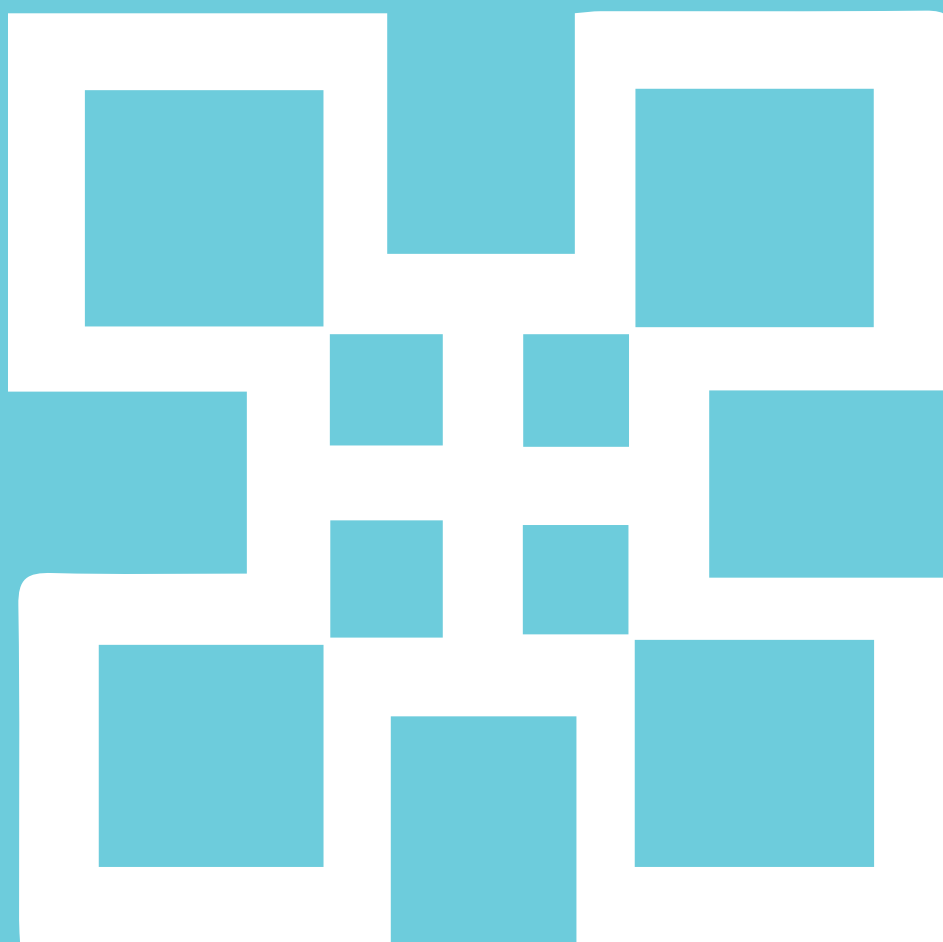


Professional Learning Community Handbook 1

Working to the National Teachers' Standards

HANDBOOK FOR COORDINATORS



Wisdom, Knowledge
and Prudence



Ghana Education
Service (GES)





GOVERNMENT OF GHANA



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Professional Learning Community Handbook 1 Working to the National Teachers' Standards

Coordinator Version

FOREWORD

Ghana Education Service has collaborated with the National Teaching Council, tutors of Colleges of Education, the University for Development Studies, Accra and Takoradi Technical Universities, and teachers from 12 Senior High Schools, Senior High Technical Schools, and Technical Institutes to develop this maiden Professional Learning Community Handbook. The Professional Learning Community (PLC) Handbook is intended to assist Heads of Secondary Schools and teachers 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 first PLC Handbook focuses on strengthening understanding, awareness, and adherence to the National Teachers' Standards (NTS). The NTS provide the foundations upon which Ghana's educational reforms are being built as they specify the three things needed to be an effective teacher:

1. Professional Values and Attitudes - the dedication to learn and improve and become the best teacher you can be;
2. Professional Knowledge- of the subjects and content of the curriculum being taught, and;
3. Professional Practice- the understanding of how to encourage participation, critical thinking and achieve intended learning outcomes.

The PLC Handbook is designed to improve quality and relevance of teaching and learning through experiential sharing and strategies which also incorporate Gender, Equality and Social Inclusion (GESI), Information Communication Technology (ICT) and 21st Century Skills.

The Handbook is structured in 11 units which are applicable for all SHSs and 8 units of TVET to cater for the specific needs of Technical Institutes.

It is our hope and expectation that this PLC Handbook represents an important step in 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
Ghana Education Service

PROFESSIONAL LEARNING COMMUNITY HANDBOOK 1
WORKING TO THE NATIONAL TEACHERS' STANDARDS – COORDINATOR VERSION

1. *Background to the PLC Sessions in this Handbook.*

There are eleven weekly PLC Sessions designed to prepare teachers to teach subjects in the secondary school curriculum to the National Teachers' Standards. The Sessions are not subject specific although teachers who teach Technical and Vocation Education and Training (TVET) subjects have access to a subject specific version of the eight of the Sessions (-i.e., Sessions 4-11).

The PLC Sessions are designed to help operationalize the reform of secondary education at both teacher and student levels and 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.

2. *Features of the PLC Sessions.*

- The main resources for the weekly teacher Sessions are the teacher PLC Handbook and the PLC Coordinator Handbook.
- Both versions are written to provide information to guide the eleven weekly PLC Sessions that are linked directly to the National Teachers' Standards.
- The PLC Coordinator Handbook have prompts for leading the PLC Session.
- The teacher PLC handbook contains activities for teachers and guidance for what they will do during the Session.
- The weekly PD Sessions are of an hour and a half duration.

PLC Session 1: Gender Equality and Social Inclusion			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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 session	<p>1.1 Ask a teacher to start the PLC session with an icebreaker.</p> <p>1.2 Ask teachers to read the introduction to Gender Equality and Social Inclusion (GESI) and the learning outcome (LO) as well as learning indicators (LIs) below. Invite opinions from both male and female teachers including those with special needs, where applicable (NTS 1a,1e, 2b and 3f).</p> <p>Introduction to GESI: a) Purpose of GESI in all subject areas Communities all over the world consist of diverse individuals and social groupings that have different needs, strengths, opportunities, and concerns as a result of differences in culture, gender, abilities, economic and social status. As a teacher, it is important to understand the uniqueness of the diverse groups in the classroom and ensure that every individual is supported to access quality education. GESI in schools is being championed towards promoting equal opportunity for females and males as well as all other disadvantaged groups in the classroom. Teachers need to have a clear understanding of GESI issues to be able to integrate these in the teaching and learning process and other aspects of school life and to encourage learners to do same during learning.</p>	<p>1.1 Start the PLC session with an icebreaker.</p> <p>1.2 Read the introduction to Gender Equality and Social Inclusion (GESI) and the learning outcome (LO) as well as learning indicators (LIs) below and provide your opinions on same (NTS 1a,1e, 2b and 3f).</p> <p>Introduction to GESI: a) Purpose of GESI in all subject areas Communities all over the world consist of diverse individuals and social groupings that have different needs, strengths, opportunities, and concerns as a result of differences in culture, gender, abilities, economic and social status. As a teacher, it is important to understand the uniqueness of the diverse groups in the classroom and ensure that every individual is supported to access quality education. GESI in schools is being championed towards promoting equal opportunity for females and males as well as all other disadvantaged groups in the classroom. Teachers need to have a clear understanding of GESI issues to be able to integrate these in the teaching and learning process and other aspects of School life and to encourage learners to do same during learning.</p>	25 mins

