p>LO 3: Demonstrate knowledge and understanding of the application of listening, speaking, reading, writing and creativity in planning and assessing science lessons.</p>	25 mins

	<p>LI 3.1 Outline at least three strategies of using listening, speaking, reading, writing and creativity in the teaching and learning of science.</p> <p>LI 3.2 Identify formative assessment tools (<i>assessment for learning</i> and <i>assessment as learning</i>) that can be used to assess science lessons taking into account listening, speaking, reading, writing and creativity</p>	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.5 Write on sticky pads three examples of using science concepts to support literacy development (NTS 2d, 3e, 3f, 3h and 3i). E.g.</p> <ul style="list-style-type: none"> a) <i>Promoting metacognitive talk and dialogue in the classroom such as using storytelling to describe scientific concepts, commentary on scientific concepts, etc.</i> b) <i>Carefully selecting the vocabulary to teach and focusing on the ‘most tricky’ words such as move and movement, respire and respiration, reproduce and reproduction, response to stimuli and stimulate, etc.</i> <p>1.6 In subject groups, identify appropriate vocabulary used in different areas of science with science (NTS 2c, 2d and 2e). E.g.</p> <ul style="list-style-type: none"> a) <i>Biology</i> b) <i>Abdomen.</i> c) <i>Abdominal Cavity, etc.</i> d) <i>Chemistry</i> e) <i>Catalyst</i> f) <i>Cathode</i> g) <i>Cation, etc.</i> h) <i>Physics</i> i) <i>Acceleration</i> j) <i>alternating current, etc.</i> <p>1.7 Discuss how to use the vocabulary identified in Activity 1.6 to improve literacy skills (NTS 2e). E.g.</p> <p><i>Teaching pronunciation of words, teaching meaning of the words, using words in context, etc.</i></p> <p>1.8 Write on sticky pads the possible challenges of implementing literacy across the science curriculum (NTS 3e, 3g and 3j). E.g.</p> <ul style="list-style-type: none"> a) <i>Unwillingness of some science teachers to support the teaching and learning of literacy in science subjects</i> b) <i>Inadequate pedagogical knowledge for supporting the teaching and learning of literacy in science subjects</i> c) <i>Fear of teachers not completing the science syllabus, etc.</i> 	

	<p>1.9 Think-pair-share how to address the challenges in Activity 1.8 (NTS 2d, 3j and 3m) <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Orienting science teachers towards supporting the teaching and learning of literacy in science subjects</i> b) <i>Infusing the concept of literacy across the curriculum in science syllabuses, etc.</i> <p>1.10 List some 21st century skills that could be associated with science to improve literacy (NTS 3e, 3f, 3g and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Critical thinking and problem-solving</i> b) <i>Communication</i> <p>1.11 Discuss possible activities in science you will adopt to develop the 21st century skills in literacy acquisition (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Vocabulary building games</i> b) <i>Picture and video analysis</i> c) <i>Talk for learning activities</i> <p>1.12 Identify ways of incorporating ICT in your science lessons to improve literacy (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Simulation of concepts providing opportunity for learners to discuss the concepts</i> b) <i>Projection and discussion of pictures of scientific activities, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Mention teaching strategies in listening, speaking, reading, writing and creativity that can be used to improve improve the teaching and learning of science (NTS 3e, 3h). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Talk for learning activities</i> b) <i>Singing</i> <p>2.2 Discuss samples of your lesson plans in their various subject domains that take different learning styles of learners into account (NTS 2e, 3a). <i>Sample lesson</i> <i>Teaching Syllabus (2010) for Integrated Science (Senior High School)</i></p> <ul style="list-style-type: none"> a) Topic: <i>Diversity of Matter</i> b) Sub-topic: <i>Diversity of living and non-living things</i> c) Objectives: <i>By the end of the lesson, the learner will be able to:</i> <ul style="list-style-type: none"> i. <i>State orally and in writing, at least four characteristics of living and non-living things.</i> ii. <i>Differentiate orally and in writing between living and non-living things based on their characteristics</i> iii. <i>Classify living and non-living things orally and in writing</i> 	<p>30 mins</p>

	<p>d) Teaching and Learning Resources (TLRs): Flip Charts showing pictures of: Stones, trees, tables, books, goats, fowls, fish and teacher's laptop</p> <p>e) Relevant Previous Knowledge (RPK): Learners see living and non-living things in their environment</p> <p>f) Introduction Teacher introduces the lesson by using leading questions to ask learners to and write some living and non-living things that they know</p> <p>g) Tasks/Activities</p> <ol style="list-style-type: none"> i. Teacher asks learners to identify the key words associated with living and non-living things ii. Group learners according to mixed ability, mixed gender including SEN and ask them to discuss and present the characteristics of living and non-living things iii. Ask learners in groups to present orally and in writing, characteristics of living and non-living things iv. Ask learners in mixed ability and gender groups, to brain-write the differences between living and non-living things based on their characteristics v. Ask learners to observe things in their immediate environment, pictures and videos and classify them into living and non-living things based on their characteristics vi. Ask learners to draw stones, trees, tables, books, goats, fowls, fish and present to the class <p>h) Core points Key words:</p> <ol style="list-style-type: none"> i. Diversity ii. Living things iii. Non-living things iv. Characteristics v. Locomotion/movement vi. Respiration vii. Reproduction viii. Response to stimuli, etc. <p>Characteristics of living things:</p> <ol style="list-style-type: none"> i. Movement ii. Feeding (nutrition) iii. Growth iv. Respiration v. Excretion vi. Reproduction vii. Response to stimulus, etc. <p>Characteristics of non-living things:</p> <ol style="list-style-type: none"> i. Do not have life ii. Do not reproduce 	
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	<p>iii. Do not feed iv. Do not respond to stimuli, etc.</p> <p><i>Differences in characteristics between living and non-living things:</i></p> <p>i. Living things respire while non-living things do not respire ii. Living things grow but non-living things do not grow iii. Living things respond to stimuli while non-living things do not respond to stimuli, etc.</p> <p>i) Core competencies: Critical thinking and problem-solving, communication and collaboration, personal development, leadership and digital literacy</p> <p>j) Conclusion: Teacher reflects with learners on what they have learnt on the lesson using riddles How are you going to apply what you have learnt today in everyday life?</p> <p>k) Evaluation:</p> <p>i. State orally and in writing four characteristics of living things ii. State orally and in writing, four characteristics of non-living things iii. Differentiate orally and in writing the differences in characteristics between living and non-living things iv. Classify the following things orally and in writing into living and non-living things: car, ant, gold, grass, water, spectacles, cricket, laptop</p> <p>l) Remarks</p>	
<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Tease out the LOs and LIs from the sample lesson plan. E.g. <i>LO: Demonstrate knowledge and understanding of diversity of living and non-living things</i> <i>LI 1 State three characteristics of living things, etc.</i></p> <p>3.2 Identify possible challenges in your sample lesson plans and discuss possible ways of addressing same (NTS 3a). E.g.</p> <p>a) <i>Possible challenge: Inability to incorporate ICT into the teaching and learning process That is teaching without the use of PowerPoint</i> <i>Solution: Using PowerPoint presentations in lessons</i></p> <p>b) <i>Possible challenge: Inability to make reasonable adjustments so that disadvantaged learners can benefit from the lesson</i></p>	<p>20 mins</p>

	<p><i>Solution: Becoming Gender Equality and Social Inclusion (GESI) responsive during teaching and learning. For instance, forming mixed ability groups, giving equal roles to all learners, etc.</i></p> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3g). E.g.</p> <ul style="list-style-type: none"> a) <i>Providing opportunities for both male and female learners to participate fully in lessons</i> b) <i>Making reasonable adjustments such as appropriate seating for learners with visual impairment, hearing impairment and physical disability,</i> <p>3.4 Identify formative assessment tools (assessment <i>for learning</i> and assessment <i>as learning</i>) that can be used to assess science lessons taking into account listening, speaking, reading, writing and creativity (NTS 3k, 3l). E.g.</p> <ul style="list-style-type: none"> a) <i>Role-play</i> b) <i>Pronunciation of scientific words</i> c) <i>Application of words in context, etc.</i> <p>3.5 Discuss how the session makes use of resources to support relevant activities that seek to promote literacy (NTS 3j). E.g.</p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos</i> b) <i>Posters, etc.</i> <p>3.6. Model a teaching activity from the sample lesson plan.</p> <p><u>(EXTENSION ACTIVITY)</u></p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l).</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 7 and provide feedback at the next PLC session.</p> <p>4.4 Read Session 8 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session 8: Supporting Teaching and Learning of Literacy in the Social Sciences

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Participate in the PLC session with an icebreaker.</p> <p>1.2 Share your findings with the group (NTS 1a, 1b and 1e).</p> <p>1.3 Read the purpose, learning outcomes (LOs) and learning indicators (LIs) of the session.</p> <p>Purpose: This session is intended to use the social sciences in developing literacy in learners across Senior High School (SHS)/ Technical and Vocational Education and Training (TVET) schools. Specifically, it is intended to:</p> <ol style="list-style-type: none"> Help teachers plan and teach learner-centred lessons in the social sciences, using the literacy strategies. Help teachers integrate literacy into the teaching and learning of the social sciences. Identify concepts in the social sciences that can be used to support the teaching and learning of literacy. Describe how strategies in the social sciences such as; case studies, concept mapping, spidergram, field trips, service learning, etc. can be used to support the teaching and learning of literacy. <p><i>Note:</i> <i>LO: This is the expected knowledge, understanding, skills, etc. to be acquired at the end of a lesson</i></p> <p><i>LI: This is the practical evidence that learning has taken place. It may include verbal responses, practical activities or products</i></p> <p>LO 1: Demonstrate knowledge and understanding of <i>how</i> literacy supports the teaching and learning of the social sciences. LI 1.1 Identify at least three literacy strategies that can support the teaching and learning of the social sciences. LI 1.2 Explain at least three ways literacy supports the teaching and learning of the social sciences.</p> <p>LO 2: Demonstrate knowledge and understanding of how concepts in the social sciences can be applied to support the teaching and learning of literacy. LI 2.1 Give at least three examples of how the social sciences can be used to support the teaching and learning of literacy. LI 2.2 Analyse at least three ways literacy can be integrated into the teaching and learning of the social sciences.</p>	15 mins

	<p>LO 3: Explore the potential of concepts of the social sciences to support the development of literacy.</p> <p>LI 3.1 Identify at least three relevant concepts in the social sciences that can support the development of literacy.</p> <p>LI 3.2 Analyse ways of applying three relevant concepts in the social sciences to support the development of literacy.</p> <p>1.4 Identify at least three literacy strategies that can support the teaching and learning of the social sciences (NTS 2d, 3e and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>The use of guided comprehension: Learners are given social sciences related text to read and pick information from it</i> b) <i>The use of guided composition: Learners are given social sciences related topics to write on them collaboratively or individually, etc.</i> <p>1.5 Explain at least three ways in which literacy supports the teaching and learning of the social sciences (NTS 2d, 3j). <i>E.g.</i></p> <p><i>Using appropriate vocabulary and registers to make it possible to explain concepts clearly to enhance understanding of learners, etc.</i></p> <p>1.6 In groups, give at least three examples of how the social sciences can be used to support the teaching and learning of literacy (NTS 1a, 2d). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Newspaper articles related to the social sciences could be used to develop learners' vocabulary as they read and write words from it</i> b) <i>Speeches from prominent personalities could be used to develop learners reading and writing skills, etc.</i> <p>1.7 Analyse at least three ways of integrating literacy into the teaching and learning of the social sciences (NTS1a, 2d). <i>E.g.</i></p> <p><i>Learners could be given texts in the social sciences to read and write summaries as a way of developing their reading and writing skills, etc.</i></p> <p>1.8 Identify at least three relevant concepts in the social sciences that can support the development of literacy (NTS 2c, 3e). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Disciplinary and procedural knowledge (how social scientist generate knowledge and review societal issues)</i> b) <i>Social Sciences causality (This deals with organising and analysing issues by using cause and consequences), etc.</i> 	
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	<p>1.9 Think-square-share on how to apply the relevant concepts in the social sciences identified in Activity 1.8 to support the development of literacy (NTS 3e, 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Disciplinary and procedural knowledge: Through project writing, reviewing of documents, etc.</i> b) <i>Social Sciences causality: Organising and presenting analytical text on issues, discussing measures to deal with challenges, etc.</i> 	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.10 Discuss in your subject groups and come out with strategies on how GESI can be integrated into your specific subject areas while improving literacy (NTS 1a, 2e, 2f, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using a variety of teaching methods such as question and answer, discussion, videos, role play, oral or written summaries, etc. in lessons to cater for different learning styles and abilities</i> b) <i>Using different learning resources, for instance, print text, audio, Join Access with Speech (JAWS), Non-Visual Desktop Access (NVDA), tactile for teaching learners with visual impairment. In addition, visual and audio-visual resources, etc. can be used to cater for other different learners' needs, etc.</i> c) <i>Using different learning resources, for instance, print text, audio, Join Access with Speech (JAWS), Non-Visual Desktop Access (NVDA), tactile for teaching learners with visual impairment. In addition, visual and audio-visual resources, etc. can be used to cater for other different learners' needs, etc.</i> <p>1.11 Mention at least three 21st century skills that can be integrated into literacy development through the teaching and learning of the social sciences (NTS 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Collaboration skills can be developed through group work, collaborative writing, etc.</i> b) <i>Problem-solving skills can be developed through project work, case studies, etc.</i> c) <i>Creativity skills can be developed through guided composition writing, poetry writing, quizzes and spelling bee, etc.</i> <p>1.12 Discuss in groups how to use ICT to develop literacy in learners through the teaching and learning of the social sciences (NTS 3g, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using digital learning materials such as e-textbooks, e-workbooks, e-tests and educational videos to help in improving their reading, word recognition and communication skills</i> b) <i>Using sound simulation apps and devices such as Google Translate, recorded videos, audio devices, etc. to help in developing listening, speaking and phonic skills, etc.</i> 	<p>15 mins</p>
<p>2. Planning for teaching, learning and assessment</p>	<p>2.1 Think-square-share and prepare an outline of a lesson plan, using a topic from the social sciences that can be used to teach students a lesson supporting literacy development (NTS 3a, 3e, 3f, 3g, 3h, 3i, 3j and 3k).</p>	<p>30 mins</p>

<p>activities for the lesson/s making links to literacy across the curriculum</p>	<p><i>Note:</i></p> <p><i>Teachers would be guided to tease out the Learning Outcomes (LOs) and Learning Indicators (LIs) from the lesson, so they know the relationship between lesson objectives and learning outcomes</i></p> <p><i>E.g.</i></p> <p><i>Sample lesson plan for teaching geography based on the 2010 SHS Geography Teaching Syllabus Year 1, emphasising the incorporation of literacy skills at different sections</i></p> <p>a) Topic: Settlement</p> <p>b) Sub-topic: Urban and rural settlements</p> <p>c) Objectives:</p> <p><i>By the end of the lesson, the learner will be able to:</i></p> <ol style="list-style-type: none"> <i>i. Explain the term ‘settlement’</i> <i>ii. Identify at least two types of settlements</i> <i>iii. Describe at least three characteristics of a rural settlement</i> <i>iv. Describe at least three characteristics of an urban settlement</i> <p>d) Teaching and Learning Resources (TLRs): Computers, projectors, pictures, maps, etc.</p> <p>e) Relevant Previous Knowledge (RPK): Learners come from various communities and places</p> <p>f) Introduction:</p> <p><i>Ask learners in mixed ability groups to mention and write the names of the communities they come from, orally describing some of the types of buildings, the distances between the buildings and some social amenities they may identify from their various communities</i></p> <p>g) Tasks/Activities:</p> <ol style="list-style-type: none"> <i>i. Ask learners to watch a projected video on settlements and in their mixed ability groups, discuss and present the meaning of ‘settlement’ to the larger group</i> <i>ii. Guide learners in mixed ability groups to identify and write the various types of settlements using pictures and projected videos, Google Maps, etc.</i> <i>iii. Using Google Maps and tactile maps, display images of rural settlement for learners to observe and orally present the characteristics of rural settlement</i> <i>iv. Present pictures of urban settlement and ask learners in mixed ability groups to observe, discuss and orally present the characteristics of urban settlement to the larger class</i> <p>h) Core points:</p> <ol style="list-style-type: none"> <i>i. Meaning of ‘settlement’:</i> <i>A settlement is a location or place where people live. It can be as small as a single house in a remote area or as large as a mega city (a city with over 10 million residents)</i> <i>ii. The types of settlements:</i> <ul style="list-style-type: none"> <i>• Rural settlement</i> 	
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	<ul style="list-style-type: none"> • <i>Urban settlement</i> iii. <i>Characteristics of rural settlements:</i> <ul style="list-style-type: none"> • <i>The settlements are mostly dispersed</i> • <i>The population size is below 5000 (GSS 2020)</i> • <i>Most residents are engaged in primary activities such as farming, hunting, etc.</i> • <i>None or few public social amenities available</i> • <i>Buildings are made of local materials which are less expensive, etc.</i> iv. <i>Characteristics of urban settlements:</i> <ul style="list-style-type: none"> • <i>The settlements are usually nucleated</i> • <i>The population size is more than 5000 (GSS 2020)</i> • <i>Most of the residents are engaged in secondary and tertiary occupations such as teaching, banking, insurance, commercial businesses, industrial activities, etc.</i> • <i>Buildings are usually made of durable and more expensive materials</i> • <i>They have many public social facilities such as electricity, pipe-borne water, toilets, internet connectivity, etc.</i> • <i>The buildings are usually planned or properly arranged</i> i) Core competencies: <ul style="list-style-type: none"> i. <i>Communication skills</i> ii. <i>Collaboration skills</i> iii. <i>Critical thinking skills</i> iv. <i>Problem-solving skills</i> v. <i>Personal development and leadership skills</i> j) Conclusion: <i>Using create-new-headlines strategy, pair learners according to mixed ability to imagine and write headlines that summarize what they have learnt and share with the larger class</i> k) Evaluation: <ul style="list-style-type: none"> i. <i>Write one sentence explanation of the term 'settlement'</i> ii. <i>Mention orally two types of settlements</i> iii. <i>Draw a spidergram and in it, write three characteristics of a rural settlement</i> iv. <i>Describe in writing three characteristics of an urban settlement</i> l) Remarks: 	
3. Teaching, learning, resources and assessment	3.1 Identify from the sample lesson plan activities related to literacy (NTS 2d). <i>E.g.</i> <ul style="list-style-type: none"> a) <i>Writing of key words (reading and writing skills)</i> b) <i>Oral presentation (listening, speaking and reading skills), etc.</i> 	15 mins

	<p>3.2 Tease out the LOs and LIs from the sample lesson plan (NTS 3a, 3o). <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding of urban and rural settlements</i> <i>LI 1.1 Explain the term ‘settlement’</i> <i>LI 1.2 Mention orally and in writing at least two types of settlements</i> <i>LI 1.3 Describe at least three characteristics of rural settlements</i> <i>LI 1.4 Describe at least three characteristics of urban settlements</i></p> <p>3.3 Identify possible challenges in your lesson delivery (NTS 1a, 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Lack of internet connectivity</i> <i>b) Inadequate textbooks, etc.</i> <p>3.4 Identify possible solutions to the challenges identified in Activity 3.3 (NTS 1a, 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) The use of offline tools in teaching and learning (posters, MS Word, etc.)</i> <i>b) The use of library and e-learning resources to access information, etc.</i> <p>3.5 Discuss how the session links literacy and the social sciences in formative assessment i.e., assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Assessment for learning:</i> <ul style="list-style-type: none"> <i>i. The use of crossword puzzle in writing words</i> <i>ii. Writing of project work, etc.</i> <i>b) Assessment as learning:</i> <i>Students using language games such as scrabble, word worm, etc. to assess themselves, etc.</i> <p>3.6 List and discuss how the session makes use of resources to support relevant activities (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) The use of newspaper articles for learners to read and write key things observed</i> <i>b) The use of pre-recorded videos on the social sciences related topics for learners to listen and write what they have observed, etc.</i> <p>3.7 Model a teaching activity in the sample lesson plan (NTS 3a, 3e and 3j).</p> <p>(EXTENSION ACTIVITY)</p>	
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<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session.</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe your lesson and provide written feedback.</p> <p>4.4 Read Session 9 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>
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PLC Session 9: Supporting the Teaching and Learning of Literacy in TVET

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Give an icebreaker related to the topic (NTS 1a).</p> <p>1.2 A critical friend who observed a lesson on PLC Session 8 to give feedback to the whole group for discussion (NTS1a, 2e).</p> <p>1.3 Read the purpose of PLC Session 9 and link it to the LOs and LIs (NTS 2f, 3g).</p> <p>Purpose: The session seeks to assist TVET teachers to strengthen their ability to identify learners with reading difficulties and support them to overcome these difficulties in their lessons. This approach will help such learners to improve their reading and consequently enhance their learning of the various subjects in the TVET curriculum. Reading difficulty is a learning deficiency that involves significant impairment of reading with fluency and comprehension. Difficulty in reading interferes with academic achievement and activities of daily life among TVET learners. Reading difficulties are common and are associated with poor long-term academic achievement. Therefore, there is the need for TVET teachers to effectively integrate literacy in their teaching and learning activities to help learners overcome listening, speaking, reading and writing challenges. This session also helps to integrate literacy in TVET lessons. (NTS 2f, 3g).</p> <p>LO 1: Demonstrate knowledge and understanding of how literacy supports the teaching and learning of TVET. LI 1.1 Identify ways in which literacy can support the teaching and learning of TVET. LI1.2 Plan activities to show how literacy supports the teaching and learning of TVET.</p> <p>LO 2: Demonstrate knowledge and understanding of how TVET supports the teaching and learning of literacy. LI 2.1 Identify and discuss ways in which TVET can support the teaching and learning of literacy. LI.2.2 Plan activities that will use TVET to support the teaching and learning of literacy.</p> <p>1.4 Identify ways in which literacy supports the teaching and learning of TVET (NTS 2c). <i>E.g.</i> a) <i>Listing key terms in TVET</i></p>	15 mins