	<p>b) Overview of GESI and related concept.</p> <p>This session seeks to expose teachers in all the subject areas (in all second cycle institutions) to the concept to GESI and related issues such as Gender, Equality, Equity, etc., to enable them appreciate issues of stereotyping and work towards challenging traditional gender roles as well as dealing with their own unconscious biases so they can attend to the diverse needs of all learners in the classroom and in the schools generally.</p> <p>Note: The LOs in the Handbook describe what teachers will be able to do by the end of the session</p> <p>Note <i>LO (Learning Outcome): This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson.</i> <i>LI (Learning Indicator): This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</i></p> <p>LO: Demonstrate understanding of the relevance of GESI and related issues in the National Teachers' Standards (NTS).</p> <p>LI 1.1 Discuss the concept of GESI and related issues. LI 1.2 Plan teaching and learning activities that integrate the concept of GESI.</p> <p>LI 1.3 Plan activities that help learners to understand GESI responsiveness and apply them during learning.</p>	<p>b) Overview of GESI and related concept.</p> <p>This session seeks to expose teachers in all the subject areas (in all second cycle institutions) to the concept to GESI and related issues such as Gender, Equality, Equity, etc., to enable them appreciate issues of stereotyping and work towards challenging traditional gender roles as well as dealing with their own unconscious biases so they can attend to the diverse needs of all learners in the classroom and in the schools generally.</p> <p>Note: The LOs in the Handbook describe what teachers will be able to do by the end of the session.</p> <p>Note <i>LO (Learning Outcome): This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson.</i> <i>LI (Learning Indicator): This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</i></p> <p>LO: Demonstrate understanding of the relevance of GESI and related issues in the National Teachers' Standards (NTS).</p> <p>LI 1.1 Discuss the concept of GESI and related issues. LI 1.2 Plan teaching and learning activities that integrate the concept of GESI.</p> <p>LI 1.3 Plan activities that help learners to understand GESI responsiveness and apply them during learning.</p>	
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	<p>1.3 Ask teachers to explain what GESI means (NTS 3i).</p> <p>Gender, Equality and Social Inclusion (GESI) is a concept that addresses unequal power relations experienced by people on the grounds of gender, wealth, ability, location, ethnicity, language and agency or a combination of these dimensions. (T-TEL Gender Handbook for Teaching Practice Mentors, 2015.)</p> <p>1.4 Using talk for learning strategies (concept cartoons, storytelling, role play, discussion, etc.), ask teachers in their subject groups to explain any two concepts related to GESI and how each concept is linked to education. Allow teachers to use their phones/laptops to do the search (NTS 3g, 3i and 3j).</p> <p><i>E.g.</i> <i>Social exclusion: Persons with disabilities may be excluded from various activities due to their inability to participate in such activities. If no adjustment is made to address the limitation, they will remain excluded.</i></p> <p><i>In education, exclusion may occur if the classroom is located at a place where it is not accessible to learners in wheelchairs or if the teacher uses a teaching method (e.g., discussion) that is not accessible to learners with special educational needs (SEN) (such as those with hearing impairment).</i></p>	<p>1.3 Explain what GESI means (NTS 3i).</p> <p>Gender, Equality and Social Inclusion (GESI) is a concept that addresses unequal power relations experienced by people on the grounds of gender, wealth, ability, location, ethnicity, language and agency or a combination of these dimensions. (T-TEL Gender Handbook for Teaching Practice Mentors, 2015.)</p> <p>1.4 In your subject groups, use talk for learning strategies to explain any two concepts related to GESI and how each concept is linked to education. (You may use your phones/laptops to do the search) (NTS 3g, 3i and 3j).</p> <p><i>E.g.</i> <i>Social exclusion: Persons with disabilities may be excluded from various activities due to their inability to participate in such activities. If no adjustment is made to address the limitation, they will remain excluded.</i></p> <p><i>In education, exclusion may occur if the classroom is located at a place where it is not accessible to learners in wheelchairs or if the teacher uses a teaching method (e.g., discussion) that is not accessible to learners with special educational needs (SEN)(such as those with hearing impairment).</i></p>	
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	<p>1.5 Ask one teacher to read aloud the notes on GESI below: Gender is the relationship between females and males and the roles and responsibilities they have in society. For example, in Ghana, it is socially accepted that cooking is the role of women and providing upkeep money for the family is the role of men.</p> <p>Equality is creating equal opportunities for males and females. It is a fundamental right, and it is often the GOAL.</p> <p>Equity refers to a fair sharing of resources, opportunities and benefits according to a given framework. It is often the outcome of the GOAL. It is one of the measures of equality, but not the only one.</p> <p>Note that Equity is the process of achieving Equality, which is the outcome (T-TEL Gender Handbook for Teaching Practice Mentors, 2015).</p> <p>Inclusion is the process of valuing all individuals and leveraging their diverse talent, not in spite of their differences, but because of their differences. For example, ensuring that all learners (boys, girls including SEN) are given equal opportunities to participate in the classroom.</p> <p>Gender Equality is a state where males and females have equal rights, life prospects and opportunities to shape their own lives and contribute to society.</p>	<p>1.5 Read aloud the notes on GESI below: Gender is the relationship between females and males and the roles and responsibilities they have in society. For example, in Ghana, it is socially accepted that cooking is the role of women and providing upkeep money for the family is the role of men.</p> <p>Equality is creating equal opportunities for males and females. It is a fundamental right, and it is often the GOAL.</p> <p>Equity refers to a fair sharing of resources, opportunities and benefits according to a given framework. It is often the outcome of the GOAL. It is one of the measures of equality, but not the only one.</p> <p>Note that Equity is the process of achieving Equality, which is the outcome (T-TEL Gender Handbook for Teaching Practice Mentors, 2015).</p> <p>Inclusion is the process of valuing all individuals and leveraging their diverse talent, not in spite of their differences, but because of their differences. For example, ensuring that all learners (boys, girls including SEN) are given equal opportunities to participate in the classroom.</p> <p>Gender Equality is a state where males and females have equal rights, life prospects and opportunities to shape their own lives and contribute to society.</p>	
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	<p>Social Inclusion is the process of improving the terms of participation for people who are disadvantaged, through enhancing opportunities and access to resources.</p> <p>1.6 Ask teachers to reflect on their understanding of GESI and justify the need for GESI in education (NTS 1a, 1c, 1f, 3f, 3h and 3i).</p> <p><i>E.g.</i> <i>The classroom and school environment have been skewed in ways that condone gender bias and promote exclusion. Male characters are often represented more than female characters in teaching/learning materials (TLMs) and textbooks.</i></p> <p><i>Persons with SEN are often disadvantaged during some classroom activities: the visually impaired learner loses out when pictures are used. The hearing-impaired learner loses out when only verbal language is used.</i></p>	<p>Social Inclusion is the process of improving the terms of participation for people who are disadvantaged, through enhancing opportunities and access to resources.</p> <p>1.6 Reflect on your understanding of GESI and justify its importance in education (NTS 1a, 1c, 1f, 3f, 3h and 3i).</p> <p><i>E.g.</i> <i>The classroom and school environment have been skewed in ways that condone gender bias and promote exclusion. Male characters are often represented more than female characters in teaching/learning materials (TLMs) and textbooks.</i></p>	
<p>2. Overcoming GESI related misconceptions, negative perceptions, stereotypes and other challenges</p>	<p>2.1 Ask teachers to identify and discuss how the GESI concepts they have been introduced to in the session could be useful in their teaching and general school life (NTS 2f, 3g, 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i> <i>a) Inclusion: mix ability/gender grouping; involving all categories of learners in every teaching activity.</i></p> <p><i>b) Equity: providing support and resources in line with the needs of each learner.</i></p> <p>2.2 Using think-pair-share, ask teachers to identify possible barriers to learning in relation to</p>	<p>2.1 Identify and discuss how the GESI concepts introduced in the session could be useful in your teaching and general school life (NTS 2f, 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i> <i>Inclusion: mix ability/gender grouping; involving all categories of learners in every teaching activity.</i></p> <p>2.2 Reflect individually, share with a colleague and then the entire group possible barriers</p>	20 mins

	<p>GESI and how to address them (NTS 3f, 3m).</p> <p><i>E.g.</i> Stereotypes: Certain roles are for specific gender; boys are brave and can dissect rodents in science lessons more easily than girls while girls are better cooks than boys. This can be addressed by citing instances where girls demonstrate bravery and boys have been better cooks.</p> <p>Negative perception: Persons with special educational needs are low achievers. This can be addressed by giving examples of persons with special education needs who have excelled in various aspects of life. An example is Farida Bedwei - a lady living with cerebral palsy who is a software engineer and co-founder of Logiciel, a fin-tech company in Ghana.</p> <p><i>Dr. Henry Seidu Daanaa, a person with visual impairment who is a lawyer, a former Minister of Chieftaincy and Traditional Affairs in Ghana and a consultant</i></p> <p>(Teachers may share their experiences of unfair treatment/unconscious biases that constitute barriers to GESI).</p> <p>2.3 Ask teachers to identify and share GESI responsive practices that can help in creating GESI friendly school and classroom environments in the context of second cycle institutions (NTS 1c, 3e, 3g and 3j).</p>	<p>to learning in relation to GESI and how to address them (NTS 3f, 3m).</p> <p><i>E.g.</i> Stereotypes: Certain roles are for specific gender; boys are brave and can dissect rodents in science lessons more easily than girls while girls are better cooks than boys. This can be addressed by citing instances where girls demonstrate bravery and boys have been better cooks.</p> <p>Negative perception: Persons with special educational needs are low achievers. Address this by giving examples of persons with SEN who have excelled in various aspects of life. An example is Farida Bedwei - a lady living with cerebral palsy who is a software engineer and co-founder of Logiciel, a fin-tech company in Ghana.</p> <p>(Teachers may share their experiences of unfair treatment/unconscious biases that constitute barriers to GESI).</p> <p>2.3 Identify and share GESI responsive practices that can help in creating GESI friendly school and classroom environments in the context of second cycle institutions (NTS 1c, 3e, 3g and 3j).</p>	
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	<p><i>E.g.</i></p> <p>a) <i>Involving men and women equally in decision making</i></p> <p>b) <i>ensuring that all school facilities are accessible to everyone (abled bodied and persons with disability)</i></p> <p>c) <i>Equitable allocation of resources among all school actors (males, females, minority groups, etc.</i></p> <p>d) <i>Leadership Positions: School prefects are mostly boys; girls and learners with special education needs could equally be appointed school prefects.</i></p>	<p><i>E.g.</i></p> <p>a) <i>Involving men and women equally in decision making</i></p> <p>b) <i>ensuring that all school facilities are accessible to everyone (abled bodied and persons with disability, etc.)</i></p> <p>c) <i>Equitable allocation of resources among all school actors (males, females, minority groups, etc.</i></p>	
3. Implementing GESI in teaching, learning and assessment.	<p>3.1 Ask teachers to discuss in their subject groups and come out with strategies on how GESI can be integrated in their specific subject areas (NTS 1a, 3e and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Using multiple methods (question and answer, discussion, videos, role play, etc.) in lessons to cater for different learning styles</i></p> <p>b) <i>Using different learning resources (audio, visuals, audio-visuals, tactile, etc.) to cater for different learning styles</i></p> <p>c) <i>Using different assessment methods (written assignments, oral assessment, online assessment, etc.) to cater for different learning styles</i></p> <p>d) <i>Making reasonable adjustments to tasks and</i></p>	<p>3.1 Discuss in your subject groups and come out with strategies on how GESI can be integrated in your specific subject areas (NTS 1a, 3e and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Using multiple methods (question and answer, discussion, videos, role play, etc.) in lessons to cater for different learning styles</i></p> <p>b) <i>Using different learning resources (audio, visuals, audio-visuals, tactile, etc.) to cater for different learning styles</i></p> <p>c) <i>Using different assessment methods (written assignments, oral assessment, online assessment, etc.) to cater for different learning styles</i></p>	30 mins

	<p><i>assessments to reflect the different abilities of learners.</i></p> <p>3.2 Lead teachers to identify and discuss possible strategies to make projects and portfolios GESI responsive (NTS 1a, 3a).</p> <p><i>Eg.</i></p> <p>a) <i>Equitable distribution of relevant resources for projects</i></p> <p>b) <i>Ensure projects' content does not portray GESI biases and stereotypes.</i></p> <p>c) <i>In grouping learners for projects, ensure mix ability/gender groupings</i></p> <p>Note: Remind teachers to consciously ensure GESI responsiveness in conducting continuous assessment in their various disciplines.</p> <p><i>Eg</i></p> <p>a) <i>Ensure that leadership roles are assigned equally among females, males and learners with special education needs (SEN) when assessments (projects) are done in groups.</i></p> <p>b) <i>Ensure equitable distribution of resources among male learners and female learners including SEN learners.</i></p> <p>3.3 Ask teachers in their subject groups, to identify and discuss the links to GESI resources such as the Gender Handbook for Second Cycle Schools and T-TEL Gender Handbook for Teaching Practice Mentors (NTS 3h, 3j).</p>	<p>3.2 identify and discuss possible strategies to make projects and portfolios GESI responsive (NTS 1a, 3a).</p> <p><i>Eg.</i></p> <p>a) <i>Equitable distribution of relevant resources for projects</i></p> <p>b) <i>Ensure projects' content does not portray GESI biases and stereotypes.</i></p> <p>Note: Make conscious efforts to ensure GESI responsiveness in conducting continuous assessment in your subject area</p> <p><i>Eg</i></p> <p><i>Ensure that leadership roles are assigned equally among females, males and learners with special education needs (SEN) when assessments (projects) are done in groups.</i></p> <p>3.3 identify and discuss the links to GESI resources such as the Gender Handbook for Second Cycle Schools and T-TEL Gender Handbook for Teaching Practice Mentors (NTS 3h, 3j).</p>	
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	<p><i>E.g.</i> https://campaignforeducation.org/en/press-centre/an-equal-world-is-an-enabled-world?gclid=EAlaQobChMliPqFx8iW9wIVmpntCh213wroEAAYBCAAEgIjcfD_BwE</p> <p>https://plan-international.org/education/inclusive-education-children-disability/?gclid=EAlaQobChMI3Oul0cmW9wIVToFQBh1Wnw0aEAAYASAAEgIN3PD_BwE https://www.worldvisionphilanthropy.org/resources/gesi</p> <p>https://www.researchgate.net/publication/350109345_Gender_Equality_and_Social_Inclusion_DME_Toolkit</p> <p>3.4 Ask a teacher to model a selected activity in a teaching situation that is linked to any of the LIs of the session.</p>	<p><i>E.g.</i> https://campaignforeducation.org/en/press-centre/an-equal-world-is-an-enabled-world?gclid=EAlaQobChMliPqFx8iW9wIVmpntCh213wroEAAYBCAAEgIjcfD_BwE</p> <p>https://plan-international.org/education/inclusive-education-children-disability/?gclid=EAlaQobChMI3Oul0cmW9wIVToFQBh1Wnw0aEAAYASAAEgIN3PD_BwE https://www.worldvisionphilanthropy.org/resources/gesi</p> <p>3.4 Model a selected activity in a teaching situation that is linked to any of the LIs of the session.</p>	
<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to identify any outstanding issues relating to the session for clarification (NTS 1a, 3l and 3n).</p> <p>4.2 Ask teachers to share what they have learnt with the larger group.</p> <p>4.3 Ask teachers to identify a critical friend to observe their lesson to provide feedback on how they have used GESI in the lesson and report at the next session</p> <p>4.4 Remind teachers to read Session 2 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Remind teachers to come to the next session (i.e., Session 2) with their phones, laptops and other ICT devices for the session on ICT.</p>	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l and 3n).</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 to provide feedback on how you have used GESI in the lesson and report at the next session</p> <p>4.4 Read session 2 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Come to the next session (i.e., Session 2) with their phones, laptops and other ICT devices for the session on ICT.</p>	15 mins