	<p>b) <i>Reading new words and terms</i> c) <i>Spelling new words and terms, etc.</i></p> <p>1.5 In your various TVET domains/subject groups, discuss extended learning activities for learners to support the teaching and learning of literacy in their TVET lessons (NTS 1a, 1c, 1e, 2c and 3h). <i>E.g.</i></p> <p>a) <i>Time: Give learners reading tasks to help them spend more time on reading and writing both in school and at home</i> b) <i>Text: Build a collection of books for learners to read both in school and at home, etc.</i></p> <p>1.6 Suggest activities that can support the teaching and learning of literacy in (your) TVET domains/subject groups (NTS 1a, 1c, 1e, 2c and 3h). <i>E.g.</i></p> <p>a) <i>Listing the key terms in TVET/Subject</i> b) <i>Reading aloud the key terms/words correctly</i> c) <i>Orally spelling terminologies/words</i> d) <i>Writing terminologies /words into their notebooks</i> e) <i>Using terminologies or words in sentences (orally and in writing, etc.</i></p> <p>1.7 Suggest activities in TVET that you will use to support the teaching and learning of literacy (NTS 1a, 3a and 3e). <i>E.g.</i></p> <p>a) <i>Using extended learning to help learners see at first-hand how the key words and terminologies are applied in real life situations</i> b) <i>Asking learners to write reports on their experiences at the workshop, etc.</i></p>	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.8 In mixed-gender/ability groupings (where possible) discuss how you will integrate Gender Equality and Social Inclusion (GESI), Information and Communication Technology (ICT) and 21st century skills to support literacy in your TVET lessons (NTS 2e, 2f, 3c, 3f, 3g & 3j). <i>E.g.</i></p> <p><i>GESI:</i></p> <p>a) <i>Group learners in mixed-ability/gender groups to read and discuss concepts in written text of the various TVET domains</i> b) <i>Giving positive feedback to especially female learners and learners with special education needs (SEN), etc.</i></p> <p><i>ICT:</i></p> <p>a) <i>Use YouTube/prepared videos to help learners understand some TVET concepts</i> b) <i>Teach using PowerPoint presentations, etc.</i></p> <p><i>21st century skills:</i></p>	<p>15 mins</p>

	<i>Use group discussions and project work to assist learners develop literacy skills through communication, collaboration, critical thinking, creativity, and personal development, etc.</i>	
2. Planning for teaching and learning , learning and assessment activities for the lesson/s making links to literacy across the curriculum	<p>2.1 Discuss samples of your lesson plan (in your various TVET domains) to identify activities in the lessons that support literacy development among learners (NTS 1a, 1e and 3a). E.g.</p> <p>Sample Lesson Plan</p> <p>a) Topic: <i>Finishes and Finishing in Agriculture, Home Economics, Technical Skills and Visual Art</i></p> <p>b) Sub-topics: <i>Agriculture: Finishing in Agricultural Production</i> <i>Home Economics: Finishing in clothing production</i> <i>Technical Skills: Finishing and finishes in wood works</i> <i>Visual Art: Finishing Art works</i></p> <p>c) Lesson Objectives: <i>By the end of the lesson, the learner will be able to:</i></p> <ol style="list-style-type: none"> <i>i. Pronounce at least five words appropriate for the lesson in each TVET domain</i> <i>ii. Explain orally and in writing the terms “finishing” and “finishes” in each TVET domain</i> <i>iii. Discuss orally and in writing the purposes of finishing and finishes in each TVET domain</i> <i>iv. Discuss the types of finishes in each TVET domain</i> <i>v. Discuss the types of finishing processes in each TVET domain</i> <i>vi. Exhibit a given finished product for a jury session</i> <p>d) Teaching and Learning Resources (TLRs): E.g.</p> <ol style="list-style-type: none"> <i>i. YouTube videos on finishes and finishing processes</i> <i>ii. Sample finished items (real objects) such as trimmed hedges, pruned trees, prepared farmlands, artefacts, garments, metal wares, wood wares, glazed items, hemmed garments, garnished foods, etc.</i> <i>iii. Pictures of finished items such as trimmed hedges, pruned trees, prepared farmlands, artefacts, garments, metal wares, wood wares, glazed items, hemmed garments, garnished foods, etc.</i> <p>e) Relevant Previous Knowledge (RPK): <i>Learners use articles with various forms of finishing and finishes</i></p> <p>f) Introduction: <i>Introduce the lesson by asking learners to mention articles with various forms of finishing and finishes which they use at home and school</i> E.g.</p> <ol style="list-style-type: none"> <i>i. Trimmed hedges</i> <i>ii. Pruned trees</i> <i>iii. Prepared farmlands, etc.</i> 	30 mins

	<p>g) Tasks/Activities:</p> <ol style="list-style-type: none"> i. <i>Using the drilling technique, teach the correct pronunciation of the key vocabulary in each TVET domain</i> E.g. <ol style="list-style-type: none"> a. <i>Agriculture:</i> <ul style="list-style-type: none"> • <i>Bagging</i> • <i>Fumigation</i> b. <i>Home Economics:</i> <ul style="list-style-type: none"> • <i>Garnishing</i> • <i>Refrigerating</i> c. <i>Technical Skills:</i> <ul style="list-style-type: none"> • <i>Vanishing</i> • <i>Spraying</i> d. <i>Visual Art:</i> <ul style="list-style-type: none"> • <i>Bronzing</i> • <i>Painting</i> ii. <i>Put learners in mixed-gender/ability groups (where possible) and ask them to discuss and write down the meaning of “finishing and finishes” as it applies in each TVET domain. Then let them orally share their findings with the larger group</i> iii. <i>Using the Talking Point technique, ask learners to orally discuss the purposes of finishing and finishes in each TVET domain. Write the learners’ answers on the board for them to copy into their notebooks/jotters</i> iv. <i>Let learners discuss orally with their elbow partners the types of finishes and finishing in each TVET domain. Let each elbow partner share their answers with the larger group</i> v. <i>Put learners in small mixed-gender/ability groups (where applicable) and ask them to discuss the types of finishing processes in each TVET domain. Give them flipcharts or manila cards to write their points on. After presenting their work orally, let the groups post their work for gallery walk</i> vi. <i>Give learners some products to finish in their groups.</i> vii. <i>Organize a jury session among the learners to assess the work</i> <p>h) Core points</p> <ol style="list-style-type: none"> i. <i>Finishing is the process which alters the final look, feel or quality of a product in order to achieve the desired appearance or make it easier to bond with or provide durability</i> ii. <i>Finishes are the materials that get used up or consumed in the finishing process. They eventually become part of the finished article. The finished article may then be described as having a glaze, enamel, mortar, lacquer, tile, etc. finished</i> 	
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	<p>iii. <i>The purposes of finishing and finishes are to improve quality, increase appeal, provide durability, make bonding easier, etc.</i></p> <p>iv. <i>Types of finishes include chemical or liquid finishing, non-chemical finishes and finishing, anti-bacterial finishing, chemical resistant finishing, fire resistant finishing, solid finishes and finishing (wood, plastic and metal), surface finishes and finishing, interior finishing and finishes</i></p> <p>v. <i>Examples of products learners could be given to finish include:</i></p> <ul style="list-style-type: none"> • <i>Wood ware for sanding</i> • <i>Clay ware (terracotta) for burnishing, vanishing, painting, firing or glazing</i> • <i>Paper for fixing and framing,</i> • <i>Food for garnishing or glazing</i> • <i>Garments for fringing and hemming</i> • <i>Flowers, lawns or trees for pruning and shaping</i> • <i>Grains for bagging or packaging, etc.</i> <p>i) Core competencies:</p> <ol style="list-style-type: none"> i. <i>Critical thinking and problem-solving skills</i> ii. <i>Communication skills</i> iii. <i>Collaboration skills</i> iv. <i>Lifelong learning skills</i> <p>j) Conclusion</p> <p><i>Conclude the lesson by summarising the meaning of the concepts “finishing” and “finishes”, purposes of finishing and finishes, types of finishes and types of finishing processes in all TVET domains</i></p> <p>k) Evaluation:</p> <ol style="list-style-type: none"> i. <i>Pronounce the following words: garnish, pruning, glazing, fringing, hemming</i> ii. <i>In writing, explain the meaning of “finishing” and “finishes” in the various TVET domains</i> iii. <i>In writing, discuss the purposes of finishing and finishes in the various TVET domains</i> iv. <i>In writing, discuss the types of finishes and finishing processes in each TVET domain</i> v. <i>Exhibit your finished products for a jury session</i> <p>2.2 Ask teachers to tease out the LOs and LIs from their sample lesson plans (NTS 2b, 3a). E.g. LO: <i>Demonstrate knowledge and understanding of the application of finishes and finishing</i> LI 1.1 <i>Pronounce vocabulary appropriate for the lesson in each TVET/subject domain</i> LI 1.2 <i>Explain orally and in writing the terms “finishing and finishes” in each TVET domain</i></p>	
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	<p><i>LI 1.3 Discuss orally and in writing the purposes of finishing and finishes in each TVET domain</i></p> <p><i>LI 1.4 Discuss the types of finishes in each TVET domain</i></p> <p><i>LI 1.5 Discuss the types of finishing processes in each TVET domain</i></p> <p><i>LI 1.6 Finish a given product in each TVET domain</i></p>	
<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Discuss how the assessment activities in your sample lesson plan are linked to the use of formative assessment tools and practices to support literacy development among TVET learners (NTS 2c, 2d, 3c, 3e, 3f & 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Assessment for learning</i> <ul style="list-style-type: none"> <i>i. Pronouncing keywords activities</i> <i>ii. Writing exercises and reports, etc.</i> <i>b) Assessment as learning</i> <ul style="list-style-type: none"> <i>i. Oral and written reflection on feedback</i> <i>ii. Peer-review activities, etc.</i> <p>3.2 In groups, suggest other authentic assessment methods that you could use in your lessons plans to develop literacy skills among your learners (NTS 2c, 2d, 3c, 3e, 3f and 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Reflecting and writing report in their reflective journals using appropriate sentences and spelling of words</i> <i>b) Extended reading and written discussion concepts in text in library or e-learning resources, etc.</i> <p>3.3 Discuss teaching and learning resources that can be used to support the teaching and learning of literacy in TVET (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Pre-recorded videos that articulate the right pronunciation of TVET terminologies</i> <i>b) Dictionaries (hard/soft copies)</i> <i>c) Word cards on terminologies or new vocabulary, etc.</i> <p>3.4 Identify potential challenges that may be associated with the teaching and learning of literacy in (your) TVET lesson plans (if any) (NTS 2c, 3c, 3f and 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Inadequate teaching and learning resources</i> <i>b) Inability of learners to express ideas in English Language, etc.</i> <p>3.5 Identify possible solutions that could be used to address the challenges identified in Activity 3.4.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Make creative use of available resources within the environment develop suitable teaching and learning resources</i> <i>b) Plan and teach lesson using variety of teaching and learning methods to support learners with varied socio-</i> 	<p>30 mins</p>

	<p><i>cultural background (explaining or giving examples in a local language), etc.</i></p> <p>3.6 Model a teaching and learning activity in your sample lesson taking due cognizance of teaching and learning of literacy in TVET (extended activity NTS 1a, 3a).</p> <p>(EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect on what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share your reflection with the larger group (NTS 1a, 1b and 1f).</p> <p>4.3 Do you have any questions for clarification? (NTS 1a)</p> <p>4.4 Remember to invite a critical friend to observe your lesson in relation to PLC Session 9 and provide feedback for discussion at the next PLC session (NTS 1a, 1e and 3l).</p> <p>4.5 Read PLC Session 10 in preparation for the next session (NTS 1a, 3b).</p>	15 mins

PLC Session 10: Supporting Literacy across the Curriculum Through Lesson Observation