PLC Session 2: Information and Communications Technology (ICT)

	<i>Guidance notes on Leading the session. What the PLC Coordinator will have to say during each stage of the session</i>	<i>Guidance Notes on Teacher Activity during the PLC Session. What teachers will do during each stage of the session.</i>	<i>Time in session</i>
1. Review of Previous Session and introduction to new session	<p>1.1 Start the session with an ice breaker and ask teachers to review the previous session by writing one thing they learnt in the session and share it with a colleague.</p> <p>1.2 Introduce the session by asking one teacher to read the purpose, preamble, learning outcomes (LOs) and learning indicators (LIs) of the session.</p> <p>a. Purpose of ICT in teaching and learning: As indicated in the LOs and LIs below, this session is intended to:</p> <ul style="list-style-type: none"> i. Help teachers plan and teach learner-centred lessons using ICT. ii. Provide teachers access to and use of ICT tools for assessment for learning, assessment as learning and assessment of learning. iii. Introduce teachers to the use of ICT for the development of 21st century skills. iv. Guide teachers in the use of ICT software and hardware for teaching and learning. <p>b. Preamble Teachers in the 21st century are facing new challenges because of the expanding possibilities of ICT integration in every aspect of the school curriculum. Irrespective of the level a teacher operates at with regard to ICT mediated teaching and</p>	<p>1.1. Review the previous session by writing one thing you learnt in the session and share it with a colleague.</p> <p>1.2 Read the purpose, preamble, learning outcomes (LOs) and learning indicators (LIs) of the session.</p> <p>a. Purpose of ICT in teaching and learning: As indicated in the LOs and LIs below, this session is intended to:</p> <ul style="list-style-type: none"> i. Help teachers plan and teach learner-centred lessons using ICT. ii. Provide teachers access to and use of ICT tools for assessment for learning, assessment as learning and assessment of learning. iii. Introduce teachers to the use of ICT for the development of 21st century skills. iv. Guide teachers in the use of ICT software and hardware for teaching and learning. <p>b. Preamble Teachers in the 21st century are facing new challenges because of the expanding possibilities of ICT integration in every aspect of the school curriculum. Irrespective of the level a teacher operates, at with regard to ICT mediated</p>	25 mins

	<p>learning, ICTs have the capabilities to bring several benefits to teachers and students. The benefits may include shared learning resources, shared learning spaces and promotion of cooperative and collaborative learning. They also provide a base for autonomous learning.</p> <p>Welliver's Instructional Transformation Model sets goals and expectations for all teachers at whatever stage they are starting at. The five hierarchical stages, which have been explained below, start with familiarization, then utilization, integration, reorientation and finally revolution. (www.welliversinstructionalmodel.com, published 8th June, 2011, retrieved 8th April, 2022)</p> <ul style="list-style-type: none"> i. Familiarization: This is when teachers become aware of technology and its potential uses. ii. Utilization: This is where teachers use technology, but minor problems will cause them to discontinue its use. iii. Integration: Here, technology becomes essential for the educational process and teachers are constantly thinking of new ways to use technology in their classrooms. iv. Reorientation: At this level, teachers begin to rethink the educational goals of the classroom with the use of technology. 	<p>teaching and learning, ICTs have the capabilities to bring several benefits to teachers and students. The benefits may include shared learning resources, shared learning spaces and promotion of cooperative and collaborative learning. They also provide a base for autonomous learning.</p> <p>Welliver's Instructional Transformation Model sets goals and expectations for all teachers at whatever stage they are starting at. The five hierarchical stages, which have been explained below, start with familiarization, then utilization, integration, reorientation and finally revolution. (www.welliversinstructionalmodel.com, published 8th June, 2011, retrieved 8th April, 2022)</p> <ul style="list-style-type: none"> i. Familiarization: This is when teachers become aware of technology and its potential uses. ii. Utilization: This is where teachers use technology, but minor problems will cause them to discontinue its use. iii. Integration: Here, technology becomes essential for the educational process and teachers are constantly thinking of new ways to use technology in their classrooms. iv. Reorientation: At this level, teachers begin to rethink the educational goals of the classroom with the use of technology. 	
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	<p>v. Revolution: This is the highest level where the evolving classroom becomes completely integrated with technology in all subject areas. Technology becomes an invisible tool that is seamlessly woven into the teaching and learning process.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum).</i> LO 1: Demonstrate the use of basic ICT tools for planning lessons (NTS 3a, 3c).</p> <p>LI 1.1 Mention and describe at least three basic ICT tools that can be used in planning a lesson.</p> <p>LI 1.2 Perform basic lesson planning tasks using an ICT tool.</p> <p>LO 2: Demonstrate knowledge and understanding of the basic ICT tools and their impact on teaching and learning (NTS 3g, 3h, 3j, 3n, 3k, and 3p).</p> <p>LI 2.1 Mention and describe at least three basic ICT tools and how to use them in teaching and learning.</p>	<p>v. Revolution: This is the highest level where the evolving classroom becomes completely integrated with technology in all subject areas. Technology becomes an invisible tool that is seamlessly woven into the teaching and learning process.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum).</i> LO 1: Demonstrate the use of basic ICT tools for planning lessons (NTS 3a, 3c).</p> <p>LI 1.1 Mention and describe at least three basic ICT tools that can be used in planning a lesson.</p> <p>LI 1.2 Perform basic lesson planning tasks using an ICT tool.</p> <p>LO 2: Demonstrate knowledge and understanding of the basic ICT tools and their impact on teaching and learning (NTS 3g, 3h, 3j, 3n, 3k, and 3p).</p> <p>LI 2.1 Mention and describe at least three basic ICT tools and how to use them in teaching and learning.</p>	
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	<p>LI 2.2 Analyse and evaluate the impact of ICT on teaching and learning</p> <p>LO 3: Demonstrate the use of basic ICT tools in assessment (3j, 3k).</p> <p>LI 3.1 Mention and describe at least three basic ICT tools that can be used to assess both teaching and learning.</p> <p>LI 3.2 Perform lesson assessment tasks using ICT tools.</p> <p>LO 4: Demonstrate understanding of how ICT tools enhance the quality of research activities (NTS 3b).</p> <p>LI 4.1 List at least four ICT tools used in research.</p> <p>LI 4.2 Perform basic research tasks using ICT tools.</p> <p>1.3 Ask teachers to mention at least three basic ICT tools and what they are used for.</p> <p><i>E.g.</i></p> <p>a) <i>Desktop Computers (Preparation of document, editing, etc.)</i></p> <p>b) <i>Laptops (preparation and presentation, etc.)</i></p> <p>c) <i>Calculators (mathematical and scientific analysis, etc.)</i></p> <p>d) <i>Projectors (Presentations, etc.)</i></p> <p>e) <i>Printers (Printing and photocopying of documents, etc.)</i></p> <p>f) <i>Browsers (e.g., Firefox, google chrome, opera-</i></p>	<p>LI 2.2 Analyse and evaluate the impact of ICT on teaching and learning</p> <p>LO 3: Demonstrate the use of basic ICT tools in assessment (3j, 3k).</p> <p>LI 3.1 Mention and describe at least three basic ICT tools that can be used to assess both teaching and learning.</p> <p>LI 3.2 Perform lesson assessment using an ICT tool.</p> <p>LO 4: Demonstrate understanding of how ICT tools enhance the quality of research activities (NTS 3b).</p> <p>LI 4.1 List at least four ICT tools used in research.</p> <p>LI 4.2 Perform basic research tasks using ICT tools.</p> <p>1.3 Mention and at least three basic ICT tools and how to use them.</p> <p><i>E.g.</i></p> <p>a) <i>Desktop Computers (Preparation of document, editing, etc.)</i></p> <p>b) <i>Laptops (preparation and presentation, etc.)</i></p> <p>c) <i>Calculators (mathematical and scientific analysis, etc.)</i></p>	
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	<p><i>mini, Microsoft edge etc, for online search.)</i></p> <p>1.4 Ask teachers to distinguish between computer software and hardware by mentioning at least two of each.</p> <p>Software E.g.</p> <ul style="list-style-type: none"> a) Office Professional – E.g. XP b) Good photo software e.g. Microsoft Digital Photo Suite c) "Photostory 2 -- comes with service pack 2 d) Inspiration e) Smart Notebook f) United Streaming subscription <p>Hardware E.g.</p> <ul style="list-style-type: none"> a) Flat Screen monitor b) Printer. e.g., HP c) CD/DVD RW drive(s) d) USB ports e) Scanner – e.g., Epson brand f) Digital camera – e.g. Canon g) External storage - an external hard drive to back up data h) Portable storage - USB flash drive, 2 GB minimum. i) Palm or other handheld device to keep schedules, dates, reminders, and store pictures and music. E.g. Tungsten Palm j) Smart board or Smart airliner, with projection unit for classroom use. k) Classroom Performance System (CPS) also for classroom use. 	<p>1.4 distinguish between computer hardware and software by mentioning at least two of each.</p> <p>Software E.g.</p> <ul style="list-style-type: none"> a) Office Professional – e.g., XP b) Good photo software e.g., Microsoft Digital Photo Suite c) "Photostory 2 -- comes with service pack 2 d) Inspiration <p>Hardware E.g.</p> <ul style="list-style-type: none"> a) Flat Screen monitor b) Printer. e.g., HP c) CD/DVD RW drive(s) d) USB ports e) Scanner – e.g., Epson brand f) Digital camera – e.g. Canon g) External storage - an external hard drive to back up data h) Portable storage - USB flash drive, 2 GB minimum. 	
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	<p>1.5 Ask teachers in groups to share their views about how to create, edit, format, save and print documents using various productivity tools.</p> <p><i>E.g.</i> <i>Creating a new page in Word, PowerPoint, Excel, etc.</i> <i>Editing a document using track changes</i> <i>Saving a document using “save as” or clicking on the ‘save’ icon</i> <i>Printing only odd pages of a Word document</i> <i>Printing a document on both sides of a sheet of paper</i></p> <p>1.6 Ask teachers who are conversant with and have utilized ICT tool(s) in their lessons to share their experiences of the integration and impact of ICT tools in their teaching (NTS 3j).</p> <p><i>E.g.</i> <i>a) Open Educational Resources (OERs) i.e. open courseware, learning models, streaming videos, online tutorials, open access journals, digital learning objects all improve lesson presentations and make them more interesting</i></p> <p><i>b) The use of projector and laptops for lesson presentation saves time for writing on the board and extends quality time on activities to enhance learning</i></p> <p><i>c) Digital learning materials, e.g., e-textbooks, e-workbooks,</i></p>	<p>1.5 Share your views about how to create, edit, format, save and print documents using various productivity tools.</p> <p><i>E.g.</i> <i>Creating a new page in Word, PowerPoint, Excel, etc.</i> <i>Editing a document using track changes</i> <i>Saving a document using “save as” or clicking on the ‘save’ icon</i> <i>Printing only odd pages of a Word document</i> <i>.</i></p> <p>1.6 Share your experiences of the integration and impact of ICT tools in your teaching.</p> <p><i>E.g.</i> <i>a) Open Educational Resources (OERs) i.e., open courseware, learning models, streaming videos, online tutorials, open access journals, digital learning objects all improve lesson presentations and make them more interesting</i></p> <p><i>b) The use of projector and laptops for lesson presentation saves the time for writing on the board and extends quality time on activities to enhance learning</i></p>	
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	<p><i>e-tests and educational videos all help in improving understanding of lessons</i></p> <p>1.7 Ask teachers in groups to share their views on the use of specific ICT tools to search for teaching, learning and assessment activities.</p> <p><i>E.g.</i></p> <p>a) <i>Ai. Google – provides education on artificial intelligence</i></p> <p>b) <i>Academia.edu – provides access to academic papers</i></p> <p>c) <i>Edulastic – provides access to interactive formative assessment activities</i></p> <p>d) <i>YouTube videos</i></p> <p>e) <i>Google Forms – used in surveys and can analyse results in real time</i></p> <p>f) <i>Survey monkey – used to conduct online surveys</i></p>	<p>1.7 Discuss in groups how to assess learning using ICT tools.</p> <p><i>E.g.</i></p> <p>a) <i>Using electronic grading rubric – a guide for assessing work manually or electronically</i></p> <p>b) <i>Canvas assignments – e.g., quizzes, submitted online</i></p> <p>c) <i>Plagiarism detection – used to check how original a piece of work is</i></p> <p>d) <i>QuizBot – creating quizzes and sharing them with others online</i></p> <p>e) <i>ClassMarker – for online testing</i></p>	
<p>Overcoming misconceptions, stereotypes, negative perceptions about ICT</p>	<p>1.8 Ask teachers to work in pairs to discuss misconceptions and stereotypes in teaching and learning with ICT tool(s) and share ideas on how to address them.</p> <p><i>E.g.</i></p> <p>a) <i>Computers can do everything a teacher can do. This is a misconception which must be addressed by finding examples of what teachers can do but computers cannot do- i.e., teachers take into</i></p>	<p>1.8 In pairs, discuss misconceptions in teaching and learning with ICT tool (s) and share possible ways of addressing them.</p> <p><i>E.g.</i></p> <p>a) <i>Computers can do everything a teacher can do. This is a misconception which must be addressed by finding examples of what teachers can do but computers cannot do- i.e., teachers take into</i></p>	