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session</i>	Time in session
Review of previous session and introduction to new session	<p>1.1 Participate in the icebreaker.</p> <p>1.2 Share your findings of a lesson you observed with the group (NTS 1a, 1b and 1e).</p> <p>1.3 Read the purpose, the learning outcomes (LOs) and learning indicators (LIs) of the session.</p>	25 mins
Purpose of the session	<p>Purpose: Lesson observation helps to evaluate the quality of teaching and learning as well as the alignment between intended curricula and their actual delivery. This alignment is done through the integration of subject content knowledge and pedagogical knowledge of teachers. Lesson observation in Senior High Schools (SHS)/Technical and Vocational Education and Training (TVET) Schools also provides opportunities for feedback that leads to improving teaching practices in schools. The feedback provided from lesson observation helps teachers to become more aware of their strengths. It also helps teachers to identify areas for improvement in classroom practice, particularly in gender and inclusion issues, pedagogy, use of technology and collaboration among teachers. The purpose of this session is to support teachers to become aware of the importance of supporting literacy across the curriculum through lesson observation and the need to give timely constructive feedback on lessons observed.</p>	
Learning outcomes and learning indicators	<p>LO 1: Demonstrate knowledge and understanding of how lesson observation improves literacy across the curriculum.</p> <p>LI 1.1 Describe how observation in the classroom can support literacy development</p> <p>LI 1.2 Identify at least five teaching principles through which observation can be suitable for supporting literacy development across the curriculum.</p> <p>LI 1.3 Analyse how each of the five teaching and learning principles in LI 1.2 can support the development of literacy through lesson observation.</p> <p>LO 2: Demonstrate knowledge and understanding of how feedback in lesson observation supports literacy across the curriculum.</p> <p>LI 2.1 Use oral and written constructive feedback in lesson observation to support literacy development.</p> <p>LI 2.2 Discuss the content of the lesson observation feedback template.</p>	

	<p>LI 2.3 Use role play to show how to give constructive feedback on lessons observed.</p>	
<p>Developing literacy through lesson observation</p>	<p>1.4 Discuss how the teaching of literacy across the curriculum can be supported through lesson observation (NTS 1a, 2d, 3e and 3g). <i>E.g.</i></p> <p>a) <i>During a classroom observation, there may be literacy teaching opportunities evident, which the observer can note for discussion. For instance, if a teacher is working with learners in a lesson on any scientific concept such as matter, learners need to use a number of literacy skills in order to be successful. They need to be able to read and comprehend the information and work with specific terminologies such as mole, molar mass, molecular formulae, etc. and make meaning of them. They also need to draw conclusions from what they read and communicate their understanding orally or in writing</i></p> <p>1.5 Discuss how lesson observation in their subject can support literacy development. (NTS 1a, 3e and 3g). <i>E.g.</i></p> <p>a) <i>It helps teachers to reflect and identify the critical literacy elements that are needed to be developed in the lesson</i></p> <p>b) <i>It helps teachers to identify their weaknesses and improve upon them to promote literacy development, etc.</i></p> <p>1.6 Identify teaching principles assessed in lesson observations which are suitable for supporting literacy development in the classroom (3e, 3f and 3g). <i>E.g.</i></p> <p>a) <i>Using appropriate questioning techniques</i></p> <p>b) <i>Using appropriate teaching and learning resources</i></p> <p>c) <i>Using appropriate vocabulary, etc.</i></p> <p>1.7 Analyse how each of the teaching and learning principles in Activity 1.6 can support literacy development through lesson observation (NTS 3e, 3f and 3g). <i>E.g.</i></p> <p>a) <i>Engaging learners in tasks that promote opportunities to use literacy skills</i></p> <p>b) <i>Varying teaching skills to cater for literacy needs of learners, etc.</i></p> <p>1.8 Identify which comments highlighted by an observer in a lesson observation can support literacy development (NTS 3a, 3e).</p>	

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Appropriate use of words/terminologies</i> b) <i>Good use of aids in pronunciation</i> c) <i>Teachers guiding the use of verbal and non-verbal expressions from learners, etc.</i> <p>1.9 Suggest criteria that should be considered in a lesson observation templates (NTS 3a, 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Purpose of lesson clearly stated in lesson plan</i> b) <i>Tasks provide opportunities for literacy skills development</i> c) <i>Real life examples given by learners orally and in writing, etc.</i> 	
<p>2. Using a lesson observation template to support teaching and learning of literacy</p>	<p>2.1 Discuss the content of the observation template (NTS 3a, 3e). (Refer to Appendix 1 for observation template).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>The template contains 14 items and each of them encourages the observer to look for opportunities for teachers to deliver literacy across the curriculum</i> b) <i>The options “Yes”, “No” and “In Part” in the template provide opportunities for the observer to state explicitly the extent to which teachers integrate literacy, etc.</i> <p>2.2 Study the observation template and identify vocabulary that promote GESI responsiveness and other cross-cutting issues (NTS 3f, 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>GESI (items 3, 7, and 10)</i> <ul style="list-style-type: none"> i. <i>Special Education Needs</i> ii. <i>Mixed gender groups</i> iii. <i>Varied literacy needs, etc.</i> b) <i>21st century skills (item 8)</i> <ul style="list-style-type: none"> i. <i>Problem solving</i> ii. <i>Critical thinking</i> iii. <i>Communication</i> c) <i>Use of ICT tools, etc.</i> 	30 mins
<p>3. Using the observation template and giving feedback on lessons</p>	<p>3.1 Discuss how the template can be used to provide feedback on observed lessons (NTS 3a, 3e).</p> <p><i>E.g.</i></p> <p><i>The options “Yes”, “No” and “In Part” in the template provide an opportunity for the observer to state explicitly the extent to which teachers d literacy across the curriculum, etc.</i></p> <p>3.2 Discuss the options (“Yes”, “No”, and “In Part”) in the template and make suggestions about how the template can be used to observe your lesson (3j, 3k).</p>	20 mins

	<p><u>E.g.</u> <i>The template can help teachers to plan the lesson so as to ensure that all the criteria in the template are met in the lesson, etc.</i></p> <p>3.3 Use role play to demonstrate how to give constructive feedback on a lesson observed (NTS 3a, 3e). (EXTENSION ACTIVITY)</p> <p>3.4 Provide comments on how the feedback was done and how it can be improved (NTS 3a, 3e). (EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report and provide feedback 	<p>4.1 Reflect and write what you have learnt from PLC Sessions 1-10 (NTS 1a, 3l).</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe your lesson and provide feedback on the lesson.</p>	<p>15 mins</p>

APPENDIX 1: LESSON OBSERVATION GUIDELINES

Teacher Lesson Observation Sheet for Literacy across the Curriculum				
Region:				
District:				
Circuit:				
School:				
Name of Teacher:				
Class:				
Time:				
Question	Y*	N**	IP***	Comment
1. Is/Are the purpose(s) of the lesson clearly stated in the lesson plan and focused on learners developing literacy skills (i.e., listening, speaking, reading and writing) and achieving the lesson learning outcomes irrespective of the subject taught?				
2. Are learners engaged on tasks that provide opportunities for them to use their literacy skills to complete the tasks?				
3. Is teaching differentiated to cater for the varied literacy needs of all learners across the ability range?				
4. Does the teacher use real life examples which are familiar to learners and enable learners to explain concepts orally and in writing in their own words?				
5. Does the lesson include appropriate interactive and creative approaches e.g., group work, role play, storytelling to support learners in developing literacy skills irrespective of the subject taught?				
6. Does the teacher demonstrate knowledge and understanding of how literacy can support the teaching of their subject?				
7. Is Gender Equality and Social Inclusion responsive language used in the lesson to achieve the learning outcomes?				
8. Are cross-cutting issues integrated in the lesson? e.g., problem-solving, critical thinking, communication, use of ICT as a tool for learning?				
9. Are teaching/learning materials and other resources being used to support learning of literacy development?				
10. Does the teacher maintain a non-threatening learning environment throughout the lesson by using language				

	accessible to the learners?				
11.	Does the teacher encourage learners to ask questions during the lesson?				
12.	Does assessment include assessment of, for and as learning and involve learners providing both oral and written answers to tasks?				
13.	Does the teacher provide oral and/or written constructive feedback on learner responses to teacher questions? (e.g., correcting inaccurate use of language)				
14.	Do learners make use of both oral and written feedback from teacher and peers?				

* Yes ** No ***In part

PLC TVET Session 1

The Concept and Importance of Literacy across the Secondary Education Curriculum

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Introduction to the Handbook</p> <p>Purpose of the Handbook</p>	<p>1.1 Start the PLC session with an icebreaker.</p> <p>1.2 A critical friend who observed Session 11 in PLC Handbook 1 should give feedback on their observations (NTS 1a).</p> <p>1.3 Read the introduction to the Handbook (NTS 3h).</p> <p>Introduction: Literacy cuts across all disciplines so every teacher is a teacher of literacy. Literacy (listening, speaking, reading and writing) is the main mode of communication used in school for teaching and learning, and for developing thinking in all disciplines. Literacy supports learning; learners need to understand the vocabulary, expression and organizational structures of a subject in order to conceptualize that subject and cope with its cognitive demands. Responding to higher order questions encourages the development of thinking skills and use of effective literacy skills. In the learning process, learners make and revise meaning through language. There is the tendency however, for this all-important element of learning to be de-emphasized in schools. There is also a general notion that literacy development among learners is the sole responsibility of the language teacher. In order to improve learning outcomes of all learners at the secondary education level, teachers must be equipped with adequate subject knowledge and pedagogic practice to incorporate literacy in their disciplines.</p> <p>1.4 Read the purpose of the Handbook and discuss the relevance of the Handbook to the Technical and Vocational Education and Training (TVET)/ Senior High School (SHS) Curriculum.</p> <p>Purpose: The purpose of this Handbook is to equip teachers with the skill to incorporate more subject specific literacy in their disciplines to enhance learners' academic success. The Handbook introduces the concept of literacy in <i>English</i> across the curriculum to teachers. It also introduces the importance of cross-curricula literacy, principles and practice of cross-curricular literacy and planning for cross-curricular literacy. Additionally, the Handbook exposes teachers to ways they can</p>	15 mins

	<p>apply literacy skills in teaching their subject areas. It also aims at assisting teachers to know how to integrate more subject specific literacy into planning, teaching and assessing across the SHS/TVET Curriculum and teaching strategies to use to improve literacy across the curriculum.</p> <p>The strategies introduced in the Handbook will help teachers to equip learners with listening, speaking, reading and writing strategies that can be used to improve literacy across the curriculum.</p> <p>The Handbook covers the following topics:</p> <ol style="list-style-type: none"> 1. The concept and importance of literacy across the secondary education curriculum 2. Ways of applying literacy across the secondary education curriculum 3. Identifying subject-specific support for literacy development 4. Supporting the teaching and learning of literacy in ICT 5. Supporting the teaching and learning of literacy in business studies <p>Supporting the teaching and learning of literacy in mathematical subjects</p> <ol style="list-style-type: none"> 6. Supporting the teaching and learning of literacy in science subjects 7. Supporting the teaching and learning of literacy in the social sciences 8. Supporting the teaching and learning of literacy in TVET 9. Supporting literacy across the curriculum through lesson observation 	
<p>2. Introduction to the session</p> <p>Learning outcomes and</p>	<p>2.1 Read the purpose, learning outcomes (LOs) and learning indicators (LIs) for the session (NTS 3h).</p> <p>Purpose The purpose of this session is to introduce the concept of literacy across the curriculum to encourage TVET teacher to support the teaching and learning of literacy irrespective of the TVET domain they teach. Specifically, the session exposes TVET teachers to ways they can apply literacy skills in teaching their TVET areas. It also aims at assisting teachers to know how to integrate subject specific literacy into planning, teaching and assessing across the secondary school curriculum and teaching strategies to use to improve literacy across the curriculum through the teaching of TVET subjects. The session equips teachers with ways to help learners with listening, speaking, reading and writing skills that can improve literacy across the curriculum</p> <p>Note: <i>LO: This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson</i></p>	<p>30 mins</p>

<p>learning indicators</p>	<p><i>LI (Learning Indicator): This is the practical evidence that learning has taken place. It may include verbal responses, practical activities or products</i></p> <p>LO1: Demonstrate knowledge and understanding of the concept of literacy across the SHS/TVET Curriculum. LI 1.1 Explain the concept of literacy across the SHS/TVET Curriculum. LI 1.2. Give examples of how literacy manifests across the SHS/TVET Curriculum. LI 1.3. Discuss how literacy can be applied across the SHS/TVET Curriculum.</p> <p>LO2: Demonstrate knowledge and understanding of the importance of literacy across the SHS/TVET Curriculum. LI 2.1 Give examples of the importance of literacy across the SHS/TVET Curriculum. LI 2.2 Discuss the importance of literacy across the SHS/TVET Curriculum.</p>	
<p>The concept of literacy across the curriculum.</p>	<p>2.2 Explain the concept of literacy across the SHS/TVET Curriculum. <i>E.g.</i> <i>Literacy across the curriculum is a process of helping learners to acquire the skills of listening, speaking, reading and writing to enable them to learn and understand the subjects in the curriculum for the purpose of understanding themselves and the world around them. This process is fundamental to achieving competence in every educational subject including TVET</i></p> <p>2.3 Give examples of how literacy manifests across the SHS/TVET Curriculum (NTS 1a, 2c). <i>E.g.</i> <i>a) Listening to and carrying out instructions</i> <i>b) Responding to and asking questions, etc.</i></p> <p>2.4 Discuss how literacy can be applied across the SHS/TVET Curriculum. (NTS 1e, 2c, 2d and 3e). <i>E.g.</i> <i>a) Identifying appropriate register(s) for the various TVET domains</i> <i>b) Introducing new vocabulary during read aloud or while introducing new topics, etc.</i></p>	
<p>Importance of literacy across the curriculum</p>	<p>2.5 Give examples of the importance of literacy across the SHS/TVET Curriculum (NTS 1e, 2c, 2d and 3e). <i>E.g.</i> <i>a) Facilitates reading and comprehension</i> <i>b) Facilitates the writing of reports, etc.</i></p>	

	<p>2.6 Discuss the importance of literacy across the SHS/TVET Curriculum (NTS 1a, 1e, 2c, 2d and 3e). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Literacy facilitates the reading and comprehension of written instructions, procedures and processes in TVET</i> <i>b) Literacy facilitates the writing of reports in TVET, etc.</i> 	
<p>3. Implementing literacy across the curriculum in teaching, learning and assessment giving regard for GESI, ICT, 21st century skills and challenges in implementing literacy across the curriculum</p>	<p>3.1 Discuss your lesson plans/outlines in your TVET domains (NTS 1a, 2b, 2c, 2d and 3a).</p> <p><i>Sample lesson plan based on the 2010 teaching syllabus for SHS/TVET</i></p> <ul style="list-style-type: none"> a) Topic: <i>The design process in Agriculture, Home Economics, Technical Skills and Visual Art.</i> b) Sub-Topics: <i>Agriculture: Surveying and planning Farmsteads</i> <i>Home Economics: Sources of ideas for designing clothes</i> <i>Technical Skills: Design and making an artefact in wood technology</i> <i>Visual Art: Fabric design</i> c) Teaching and learning resources (TLRs): <i>E.g.</i> <ul style="list-style-type: none"> <i>i. Videos on design processes in the various TVET domains</i> <i>ii. Pictures of designs in the various TVET domains</i> <i>iii. Design processes written on manila cards</i> d) Objectives: <i>By the end of the lesson, the learner will be able to:</i> <ul style="list-style-type: none"> <i>i. Identify orally and in writing the logical flow of the design process</i> <i>ii. Discuss orally and in writing the design Process as it pertains in the various domains</i> <i>iii. Use a variety of written instructional guides to develop a prototype design in the various TVET domains</i> e) Relevant Previous Knowledge (RPK) <i>Learners have been taught principles and elements of design. They also see and use designs.</i> f) Core activities: <ul style="list-style-type: none"> <i>i. Guide learners to read a write-up on design making on the internet or a text and identify logical sequence of the design process</i> <i>ii. Using Shower Thoughts, guide learners to discuss in mixed gender/ability groupings (where possible) the design process using the concept of ideation</i> <i>iii. Paste a flow chart on the board and guide learners to use the design process to design a given artefact/model in the various TVET domains</i> 	<p>30 mins</p>

	<p>iv. <i>Guide learners in groups to write a project report including an appreciation of their artefact/farm</i></p> <p>g) Core Points: <i>The design process</i></p> <ul style="list-style-type: none"> i. <i>Identify the problem</i> ii. <i>Define the problem in writing</i> iii. <i>Produce preliminary designs</i> iv. <i>Develop a production sketch</i> v. <i>Produce a prototype.</i> vi. <i>Verify and identify possible suitability issues</i> vii. <i>Produce a final Product</i> viii. <i>Write a report explaining the processes and the symbolisms used</i> <p>h) Closure: <i>Summarise the key points in the lesson and ask learners if they have any questions that need clarification</i></p> <p>i) Evaluation: <i>Evaluate the lesson by organising a Jury Session where learners talk about their designs and that of their peers to improve upon their listening and speaking skills</i></p> <p>j) Remarks: <i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans</i></p> <p>3.2 Tease out LOs and LIs from the sample lesson plan (NTS 2b, 3a). E.g. <i>LO: Demonstrate knowledge and understanding of the design process</i> <i>LI 1 State the Design Process</i> <i>LI 2 Discuss the design process</i> <i>LI 3 Produce a prototype design using a variety of written instructional guides</i> <i>LI 4 Produce a written report on the design explaining the processes and symbolisms used</i></p> <p>3.3 Identify the concepts of literacy in your lesson plans (NTS 2c, 2d, 2f and 3l). E.g.</p> <ul style="list-style-type: none"> a) <i>Discussion and Jury Sessions will develop listening and speaking skills</i> b) <i>Reading content in the various TVET domains will develop reading and comprehension skills, etc.</i> <p>3.4 Identify possible prerequisite knowledge that will facilitate the teaching and learning of literacy to TVET learners and write them on sticky note pads and share with the whole group (NTS 2c, 3c, 3f and 3i).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Learners listen to, read and write about names of equipment used in TVET for instance, stove, refrigerator, shears, tractor, hammer, plane, file, donkey, potters' wheel, loom brush, etc.</i> <i>b) Learners listen to, read and write about the botanical names of plants and their English equivalents for instance, maize= zea mays, mango=magnifera indica, pawpaw=carica papaya, etc.</i> <p>3.5. Discuss the pedagogies you intend to use to facilitate the development of literacy among your learners through the teaching of TVET concepts (NTS 2c, 2d, 3c, 3e, 3f and 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Phonetic approach (using letter sounds to teach reading)</i> <i>b) Reading comprehension approach (using skimming and scanning strategies, etc. to get the meaning of a passage)</i> <i>c) Multi-sensory approach (teaching methods that involve engaging more than one sense at a time), etc.</i> <p>3.6 Use concept cartoons to discuss ways in which you intend to integrate Gender Equality and Social Inclusion (GESI), Information and Communication Technology (ICT), and 21st century skills into your lessons (NTS 2e, 2f, 3c, 3f, 3g and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) GESI: the use of mixed-gender/ability groupings (where possible)</i> <i>b) ICT: Use of PowerPoint presentations</i> <i>c) 21st Century Skills: the use of mixed gender/ability groups and PowerPoint presentations will help develop collaboration, digital literacy and communication skills in learners</i> <p>3.7 In groups, identify possible barriers to the integration of literacy into TVET (NTS 2e, 2f, and 3m).</p> <p><i>E.g.</i></p> <p><i>Some TVET teachers and learners may think that reading is for language teachers and learners only, etc.</i></p> <p>3.8 Suggest possible solutions to the barriers identified in Activity 3.7 above (NTS 2f, 3m).</p> <p><i>E.g.</i></p> <p><i>Literacy is important for all subject areas including TVET Therefore, TVET teachers and learners also need it, etc.</i></p> <p>3.8 Identify possible teaching and learning resources (TLRs) you would need to facilitate the development of literacy in your learners (NTS 2c, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Written texts</i> 	
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	<p>b) <i>Laptops</i> c) <i>Projectors, etc.</i></p> <p>3.9 Discuss possible assessment techniques you will employ in your lessons (NTS 3k, 3l, 3m, 3o, and 3p). <i>E.g.</i></p> <p>a) <i>Assessment for learning: learners answer questions orally</i> b) <i>Assessment as learning: learners reflect on a piece of writing, etc.</i> c) <i>Assessment of learning: learners produce artefacts for grading and write reports on the processes they went through, etc.</i></p> <p>3.10 Model-teach an aspect of your sample lesson plan (NTS 1a, 3a). (EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and brain-write what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share what you have learnt with the larger group (NTS 1e).</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons as it relates to PLC Session 1 and provide feedback at the next PLC session (NTS 1a, 1e and 3l).</p> <p>4.4 Read Session 2 from the PLC Handbook in preparation for the next session (NTS 3b).</p>	15 mins

PLC Session: (2) TVET

Ways of Applying Literacy across the Secondary Education Curriculum

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <ul style="list-style-type: none"> Learning outcomes and learning indicators <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Start the session with an icebreaker.</p> <p>1.2 One critical friend who observed a lesson should share their observations.</p> <p>1.3 Ask one teacher to read the purpose of the session.</p> <p>Purpose: This session seeks to assist teachers to apply literacy in their various subject areas. It is also to identify learners with reading difficulties and support them to overcome these difficulties.</p> <p>Many teachers still think that literacy teaching is an English teacher’s job. Yet it is clear that all teachers, not just teachers of English, should regard themselves as teachers of literacy irrespective of their subject specialism.</p> <p>Literacy is about helping learners to read subject information and it is about helping learners to write in order that they can assimilate this subject information and then demonstrate their learning.</p> <p>Reading difficulty is a learning difficulty that involves significant impairment of reading with fluency and comprehension. Difficulty in reading interferes with academic achievement and activities of daily life. Reading difficulties are common and are associated with poor long-term academic achievement. To diagnose the extent of a learner’s reading difficulties, several diagnostic measures may be employed. When the difficulties are clearly determined, strategies may be applied to tackle the difficulty. This session examines some of the diagnostic strategies and the intervention that may be employed to address them (NTS 3g).</p> <p>To stimulate learners to see literacy in all subjects and avail themselves for the opportunities in all subject areas, teachers must:</p> <ol style="list-style-type: none"> Activate prior knowledge in order to build on what learners already know. Model in order to make language conventions and processes explicit. Scaffold in order to support learners’ first attempts and build confidence. 	15 mins

	<p>d) Explain in order to clarify and exemplify the best ways of working.</p> <p>e) Question in order to probe, draw out and extend learners' thinking.</p> <p>f) Explore in order to encourage critical thinking.</p> <p>g) Investigate in order to encourage enquiry and self-help.</p> <p>h) Discuss and engage in dialogue in order to shape and challenge developing ideas.</p> <p>1.3 Read the Learning Outcomes (LOs) and Learning Indicator (LIs) for the session.</p> <p>LO1: Demonstrate the knowledge and skill in applying literacy across the SHS/TVET Curriculum.</p> <p>LI 1.1 List at least three ways of applying literacy across the SHS/TVET Curriculum.</p> <p>LI 1.2 Discuss ways of applying literacy across the SHS/TVET Curriculum.</p> <p>LI 1.3 Prepare a sample lesson to show the practical activities in applying literacy across the SHS/TVET Curriculum.</p> <p>LI 1.4 Teach an activity in a lesson to show the practical activities in applying literacy across the SHS/TVET Curriculum.</p> <p>LO 2: Demonstrate knowledge and understanding of the various strategies used to support learners who are struggling with reading.</p> <p>LI 2.1 Identify the various strategies used in diagnosing learners' reading difficulties.</p> <p>LI 2.2 Explain how an appropriate intervention strategy can be used to address learners' reading difficulties.</p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Discuss your lesson plans/outlines in your respective TVET domains.</p> <p>Sample Lesson Plan</p> <p>a) Topic: <i>Terminologies in TVET</i></p> <p>b) Sub-Topics <i>Agriculture: Terminologies in Agriculture</i> <i>Home Economics: Terminologies in Home Economics</i> <i>Technical Skills: Terminologies in Technical Skills</i> <i>Visual Art: Terminologies in Visual Art</i></p> <p>c) Objectives: <i>By the end of the lesson, the learner will be able to:</i></p> <ol style="list-style-type: none"> <i>i. Pronounce terminologies in TVET</i> <i>ii. Explain orally and in writing meanings of at least five terminologies in TVET</i> <i>iii. Discuss orally and in writing how these terminologies in c (ii) above are applied in the various TVET domains</i> <p>d) Relevant previous knowledge (RPK): <i>Learners use terminologies in TVET and other subject areas</i></p> <p>e) Teaching and Learning Resources (TLRs):</p>	<p>30 mins</p>