	<p><i>consideration students' feelings when teaching them.</i></p> <p>b) <i>ICT is meant for male learners. This misconception can be addressed by creating awareness that this is not true, thus, invite a female ICT expert to have a talk with both teachers and students.</i></p> <p>c) <i>ICT mediated education results in unequal access to quality education. This negative perception can be addressed by providing offline versions of online tasks</i></p> <p>1.9 Ask teachers to outline possible challenging areas in teaching with ICT tool(s) taking into consideration GESI.</p> <p><i>E.g.</i></p> <p>a) <i>Identifying areas in the curriculum where GESI stereotypes are reinforced through ICT. An example is where male learners tend to dominate computer use in the classroom. Teachers should ensure equitable access to computer use in the classroom.</i></p> <p>b) <i>Some learners copy verbatim essays from the Internet and present them as their own work. Teachers may be able to detect this with the appropriate plagiarism tools</i></p> <p>c) <i>Some learners have no access to ICT devices so they are not able to complete assignments that require the use of such devices. Using</i></p>	<p><i>consideration students' feelings when teaching them.</i></p> <p>b) <i>ICT is meant for male learners. This misconception can be addressed by creating awareness that this is not true, thus, invite a female ICT expert to have a talk with both teachers and students</i></p> <p>1.9 Outline possible challenging areas in teaching with ICT tool(s) taking into consideration GESI.</p> <p><i>E.g.</i></p> <p>a) <i>Identifying areas in the curriculum where GESI stereotypes are reinforced through ICT. An example is where male learners tend to dominate computer use in the classroom. Teachers should ensure equitable access to computer use in the classroom.</i></p> <p>b) <i>Some learners copy verbatim essays from the Internet and present them as their own work. Teachers may be able to detect this with the appropriate plagiarism tools</i></p>	
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	<i>group assignments can encourage collaborative work and sharing of ICT devices.</i>		
2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum	<p>2.1 In groups, ask teachers to share their views on how to plan lessons using ICT tools.</p> <p><i>E.g.</i> <i>In planning a lesson, a teacher will need the following materials and electronic devices to develop structured learning activities:</i></p> <ul style="list-style-type: none"> <i>a) Resources – printer/photocopier, printed task sheets, links to videos, slides, memory stick, calculator, etc.</i> <i>b) Different presentation modes – PowerPoint presentation, projecting electronic diagrams and charts, audio recorded tasks, etc.</i> <i>c) Different assessment methods – completing task sheets, using printed mark schemes for self and peer assessment, answering audio recorded questions, using calculators to check answers, etc.</i> <i>d) Using printed task sheets in groupwork to develop communication and collaboration skills, problem solving skills, etc.</i> <p>2.2. Ask teachers discuss general ICT tools/Apps for planning teaching and learning and ask them to give examples of how they are used.</p> <p><i>E.g.</i> <i>Desktop and laptop computers (used to write lesson plans and</i></p>	<p>2.1 In groups, share your views on how to plan lessons using ICT tools.</p> <p><i>E.g.</i> <i>In planning a lesson, a teacher will need the following materials and electronic devices to develop structured learning activities:</i></p> <ul style="list-style-type: none"> <i>e) Resources – printer/photocopier, printed task sheets, links to videos, slides, memory stick, calculator, etc.</i> <i>f) Different presentation modes – PowerPoint presentation, projecting electronic diagrams and charts, audio recorded tasks, etc.</i> <i>g) Different assessment methods – completing task sheets, using printed mark schemes for self and peer assessment, answering audio recorded questions, using calculators to check answers, etc.</i> <i>h) Using printed task sheets in groupwork to develop communication and collaboration skills, problem solving skills, etc.</i> <p>2.2 Discuss general ICT tools for teaching and learning.</p> <p><i>E.g.</i> <i>Desktop and laptop computers (used to write lesson plans and</i></p>	20 mins