	<p>i. Flash/word cards</p> <p>ii. Manila card containing a chart of terminologies and their meanings</p> <p>iii. WordHippo tool</p> <p>iv. Mobile phones</p> <p>v. Computers</p> <p>vi. Projectors</p> <p>f) Tasks/Activities:</p> <p>i) List the key terminologies in the various TVET domains E.g.</p> <ul style="list-style-type: none"> • Composting • Mulching • Garnishing • Heming • dump membering • shredding, • sauteing, • Casting • Carving • Construction • Assemblage • Pinching <p>ii. Using flash cards, teach learners the correct pronunciation of the terminologies listed in Activity f (i)</p> <p>iii. Ask learners to write the terminologies into their notebooks</p> <p>iv. Put learners in mixed-ability/gender groups (where applicable) and ask them to find the meanings of the terminologies</p> <p>v. Ask learners to use the terms/words in sentences orally and in writing</p> <p>vi. Use the WordHippo tool to help learners to state orally other meanings of the terminologies</p> <p>vii. Paste the manila card containing the terminologies on the board and ask learners to match the terminologies to their respective meanings</p> <p>g) Core Points:</p> <p>i. Agriculture Terminologies: site, weed, vegetation, topography, propagation, etc.</p> <p>ii. Home economics Terminologies: fibre, fabric, dish, menu, ventilation, etc.</p> <p>iii. Technical skills Terminologies: laying, welding, conversion, figure, quadrilateral, etc.</p> <p>iv. Visual Art Terminologies: perception, aesthetic, moulding, scribbling, etc.</p> <p>h) Evaluation:</p> <p>Use a variety of authentic assessments to evaluate the lesson</p> <p>E.g.</p> <p>i) Give learners a list of terminologies and ask them to individually pronounce them</p>	
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	<ul style="list-style-type: none"> ii. <i>Pick and act or/and explain terminologies /words in TVET</i> iii. <i>Build a glossary of terminologies in TVET</i> iv. <i>Perform word search from a TVET terminology/word-puzzle</i> v. <i>Use the mentimetre tool to assess learners' understanding of the TVET terminologies/words in a fun game</i> <p><i>Note:</i> <i>Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p>	
<p>3. Teaching, learning and assessment</p> <ul style="list-style-type: none"> ▪ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ▪ Noting opportunities for making <i>explicit</i> links to literacy across the secondary school curriculum ▪ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills 	<p>3.1 Tease out Learning Outcomes (LOs) and learning Indicators (LIs) from the objectives in the sample lesson plan. <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding of terminologies in TVET</i> <i>LI 1 Identify orally and in writing terminologies in TVET</i> <i>LI 2 Discuss orally and in writing the meanings of the terminologies in TVET</i> <i>LI 3 Discuss orally and in writing how these terminologies are applied</i></p> <p>3.2 Tease out any possible literacy activities in your sample lesson. <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Listing the key terms in TVET</i> b) <i>Reading aloud the key terms/words correctly.</i> c) <i>Orally spelling terminologies/words</i> d) <i>Writing terminologies /words into their notebooks.</i> e) <i>Using terminologies in sentences (orally and in writing), etc.</i> <p>3.3 Discussing orally and also in writing the pedagogies you intend to use to facilitate the development and integration of literacy into TVET among their learners (NTS 2c, 2d, 3c, 3e, 3f and 3i). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Phonetic approach (using letter sounds to teach reading. See Appendix 2.1 and Activity 3.3a)</i> b) <i>Reading comprehension approach (using skimming and scanning strategies, etc. to get the meaning of a passage)</i> c) <i>Multi-sensory approach (teaching methods that involve engaging more than one sense at a time)</i> d) <i>Language experience approach (teaching reading and writing through the use of the personal experiences and oral language of learners)</i> <p>3.3a In pairs/groups, show how any appropriate classroom-based activity can be used to support the use of synthetic</p>	30 mins

	<p>phonics approaches in teaching reading. (NTS 2a, 2e, 2f, 3e, 3f and 3m)</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Matching letters to sounds</i> b) <i>Formation of words using learned sounds</i> c) <i>Clapping sounds/syllables in words and sentences</i> <p>3.4 Brainwrite and discuss orally ways in which you can to integrate GESI, ICT, and 21st century skills into their lessons (NTS 2e, 2f, 3f, 3g and 3j).</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>GESI:</i> <ol style="list-style-type: none"> i. <i>Use topsy-turvy strategy to get learners to perform activities that are usually stereotyped, for instance, males cooking, females doing carpentry, etc.</i> ii. <i>mixed-gender/ability groupings (where possible).</i> b) <i>ICT:</i> <ol style="list-style-type: none"> i. <i>Asking learners to surf Open Educational Resources (OERs) and other Internet sources</i> ii. <i>Use of PowerPoint presentations</i> c) <i>21st Century Skills:</i> <ol style="list-style-type: none"> i. <i>The use of mixed gender/ability groups to develop collaborative skills</i> ii. <i>Surfing OERs and other Internet sources to develop life-long learning skills and digital literacy skills</i> <p>3.5 Identify and discuss possible barriers to the teaching and learning of the concept of literacy in TVET (NTS 2e, 2f and 3m).</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Some TVET teachers and learners may find some terminologies difficult to pronounce</i> b) <i>Some learners' first language (L1) may negatively interfere in the proper pronunciation of the terms.</i> c) <i>Learners with special language learning needs may also have difficulty in pronouncing some of the terminologies, etc.</i> <p>3.6 Identify possible ways in which the identified barriers could be addressed (NTS 2e, 2f and 3m).</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> a) <i>Use appropriate reading technique (syllabic, phonic, whole word)</i> b) <i>Use language Lab software such as Oréll to eliminate the challenges posed by L1 interference</i> c) <i>Use differentiated teaching for learners with learning difficulties, etc.</i> 	
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	<p>3.7 Discuss possible assessment techniques that you will employ in your lessons (NTS 3k,3l, 3m,3o and 3p). E.g.</p> <ol style="list-style-type: none"> a) <i>Assessment for learning: Learners answer questions orally. Learners listen to and repeat terminologies from Oréll, etc.</i> b) <i>Assessment as learning: Learners answer questions in writing by copying terminologies into their notebooks.</i> <p>3.8 Identify possible teaching/learning resources (TLRs) you would need to facilitate the development of literacy in your learners (NTS 2c, 3j). E.g.</p> <ol style="list-style-type: none"> a) <i>Mobile Language Mobile Language Laboratory</i> b) <i>Language Laboratory software</i> c) <i>Computer/laptop, etc.</i> <p>3.9 Model one teaching activity from your sample lesson (NTS 1a,3a) E.g. <i>How to use neurological impress technique to teach reading to learners with poor reading skill.</i></p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 Reflect and share in your various TVET domains what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share what you have learnt with the larger group (NTS 1e).</p> <p>4.3 Identify a critical friend to observe your lesson and provide feedback at the next PLC session (NTS 1a, 1e and 3l)</p> <p>4.4 Read Session 3 from the PLC Handbook in preparation for the next session (NTS 3b).</p>	15 mins

Appendix 2.1

Reading is the complex cognitive process of decoding symbols to derive meaning. It is a form of language processing. Reading is a means for language acquisition and communication. There are several approaches to teaching reading. Some of these approaches are phonics approach, linguistic approach, multisensory approach, neurological impress technique, language experience approach and reading comprehension support. The phonics approach has become a commonly used practice and approach to teaching learners to read. There are two main approaches to the teaching of phonics: synthetic and analytic. The main difference between these two is their methodologies. Whereas the analytic method teaches reading with whole words and their analysis, synthetic phonics teaches the sounds and how they are processed into words (NTS 2d, 3g).

Synthetic phonics

Synthetic phonics is a method of teaching learners to read and write. The learners are taught how the English alphabetic code works before they are expected to do the harder tasks of reading books and writing independently. Synthetic Phonics does not start with whole printed words. It starts with single letters and the sounds that the letters represent. As soon as the learners have been taught a few

letters and sounds, including one or two vowels, they are taught to look at the words, produce a sound for each letter (no digraphs should be included at this point) and then blend the sounds all through the word into normal pronunciation. This ‘synthesising’ (blending sounds) is the essential skill for working out unknown words. Increasing numbers of words can and should be blended as each letter sound is introduced. Once words have been blended a few times, they can be read without blending.

At the same time, the learners are taught how to write letters and how to identify the individual sounds in words. For example, if learners have been taught how to form single letters and can hear that the word ‘dig’ has the sounds /d-i-g/ in it, then they can write this word. In addition to teaching the sounds made by single letters, synthetic-phonics programmes also teach the sounds made by digraphs, such as /ai/, /ee/, /oa/, /or/ and /ou/. Although learning the sounds made by digraphs is slightly more difficult than learning the sounds made by single letters, the learners just need to learn to say one sound for the two letters. Care is taken to ensure that the new letter knowledge is put into practice straight away, with plenty of blending and segmenting of regular words that use the new digraphs.

Characteristics of a Synthetic Phonics Programme:

- a) Letter-sound correspondences are explicitly taught before learners begin to read text containing these correspondences. Letter-sound correspondences involve knowledge of the sounds represented by the letters of the alphabet AND the letters used to represent the sounds. Knowledge of **letter**-sound correspondences is key to reading and writing because the learner must recognize the letters in the word and associate each letter with its sound before they can read the word. Also, the learner must break the word into its component sounds and know the letters that represent these sounds before they can write the word.

E.g.

Letter (Grapheme)	Sound (Phoneme)
a	/a/ (æ) at, bad, can, bag
b	/b/ (b) boy, big, cab, crab
c	/k/ (k) cat, cut, cob, cost
d	/d/ (d) Did, drink dress, and
e	/e/ (e) bed, desk, egg, pen
f	/f/ (f) fan, fit, fox, if
g	/g/ (g) get, go, gas, begin

See source for more examples.

Source: [Letter-Sound-Correspondences-in-English.pdf](#)

- b) Phonics blending is a way for students to decode words. With phonics blending, learners fluently join together the individual sound-spellings as in called letter-sound correspondence in a word. With a word like jam, students start by sounding out each individual sound-spelling (/j/, /æ/, /m/). Each letter within the blend is pronounced individually, but quickly, so they ‘blend’ together. Blending is taught as the first and main strategy for reading unknown words.
- c) Reading and spelling are taught side by side so that learners understand that the alphabet code is reversible (decoding and encoding). Learners are typically taught reading and spelling for around 30 minutes then given follow-up activities for application and reinforcement of skills (including handwriting) later in the day, with provision made for catch-up and extension.
- d) Phonics is taught at the level of the individual phoneme from the outset, NOT consonant blends or onset and rhyme. Students are moved through ‘levels’ of the alphabet code, from the simple to the complex, in a systematic way:
- A phoneme can be represented by one grapheme, e.g., ‘c’ for /k/.
 - A phoneme can be represented by two to four graphemes, e.g., ‘ck’ for /k/.

- A phoneme can be represented in multiple ways, e.g., ay, ai, a, a-e, aigh, eigh.

- e) Letter names are only taught when learners need to learn two letter and three letter graphemes, as they need the vocabulary to refer to the letters making the grapheme. e.g. ‘c’ and ‘h’ together can represent /ch/.
- f) Phonics blends or clusters are groups of [consonants](#) whose sounds blend together. As learners become more confident with consonants, they start to blend these letters together. Consonant blends do not have any vowels between. They are usually composed of two or three consonants and can begin or end a syllable or word.
- g) Consonant blends that appear at the beginning of a word, are referred to as **Initial Consonant Blends or beginning blends**, and those that appear at the end of a word are referred to as **Final Consonant Blends or end blends**.

Initial consonant word blends

bl-	br-	cl-	cr-	dr-	fl-	fr-	gl-	gr-	pl-	pr-
sc-	sk-	sl-	sm-	sn-	sp-	sq-	st-	str-	sw-	tr-

Final consonant word blends

-ct	-ft	-lb	-lt	-mp	-nd	-ng
-nk	-nt	-pt	-sk	-sp	-st	

- h) Irregular words and more tricky words are introduced slowly and systematically. The teacher starts with what is known and draws attention to the ‘tricky bit’.
- i) Learners are provided with plenty of phonetically decodable reading material to practise sounding out and blending – first single words, followed by short sentences, then decodable stories.
- j) Use of pictures and context are made for reading and spelling of homophones and to help with the meaning of words once they have been successfully decoded.
- k) Students read and spell nonsense words as well as real words to ensure that they are using phonics skills rather than visual memory. They are taught to think about whether what they have decoded or encoded makes sense or not.
- l) In spelling, the emphasis is on hearing the sounds in sequence through the word rather than ‘look, cover, write, check’. However, this visual strategy plays a larger part with unusual spellings and spelling variations.
- m) Letter sequences forming ‘chunks’ such as ‘tion’ are taught in the latter part of spelling instruction.
- n) Dictation is a regularly used teaching technique from letter level to word spelling, and eventually sentences.
- o) Fluency (i.e., speed, accuracy, expression, and comprehension) will come with time, but the learner’s understanding of the relationship between letters and sounds is the all important first step.
- p) Teachers read a range of literature with the learners and ensure that all learners experience activities associated with literacy such as role play, drama and poetry, but the learners are not expected to ‘read’ text, which is beyond them. The focus here is on comprehension and enjoyment.

- q) Multisensory activities are used to increase enjoyment and intensify learning.
- r) Multisensory mnemonics are taught as a means to an end, which are correct identification of sounds, letters and shapes.

Reference

<http://www.getreadingright.com.au/wp-content/uploads/components-of-a-systematic-synthetic-phonics-program.pdf>

PLC TVET Session 3

Supporting the Teaching and Learning of Literacy in TVET

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Give an icebreaker related to the topic (NTS 1a).</p> <p>1.2 A critical friend who observed a lesson on PLC Session 8 to give feedback to the whole group for discussion (NTS1a, 2e).</p> <p>1.3 Read the purpose of PLC Session 9 and link it to the LOs and LIs (NTS 2f, 3g).</p> <p>Purpose: The session seeks to assist TVET teachers to strengthen their ability to identify learners with reading difficulties and support them to overcome these difficulties in their lessons. This approach will help such learners to improve their reading and consequently enhance their learning of the various subjects in the TVET curriculum. Reading difficulty is a learning deficiency that involves significant impairment of reading with fluency and comprehension. Difficulty in reading interferes with academic achievement and activities of daily life among TVET learners. Reading difficulties are common and are associated with poor long-term academic achievement. Therefore, there is the need for TVET teachers to effectively integrate literacy in their teaching and learning activities to help learners overcome listening, speaking, reading and writing challenges. This session also helps to integrate literacy in TVET lessons. (NTS 2f, 3g).</p> <p>LO 1: Demonstrate knowledge and understanding of how literacy supports the teaching and learning of TVET. LI 1.1 Identify ways in which literacy can support the teaching and learning of TVET. LI1.2 Plan activities to show how literacy supports the teaching and learning of TVET.</p> <p>LO 2: Demonstrate knowledge and understanding of how TVET supports the teaching and learning of literacy. LI 2.1 Identify and discuss ways in which TVET can support the teaching and learning of literacy. LI.2.2 Plan activities that will use TVET to support the teaching and learning of literacy.</p> <p>1.4 Identify ways in which literacy supports the teaching and learning of TVET (NTS 2c). <i>E.g.</i></p>	15 mins

	<p>a) <i>Listing key terms in TVET</i> b) <i>Reading new words and terms</i> c) <i>Spelling new words and terms, etc.</i></p> <p>1.5 In your various TVET domains/subject groups, discuss extended learning activities for learners to support the teaching and learning of literacy in their TVET lessons (NTS 1a, 1c, 1e, 2c and 3h). <i>E.g.</i></p> <p>a) <i>Time: Give learners reading tasks to help them spend more time on reading and writing both in school and at home</i> b) <i>Text: Build a collection of books for learners to read both in school and at home, etc.</i></p> <p>1.6 Suggest activities that can support the teaching and learning of literacy in (your) TVET domains (NTS 1a, 1c, 1e, 2c and 3h). <i>E.g.</i></p> <p>a) <i>Listing the key terms in TVET</i> b) <i>Reading aloud the key terms/words correctly</i> c) <i>Orally spelling terminologies/words</i> d) <i>Writing terminologies /words into their notebooks</i> e) <i>Using terminologies or words in sentences (orally and in writing, etc.</i></p> <p>1.7 Suggest activities in TVET that you will use to support the teaching and learning of literacy (NTS 1a, 3a and 3e). <i>E.g.</i></p> <p>a) <i>Using extended learning to help learners see at first-hand how the key words and terminologies are applied in real life situations</i> b) <i>Asking learners to write reports on their experiences at the workshop, etc.</i></p>	
<p>Give regard for GESI, ICT, 21st century skills and challenges of implementing literacy across the curriculum.</p>	<p>1.8 In mixed-gender/ability groupings (where possible) discuss how you will integrate Gender Equality and Social Inclusion (GESI), Information and Communication Technology (ICT) and 21st century skills to support literacy in your TVET lessons (NTS 2e, 2f, 3c, 3f, 3g & 3j). <i>E.g.</i> GESI:</p> <p>a) <i>Group learners in mixed-ability/gender groups to read and discuss concepts in written text of the various TVET domains</i> b) <i>Giving positive feedback to especially female learners and learners with special education needs (SEN), etc.</i></p> <p>ICT:</p> <p>a) <i>Use YouTube/prepared videos to help learners understand some TVET concepts</i> b) <i>Teach using PowerPoint presentations, etc.</i></p>	

	<p><i>21st century skills:</i> <i>Use group discussions and project work to assist learners develop literacy skills through communication, collaboration, critical thinking, creativity and personal development, etc.</i></p>	
<p>2. Planning for teaching and learning , learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Discuss samples of your lesson plan (in your various TVET domains) to identify activities in the lessons that support literacy development among learners (NTS 1a, 1e and 3a). <i>E.g.</i> Sample Lesson Plan</p> <p>a) Topic: <i>Finishes and Finishing in Agriculture, Home Economics, Technical Skills and Visual Art</i></p> <p>b) Sub-topics: <i>Agriculture: Finishing in Agricultural Production</i> <i>Home Economics:</i> <i>Finishing in clothing production</i> <i>Technical Skills:</i> <i>Finishing and finishes in wood works</i> <i>Visual Art: Finishing Art works</i></p> <p>c) Lesson Objectives: <i>By the end of the lesson, the learner will be able to:</i></p> <ol style="list-style-type: none"> <i>i. Pronounce at least five words appropriate for the lesson in each TVET domain</i> <i>ii. Explain orally and in writing the terms “finishing” and “finishes” in each TVET domain</i> <i>iii. Discuss orally and in writing the purposes of finishing and finishes in each TVET domain</i> <i>iv. Discuss the types of finishes in each TVET domain</i> <i>v. Discuss the types of finishing processes in each TVET domain</i> <i>vi. Exhibit a given finished product for a jury session</i> <p>d) Teaching and Learning Resources (TLRs): <i>E.g.</i></p> <ol style="list-style-type: none"> <i>i. YouTube videos on finishes and finishing processes</i> <i>ii. Sample finished items (real objects) such as trimmed hedges, pruned trees, prepared farm lands, artefacts, garments, metal wares, wood wares, glazed items, hemmed garments, garnished foods, etc.</i> <i>iii. Pictures of finished items such as trimmed hedges, pruned trees, prepared farm lands, artefacts, garments, metal wares, wood wares, glazed items, hemmed garments, garnished foods, etc.</i> <p>e) Relevant Previous Knowledge (RPK): <i>Learners use articles with various forms of finishing and finishes</i></p> <p>f) Introduction:</p>	<p>30 mins</p>