	<p><i>develop teaching and learning materials), projector, digital cameras, printer, photocopier, tablets, popplet, pen drive, ipods, ipads, webboards, scanners, microphones, interactive white board, DVDs and CDs flash discs, video games, etc.</i></p> <p><i>Other examples are: Geomaths, Maths kids, Microsoft maths solver, Photomaths, Scratch, Kasahorow, Soundsright, Coral draw, Photoshop Autocard, Paint, Sunflower Remote Sensing and Geographic Information System, Telegram, WhatsApp, Encyclopaedia Britannica Microsoft Encarta, Recipe App, etc.</i></p> <p>2.3. Ask teachers to discuss the appropriate ICT tools to support students with Special Education Needs (SEN) when planning teaching, learning and assessment (NTS 3f, 3o).</p> <p><i>E.g. Teachers dealing with the SEN will require special ICT tools like; text magnifier, head wands, keyboard for cerebral palsy, braille, typing aids, large prints, audio books, etc.</i></p>	<p><i>develop teaching and learning materials), projector, digital cameras, printer, photocopier, tablets, popplet, pen drive, ipods, ipads, webboards, scanners, microphones, interactive white board, DVDs and CDs flash discs, video games, etc.</i></p> <p>2.3. Discuss the appropriate ICT tools to support students with Special Education Needs (SEN) during teaching, learning and assessment (NTS, 3f, 3o).</p> <p><i>E.g. Teachers dealing with the SEN will require special ICT tools like; text magnifier, head wands, etc.</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities</p> <p>➤ Noting and addressing areas where teachers may require clarification</p>	<p>3.1. Ask teachers to identify at least two possible gaps in the use of ICT tools in their lesson delivery and discuss possible ways of addressing them.</p> <p><i>E.g.</i></p> <p>a) <i>Possible gap: Some teachers may not be IT literate</i> <i>Possible solution: Designing ICT training packages to equip teachers with the necessary knowledge and skills in using ICT tools in lesson delivery</i></p>	<p>3.1. Identify at least two possible gaps in the use of ICT tools in your lesson delivery and discuss possible ways of addressing them.</p> <p><i>E.g.</i></p> <p>a) <i>Possible gap: Some teachers may not be IT literate</i> <i>Possible solution: Designing ICT training packages to equip teachers with the necessary knowledge and</i></p>	30mins

<p>➤ Noting opportunities for making explicit links to the Secondary /Technical Vocational Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student learning</p> <p>➤ Resources:</p> <p>○ Links to external reference material: literature, on web, YouTube, physical resources,</p>	<p>b) <i>Possible gap: unavailability of ICT tools or resources for teachers to use in their lesson delivery.</i> <i>Possible solution: Provision of the ICT tools and resources in the various schools to improve teaching and learning</i></p> <p>c) <i>Possible gap: lack of teachers' confidence to use ICT tools in teaching and learning</i> <i>Possible solution: introduce capacity building training for teachers in the use of ICT tools in teaching and learning.</i></p> <p>3.2 In groups share your views on the use of specific ICT tools to search for teaching, learning and assessment activities.</p> <p><i>E.g.</i></p> <p>a) <i>Ai. Google – provides education on artificial intelligence</i></p> <p>b) <i>Academia.edu – provides access to academic papers</i></p> <p>c) <i>Edulastic – provides access to interactive formative assessment activities</i></p> <p>d) <i>YouTube videos</i></p> <p>e) <i>Others are:</i></p> <p>i. Socrative - quizzes and questions with real-time grading.</p> <p>ii. Classmarker- quizzes and questions with real-time grading</p>	<p><i>skills in using ICT tools in lesson delivery</i></p> <p>b) <i>Possible gap: unavailability of ICT tools or resources for teachers to use in their lesson delivery.</i> <i>Possible solution: Provision of the ICT tools and resources in the various schools to improve teaching and learning</i></p> <p>3.2 In groups share your views on the use of specific ICT tools to search for teaching, learning and assessment activities.</p> <p><i>E.g.</i></p> <p>a) <i>Ai. Google – provides education on artificial intelligence</i></p> <p>b) <i>Academia.edu – provides access to academic papers</i></p> <p>c) <i>Edulastic – provides access to interactive formative assessment activities</i></p> <p>d) <i>Others are:</i></p> <p>i. Socrative - quizzes and questions with real-time grading.</p> <p>ii. Classmarker- quizzes and questions with real-time grading</p> <p>iii. Google Forms - easy to use.</p>	
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<p>power point; how they should be used.</p> <p>○ Consideration needs to be given to local availability and guidance on any power point presentations , TLM or other resources which need to be developed to support learning</p>	<p>iii. Google Forms - easy to use.</p> <p>iv. Mentimeter - pre-built education templates.</p> <p>v. Kahoot – game-based assessment tool.</p> <p>vi. Links application of ICT tools in the teaching and learning process such as</p> <p>https://www.youtube.com/watch?v=k8nMh71ky4Y</p> <p>3.3 Ask teachers to discuss in their subject groups and come out with at least three strategies on how ICT can be integrated in their specific subject areas (NTS 3i, 3j). (EXTENSION ACTIVITY)</p> <p>E.g.</p> <p>a) <i>The use of computer simulation in science teaching presentations</i></p> <p>b) <i>In mathematics, Excel spreadsheet can be used to present data and draw charts</i></p> <p>c) <i>The use of computers and ICT applications such as coral draw and publisher to teach TVET students.</i></p> <p>d) <i>The use of window-eye, Jon Access With Speech (JAWS), TOBII Eye Tracking System, Non-Visual Desktop Access (NVDA) in teaching students who are visually impaired.</i></p> <p>e) <i>Other sources: Smart phones, calculators, projectors, Office 365 vs G-Suite for education, Google Meet for online teaching, Google Classroom for online teaching and learning, etc.</i></p>	<p>iv. Mentimeter - pre-built education templates.</p> <p>v. Links application of ICT tools in the teaching and learning process such as</p> <p>https://www.youtube.com/watch?v=k8nMh71ky4Y</p> <p>3.3 Discuss in your subject groups and come out with at least three strategies on how ICT can be integrated in your specific subject areas (NTS 3i, 3j). (EXTENSION ACTIVITY)</p> <p>E.g.</p> <p>a) <i>The use of computer simulation in science teaching presentations</i></p> <p>b) <i>In mathematics, Excel spreadsheet can be used to present data and draw charts</i></p> <p>c) <i>The use of computers and ICT applications such as coral draw and publisher to teach TVET students.</i></p> <p>d) <i>The use of window-eye, Jon Access With Speech (JAWS), TOBII Eye Tracking System, Non-Visual Desktop Access (NVDA) in teaching students who are visually impaired.</i></p>	
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	<p>3.4 Ask teachers to discuss at least two possible strategies that use ICT tools in a GESI responsive manner in a teaching context.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Giving all learners including SEN equal access to computers.</i> b) <i>Considering GESI responsive seating arrangement when delivering lessons using ICT by ensuring that learners with visual or hearing impairment are seated short distances for the screen</i> c) <i>Providing other ICT tools such as window-eye, Jon Access With Speech (JAWS), TOBII Eye Tracking System, etc., to support learners who are visually impaired, etc.</i> d) <i>Providing visually impaired learners with large prints of texts</i> <p>3.5 Ask teachers to mention at least three 21st century skills and ICT tools that can be integrated during teaching and learning to develop these skills in learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Building communication skills with the use of ICT tools such as computers, projectors, etc., to do PowerPoint presentation.</i> b) <i>Building collaborative skills through the use of electronic media (e.g., group activities through the use of WhatsApp)</i> 	<p>3.4 Discuss at least two possible strategies that use ICT tools in a GESI responsive manner to develop these skills in learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Giving all learners including SEN equal access to computers</i> b) <i>Considering GESI responsive seating arrangement when delivering lessons using ICT by ensuring that learners with visual or hearing impairment are seated short distances for the screen</i> c) <i>Providing other ICT tools such as window-eye, Jon Access With Speech (JAWS), TOBII Eye Tracking System, etc., to support learners who are visually impaired, etc.</i> <p>3.5 Mention at least three 21st century skills and ICT tools that can be integrated during teaching and learning to develop these skills in learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Building communication skills with the use of ICT tools such as computers, projectors, etc</i> b) <i>Building collaborative skills through the use of electronic media (e.g., group activities through the use of WhatsApp)</i> 	
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	<p>c) Enhancing research capabilities or skills through the use of internet search engines such as Google Chrome, Firefox browsers, etc.</p> <p>d) Improving creativity skills through the use of YouTube videos, etc.</p> <p>e) The following links can be used to access information on 21st century skills:</p> <ol style="list-style-type: none"> Collaborative problem solving https://youtu.be/cnkKHLdyGE Creativity https://www.youtube.com/watch?v=qV7DiTFdtvw Hands-on learning https://youtu.be/vYUNfJ9IKzs Effective written and oral communication https://www.youtube.com/watch?v=D5hMN_XkPQA Ethical decision making https://youtu.be/lwk8dGFn1tY Information and media literacy https://youtu.be/bjYhmTC3lrc Critical thinking https://youtu.be/y7iMEH7jGFk https://youtu.be/88DoGrqEuJk Leadership 	<p>c) The following links can be used to access information on 21st century skills:</p> <ol style="list-style-type: none"> Collaborative problem solving https://youtu.be/cnkKHLdyGE Creativity https://www.youtube.com/watch?v=qV7DiTFdtvw Effective written and oral communication https://www.youtube.com/watch?v=D5hMN_XkPQA Information and media literacy https://youtu.be/bjYhmTC3lrc Critical thinking https://youtu.be/y7iMEH7jGFk https://youtu.be/88DoGrqEuJk Leadership https://youtu.be/NF10F6bX_g Personal responsibility and initiative https://youtu.be/nRE131ErclM3.5 	
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	<p>https://youtu.be/-NF10F6bX_g</p> <p>ix. Personal responsibility and initiative https://youtu.be/nRE131ErclM</p> <p>3.6 Ask teachers to discuss in groups how to assess learning using ICT tools.</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Using electronic grading rubric – a guide for assessing work manually or electronically</i> b) <i>Canvas assignments – e.g., quizzes, submitted online</i> c) <i>Plagiarism detection – used to check how original a piece of work is</i> d) <i>QuizBot – creating quizzes and sharing them with others online</i> e) <i>ClassMarker – for online testing</i> f) <i>Assessing learning using social media platforms</i> g) <i>Zoom/Teams interviews</i> <p>3.7 In subject groups, ask teachers to come out with at least four possible assessment tools in ICT to support them in assessing learners.</p> <p>E.g. <i>In English language, tools for checking grammar errors online, tools for checking plagiarism, etc.</i></p> <p><i>In science, tools will include those for simulating how organs</i></p>	<p>3.6 Discuss in groups how to assess learning using ICT tools.</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Using electronic grading rubric – a guide for assessing work manually or electronically</i> b) <i>Canvas assignments – e.g., quizzes, submitted online</i> c) <i>Plagiarism detection – used to check how original a piece of work is</i> d) <i>QuizBot – creating quizzes and sharing them with others online</i> e) <i>ClassMarker – for online testing</i> <p>3.7 In subject groups, come out with at least four possible assessment tools in ICT to support you in assessing learners.</p> <p>E.g. <i>In English language, tools will include those for checking grammar errors online and those for checking plagiarism, etc.</i></p>	
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	<p><i>and systems work in the body, etc.</i></p> <p>3.8 Ask a teacher to model a teaching activity using any ICT tool(s) of their choice. (EXTENSION ACTIVITY)</p>	3.8 Model a teaching activity using any ICT tool(s) of your choice. (EXTENSION ACTIVITY)	
<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to identify any outstanding issue(s) relating to the session for clarification.</p> <p>4.2. Ask teachers to mention at least four ICT tools that can be used in the delivery of their lessons.</p> <p>4.3 Ask teachers to identify a critical friend who will observe their lesson and give them feedback on how they integrate ICT in the lesson.</p> <p>4.4 Remind teachers to read session 3 of the PLC Handbook in preparation for the next session.</p> <p>4.5 Remind teachers to come to the next session (i.e., Session 3) with the National Teachers' Standard Guidelines for the next PLC sessions</p>	<p>4.1 Identify any outstanding issue(s) relating to the session for clarification.</p> <p>4.2 Mention at least four ICT tools that can be used in the delivery of your lessons.</p> <p>4.3 Identify a critical friend who will observe your lesson and give you feedback on how you integrate ICT in the lesson.</p> <p>4.4 Remember to read session 3 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Come to the next session (i.e., Session 3) with the National Teachers' Standard Guidelines for the next PLC sessions</p>	15 mins

PLC Session 3: Introduction to the National Teachers' Standards			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB: The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB: PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Ask a teacher who observed a lesson of a critical friend to share their findings with the group.</p> <p>1.2 Introduce the new session and inform teachers that the session looks at an overview of the National Teachers' Standards (NTS) and that detailed sessions on the various domains will be covered in subsequent sessions.</p> <p>1.3 Ask a teacher to read the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion of the relationship between the LOs and the LIs with colleagues.</p> <p><i>E.g.</i> <i>The LIs are informed by the LOs, and the latter can be achieved through the former</i></p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Demonstrate knowledge and understanding of the domains and sub-domains of the NTS.</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach with the group.</p> <p>1.2 Listen to information on the session and note the relationship between Session 3 and the subsequent sessions.</p> <p>1.3 Read the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion of the relationship between the LOs and the LIs with colleagues.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Demonstrate knowledge and understanding of the domains and sub-domains of the NTS.</p>	25 mins

	<p>LI 1.1 State the three domains of the NTS.</p> <p>LI 1.2 State the sub-domains of each domain.</p> <p>LI 1.3 Match the sub-domains to their respective domains.</p> <p>LO 2: Identify the characteristics of the domains and sub-domains of the NTS.</p> <p>LI 2.1 Discuss the characteristics of the domains.</p> <p>LI 2.2 Draw a diagram to indicate all the domains and their characteristics.</p> <p>LO 3: Demonstrate knowledge and understanding of the philosophy of the NTS and describe its structure and content.</p> <p>LI 3.1 State the philosophy of the NTS and list the various documents that spell out the philosophy of the NTS.</p> <p>LI 3.2 Explain how the following documents inform the philosophy of the NTS.</p> <p>a) Education Act, 2008 (Act 778) repealed with Education Regulatory Bodies Act, 2020 (Act 1023)</p> <p>b) Pre-tertiary Teacher Professional Development and Management Policy (PTPDM)</p> <p>c) Continental Education Strategy for Africa (CESA)</p> <p>d) Sustainable Development Goals (SDGs).</p> <p>LI 3.3 Discuss the structure of the NTS.</p> <p>LI 3.4 Examine the content of the NTS.</p>	<p>LI 1.1 State the three domains of the NTS.</p> <p>LI 1.2 State the sub-domains of each domain.</p> <p>LI 1.3 Match the sub-domains to their respective domains.</p> <p>LO 2: Identify the characteristics of the domains and sub-domains of the NTS.</p> <p>LI 2.1 Discuss the characteristics of the domains.</p> <p>LI 2.2 Draw a diagram to indicate all the domains and their characteristics.</p> <p>LO 3: Demonstrate knowledge and understanding of the philosophy of the NTS and describe its structure and content.</p> <p>LI 3.1 State the philosophy of the NTS and list the various documents that spell out the philosophy of the NTS.</p> <p>LI 3.2 Explain how the following documents inform the philosophy of the NTS.</p> <p>a) Education Act, 2008 (Act 778) repealed with Education Regulatory Bodies Act, 2020 (Act 1023)</p> <p>b) Pre-tertiary Teacher Professional Development and Management Policy (PTPDM)</p> <p>c) Continental Education Strategy for Africa (CESA)</p> <p>d) Sustainable Development Goals (SDGs).</p> <p>LI 3.3 Discuss the structure of the NTS.</p> <p>LI 3.4 Examine the content of the NTS.</p>	
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	<p>LO 4: Demonstrate knowledge and understanding of the relevance of cross-cutting issues including Gender Equality and Social Inclusion (GESI), Information and Communications Technology (ICT) and 21st century skills and competencies in the NTS.</p> <p>LI 4.1 Identify key cross-cutting issues in the NTS.</p> <p>LI 4.2 Explain how the cross-cutting issues affect teacher professionalism.</p> <p>LI 4.3 Share experiences on the cross-cutting issues in the classroom.</p> <p>LI 4.4 Identify the relevant GESI responsive and ICT resources for teaching and learning.</p> <p>LO 5: Analyse how the NTS can guide the planning, teaching and assessment of lessons in secondary schools.</p> <p>LI 5.1 Give examples of how to take cognizance of diverse learners' backgrounds in planning and teaching.</p> <p>LI 5.2 Give examples of varied teaching methods that can address the learning need of learners with different backgrounds</p> <p>LI 5.3 Integrate a variety of assessments modes into teaching to support learning.</p> <p>LO 6: Explore how teachers' training needs regarding the application of the NTS can be addressed.</p> <p>LI 6.1 Deploy action research in classroom to enhance teaching and learning.</p> <p>LI 6.2 Use reflective logs in teaching.</p>	<p>LO 4: Demonstrate knowledge and understanding of the relevance of cross-cutting issues including Gender Equality and Social Inclusion (GESI), Information and Communications Technology (ICT) and 21st century skills and competencies in the NTS.</p> <p>LI 4.1 Identify key cross-cutting issues in the NTS.</p> <p>LI 4.2 Explain how the cross-cutting issues affect teacher professionalism.</p> <p>LI 4.3 Share experiences on the cross-cutting issues in the classroom.</p> <p>LI 4.4 Identify the relevant GESI responsive and ICT resources for teaching and learning.</p> <p>LO 5: Analyse how the NTS can guide the planning, teaching and assessment of lessons in secondary schools.</p> <p>LI 5.1 Give examples of how to take cognizance of diverse learners' backgrounds in planning and teaching.</p> <p>LI 5.2 Give examples of varied teaching methods that can address the learning need of learners with different backgrounds</p> <p>LI 5.3 Integrate a variety of assessments modes into teaching to support learning.</p> <p>LO 6: Explore how teachers' training needs regarding the application of the NTS can be addressed.</p> <p>LI 6.1 Deploy action research in classroom to enhance teaching and learning</p> <p>LI 6.2 Use reflective logs in teaching.</p>	
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	LI 6.3 Use assessment data to improve teaching and learning.	LI 6.3 Use assessment data to improve teaching and learning.	
Give regard for the domains and subdomains of the NTS, etc.	<p>1.4 In groups, ask teachers to discuss what they know about the NTS.</p> <p><i>E.g.</i> <i>The Standards describe values, attitudes, what teachers should know and be able to do, and used to support the on-going development of teachers once in the classroom.</i></p> <p><i>The Standards also set out the minimum levels of practice that all trained teachers must reach by the end of their pre-service teacher education course in order to play such a critical role.</i></p> <p>1.5 Ask one teacher to read the table of contents of the NTS (Refer to In-service NTS Guidelines, n.d., p. 4).</p> <p>1.6 In groups, ask teachers to discuss the following and share their findings with the larger group.</p> <p>a) What do the Standards stand for? (Refer to In-service NTS Guidelines, n.d., p. 6).</p> <p>b) Who are the Standards for? (Refer to In-service NTS Guidelines, n.d., p. 8).</p> <p>c) How were the Standards developed? (Refer to In-service NTS Guidelines, n.d., p. 9).</p> <p>d) What is the legal status of the Standards? (Refer to In-service NTS Guidelines, n.d., p. 10).</p> <p>e) What philosophy underpins the Standards?</p>	<p>1.4 Discuss what you know about the NTS.</p> <p><i>E.g.</i> <i>The Standards describe values, attitudes, what teachers should know and be able to do, and used to support the on-going development of teachers once in the classroom.</i></p> <p>1.5 Read the Table of Contents of the NTS (Refer to In-service NTS Guidelines, n.d., p. 4).</p> <p>1.6 Discuss the following in groups and share your findings with the larger group.</p> <p>a) What do the Standards stand for? (Refer to In-service NTS Guidelines, n.d., p. 6).</p> <p>b) Who are the Standards for? (Refer to In-service NTS Guidelines, n.d., p. 8).</p> <p>c) How were the Standards developed? (Refer to In-service NTS Guidelines, n.d., p. 9).</p> <p>d) What is the legal status of the teachers' Standards? (Refer to In-service NTS Guidelines, n.d., p. 10).</p> <p>e) What philosophy underpins the Standards?</p>	

	<p>(Refer to In-service NTS Guidelines, n.d., p. 11).</p> <p>1.7 Ask teachers to identify the Domains and the Sub-Domains of the NTS. (Refer to In-service NTS Guidelines, n.d., pp. 12-15)</p> <p>Note: <i>The Domains are:</i> a) <i>Professional Values and Attitudes</i> b) <i>Professional Knowledge</i> c) <i>Professional Practice</i></p> <p><i>The sub-domains are:</i> ➤ <i>Professional development</i> ➤ <i>Community of practice (Under Professional Values and Attitudes)</i> • <i>Knowledge of educational framework and curriculum</i> ➤ <i>Knowledge of learners (Under Professional Knowledge)</i> • <i>Managing the learning environment</i> • <i>Teaching and learning</i> • <i>Assessment (Under Professional Practice)</i></p> <p>1.8 Ask teachers to think-pair-share on how the Standards are to be used and the roles of Teacher Education Institutions. (Refer to In-service NTS Guidelines, n.d., pp. 17- 18).</p> <p>1.9 In groups, ask teachers to discuss the format of the Standards. (Refer to In-service NTS Guidelines, n.d., pp. 19-32).</p> <p>1.10 Ask teachers to identify and discuss the evidence that a teacher has met or can meet the Standards at the appropriate level by looking at the teacher’s professional portfolio. (Refer to In-service NTS Guidelines, n.d., pp. 34-35).</p>	<p>(Refer to In-service NTS