	<p><i>Introduce the lesson by asking learners to mention articles with various forms of finishing and finishes which they use at home and school</i></p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> <i>i. Trimmed hedges</i> <i>ii. Pruned trees</i> <i>iii. Prepared farmlands, etc.</i> <p>g) Tasks/Activities:</p> <ol style="list-style-type: none"> <i>i. Using the drilling technique, teach the correct pronunciation of the key vocabulary in each TVET domain</i> <p><i>E.g.</i></p> <ol style="list-style-type: none"> <i>a. Agriculture:</i> <ul style="list-style-type: none"> <i>• Bagging</i> <i>• Fumigation</i> <i>b. Home Economics:</i> <ul style="list-style-type: none"> <i>• Garnishing</i> <i>• Refrigerating</i> <i>c. Technical Skills:</i> <ul style="list-style-type: none"> <i>• Vanishing</i> <i>• Spraying</i> <i>d. Visual Art:</i> <ul style="list-style-type: none"> <i>• Bronzing</i> <i>• Painting</i> <ol style="list-style-type: none"> <i>ii. Put learners in mixed-gender/ability groups (where possible) and ask them to discuss and write down the meaning of “finishing and finishes” as it applies in each TVET domain. Then let them orally share their findings with the larger group</i> <i>iii. Using the Talking Point technique, ask learners to orally discuss the purposes of finishing and finishes in each TVET domain. Write the learners’ answers on the board for them to copy into their notebooks/jotters</i> <i>iv. Let learners discuss orally with their elbow partners the types of finishes and finishing in each TVET domain. Let each elbow partner share their answers with the larger group</i> <i>v. Put learners in small mixed-gender/ability groups (where applicable) and ask them to discuss the types of finishing processes in each TVET domain. Give them flipcharts or manila cards to write their points on. After presenting their work orally, let the groups post their work for gallery walk</i> <i>vi. Give learners some products to finish in their groups.</i> <i>vii. Organize a jury session among the learners to assess the work</i> <p>h) Core points</p>	
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	<p>i. <i>Finishing is the process which alters the final look, feel or quality of a product in order to achieve the desired appearance or make it easier to bond with or provide durability</i></p> <p>ii. <i>Finishes are the materials that get used up or consumed in the finishing process. They eventually become part of the finished article. The finished article may then be described as having a glaze, enamel, mortar, lacquer, tile, etc. finished</i></p> <p>iii. <i>The purposes of finishing and finishes are to improve quality, increase appeal, provide durability, make bonding easier, etc.</i></p> <p>iv. <i>Types of finishes include chemical or liquid finishing, non-chemical finishes and finishing, anti-bacterial finishing, chemical resistant finishing, fire resistant finishing, solid finishes and finishing (wood, plastic and metal), surface finishes and finishing, interior finishing and finishes</i></p> <p>v. <i>Examples of products learners could be given to finish include:</i></p> <ul style="list-style-type: none"> • <i>Wood ware for sanding</i> • <i>Clay ware (terracotta) for burnishing, vanishing, painting, firing or glazing</i> • <i>Paper for fixing and framing,</i> • <i>Food for garnishing or glazing</i> • <i>Garments for fringing and hemming</i> • <i>Flowers, lawns or trees for pruning and shaping</i> • <i>Grains for bagging or packaging, etc.</i> <p>i) Core competencies:</p> <p>i. <i>Critical thinking and problem-solving skills</i></p> <p>ii. <i>Communication skills</i></p> <p>iii. <i>Collaboration skills</i></p> <p>iv. <i>Lifelong learning skills</i></p> <p>k) Conclusion</p> <p><i>Conclude the lesson by summarising the meaning of the concepts “finishing” and “finishes”, purposes of finishing and finishes, types of finishes and types of finishing processes in all TVET domains</i></p> <p>l) Evaluation:</p> <p>i. <i>Pronounce the following words: garnish, pruning, glazing, fringing, hemming</i></p> <p>ii. <i>In writing, explain the meaning of “finishing” and “finishes” in the various TVET domains</i></p> <p>iii. <i>In writing, discuss the purposes of finishing and finishes in the various TVET domains</i></p> <p>iv. <i>In writing, discuss the types of finishes and finishing processes in each TVET domain</i></p> <p>v. <i>Exhibit your finished products for a jury session</i></p>	
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	<p>2.2 Ask teachers to tease out the LOs and LIs from their sample lesson plans (NTS 2b, 3a). <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding of the application of finishes and finishing</i> <i>LI 1.1 Pronounce vocabulary appropriate for the lesson in each TVET/subject domain</i> <i>LI 1.2 Explain orally and in writing the terms “finishing and finishes” in each TVET domain</i> <i>LI 1.3 Discuss orally and in writing the purposes of finishing and finishes in each TVET domain</i> <i>LI 1.4 Discuss the types of finishes in each TVET domain</i> <i>LI 1.5 Discuss the types of finishing processes in each TVET domain</i> <i>LI 1.6 Finish a given product in each TVET domain</i></p>	
<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 Discuss how the assessment activities in your sample lesson plan are linked to the use of formative assessment tools and practices to support literacy development among TVET learners (NTS 2c, 2d, 3c, 3e, 3f & 3i). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Assessment for learning</i> <ul style="list-style-type: none"> i. <i>Pronouncing keywords activities</i> ii. <i>Writing exercises and reports, etc.</i> b) <i>Assessment as learning</i> <ul style="list-style-type: none"> i. <i>Oral and written reflection on feedback</i> ii. <i>Peer-review activities, etc.</i> <p>3.2 In groups, suggest other authentic assessment methods that you could use in your lessons plans to develop literacy skills among your learners (NTS 2c, 2d, 3c, 3e, 3f and 3i). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Reflecting and writing report in their reflective journals using appropriate sentences and spelling of words</i> b) <i>Extended reading and written discussion concepts in text in library or e-learning resources, etc.</i> <p>3.3 Discuss teaching and learning resources that can be used to support the teaching and learning of literacy in TVET (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos that articulate the right pronunciation of TVET terminologies</i> b) <i>Dictionaries (hard/soft copies)</i> c) <i>Word cards on terminologies or new vocabulary, etc.</i> <p>3.4 Identify potential challenges that may be associated with the teaching and learning of literacy in (your) TVET lesson plans (if any) (NTS 2c, 3c, 3f and 3i). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Inadequate teaching and learning resources</i> 	<p>30 mins</p>

	<p><i>b) Inability of learners to express ideas in English Language, etc.</i></p> <p>3.5 Identify possible solutions that could be used to address the challenges identified in Activity 3.4. <i>E.g.</i></p> <ul style="list-style-type: none"> • <i>Make creative use of available resources within the environment develop suitable teaching and learning resources</i> • <i>Plan and teach lesson using variety of teaching and learning methods to support learners with varied socio-cultural background (explaining or giving examples in a local language), etc.</i> <p>3.6 Model a teaching and learning activity in your sample lesson taking due cognizance of teaching and learning of literacy in TVET (extended activity NTS 1a, 3a).</p> <p>(EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect on what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share your reflection with the larger group (NTS 1a, 1b and 1f).</p> <p>4.3 Do you have any questions for clarification? (NTS 1a)</p> <p>4.4 Remember to invite a critical friend to observe your lesson in relation to PLC Session 9 and provide feedback for discussion at the next PLC session (NTS 1a, 1e and 3I).</p> <p>4.5 Read PLC Session 10 in preparation for the next session (NTS 1a, 3b).</p>	<p>15 mins</p>

PLC TVET Session 4

Supporting Literacy Across the TVET Curriculum through Lesson Observation

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>Purpose of the session</p> <p>Learning outcomes and learning indicators</p>	<p>1.1 Give an icebreaker (NTS 1a, 2c).</p> <p>1.2 Write on a sticky pad and share with the whole group successes and one challenges of implementing PLC Session 9 in lesson delivery (NTS 1a).</p> <p>1.3 Read the purpose of the session and link it to the LOs and LIs (NTS 2f, 3g).</p> <p>Purpose: The session seeks to assist TVET teachers to strengthen their ability to support the teaching of literacy across the TVET Curriculum through lesson observation. This approach will promote reflective practice among teachers to help improve the integration of literacy in the various TVET domains.</p> <p>LO 1: Demonstrate support for the teaching of literacy in the TVET Curriculum through lesson observation.</p> <p>LI 1.1 Study the observation guidelines to be used to support literacy across the SHS/TVET curriculum (Refer to Appendix A).</p> <p>LI 1.2 Discuss the observation guidelines meant to be used to support literacy across the TVET/SHS Curriculum.</p> <p>LI 1.3 Observe a lesson that incorporates literacy across the SHS/TVET Curriculum using the guidelines.</p> <p>LI.4 Provide feedback on the lesson observed using the observation guidelines.</p> <p>1.4 Study the lesson observation guidelines meant to be used to support literacy across the SHS/ TVET Curriculum in Appendix A (NTS 2c).</p> <p>1.5 Discuss the observation guidelines meant to be used to support literacy across the SHS/TVET Curriculum (NTS 1a, 1c, 1e, 2c and 3h).</p>	15 mins
Give regard for GESI, ICT, 21st century skills and	1.6 In mixed-gender/ability groupings (where possible) to discuss how they would integrate ICT into their	

<p>challenges of implementing literacy across the curriculum.</p>	<p>lesson observation to support literacy in their TVET lessons (NTS 2e, 2f, 3c, 3f, 3g and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>GESI:</i> <ul style="list-style-type: none"> i. <i>Using gender-friendly language such as “their” in giving feedback after lesson observations</i> ii. <i>Accommodating all teachers regardless of their gender or socio-cultural backgrounds, etc.</i> b) <i>ICT:</i> <ul style="list-style-type: none"> i. <i>Using video camera/phones to record the lessons and feedback sessions</i> ii. <i>Playing back the video to the teacher for reflection, etc.</i> c) <i>21st Century Skills:</i> <ul style="list-style-type: none"> i. <i>Using communication and collaboration in giving and receiving lesson feedback</i> ii. <i>Using video camera/phones to record lessons and feedback develop digital literacy skills, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to literacy across the curriculum</p>	<p>2.1 Model teach a lesson that supports literacy across the SHS/TVET Curriculum</p> <p>2.2 Observe the teaching activities using the observation guidelines and ticking, ‘Yes’ ‘No, ‘In part’ where applicable (NTS 1a, 1c, 1e, 2c and 3h).</p> <p>2.3 Share your observations or feedback on the model lesson for discussion (NTS 1a, 1c, 1e, 2c and 3h).</p>	<p>30 mins</p>

<p>3. Teaching, learning, resources and assessment</p>	<p>3.1 In mixed-gender/ability groups (where applicable), discuss how literacy can facilitate the provision of feedback on lessons observed. <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using appropriate register will help describe issues clearer</i> b) <i>The use of words of affirmation would motivate the observed, etc.</i> <p>3.2 Discuss teaching and learning resources that can be used to support observation of lessons that promote the teaching and learning of literacy across the TVET/SHS Curriculum (NTS 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Cameras for recording videos of lessons</i> b) <i>Cameras for taking still photographs of lessons, etc.</i> <p>3.3 Identify the challenges that you may face in using the observation guidelines to support the teaching and learning of literacy across the TVET/SHS Curriculum (NTS 2c, 3c, 3f and 3i). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Unwillingness of some teachers to accept feedback from the observer</i> b) <i>Some observers may lack the appropriate language to provide constructive feedback to the teachers, etc.</i> <p>3.4 Suggest solutions to the challenges identified in Activity 3.4 above (NTS 1a, 2c and 3a). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Give teachers orientation on the importance of using feedback from lesson observation to promote the integration of literacy across the TVET/SHS Curriculum</i> b) <i>Provide periodic refresher training programmes for observers to equip them with the appropriate language to use in giving constructive feedback to the teachers, etc.</i> 	<p>30 mins</p>
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> • Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 In pairs, discuss and share what you have learnt about using lesson observation to support literacy across the TVET/SHS Curriculum (NTS 1a, 1b and 1f).</p> <p>4.2 Share what have discussed with the larger group (NTS 1e).</p> <p>4.3 Do you have any questions for clarification?</p> <p>4.4 Identify a critical friend to use the observation guideline in Appendix A to observe your lessons and</p>	<p>15 mins</p>

<ul style="list-style-type: none"> • Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>provide feedback for reflective practice (NTS 1a, 1e and 3l).</p> <p>4.5 Conduct peer lesson observations using the observation guidelines in Appendix A to support literacy across the TVET/SHS Curriculum (NTS1a, 3b).</p>	
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APPENDIX 1: LESSON OBSERVATION GUIDELINES

Teacher Lesson Observation Sheet for Literacy across the Curriculum				
Region:				
District:				
Circuit:				
School:				
Name of Teacher:				
Class:				
Time:				
Question	Y*	N**	IP***	Comment
1				Is/Are the purpose(s) of the TVET lesson clearly stated in the lesson plan and focused on learners developing literacy skills (i.e., listening, speaking, reading and writing) and achieving the lesson learning outcomes?
2				Are learners engaged on TVET tasks that provide opportunities for them to use their literacy skills to complete the tasks?
3				Is teaching differentiated to cater for the varied literacy needs of all learners across the ability range?
4				Does the teacher use real life TVET examples which are familiar to learners and enable learners to explain concepts orally and in writing in their own words?
5				Does the lesson include appropriate interactive and creative approaches e.g., group work, role play, practical activities, storytelling to support learners in developing both TVET and literacy skills?
6				Does the teacher demonstrate knowledge and understanding of how literacy can support the teaching of TVET subjects?
7				Is Gender Equality and Social Inclusion responsive language used in the lesson to achieve the learning outcomes?
8				Are cross-cutting issues integrated in the lesson? e.g., problem-solving, critical thinking, communication, use of ICT as a tool for learning?
9				Are teaching/learning materials and other resources being used to support learning of literacy development?

10	Does the teacher maintain a non-threatening learning environment throughout the lesson by using language accessible to the learners?				
11	Does the teacher encourage learners to ask questions during the lesson?				
12	Does assessment include assessment of, for and as learning and involve learners providing both oral and written answers to tasks?				
13	Does the teacher provide oral and/or written constructive feedback on learner responses to teacher questions? (e.g., correcting inaccurate use of language)				
14	Do learners make use of both oral and written feedback from teacher and peers?				

* Yes ** No ***In part

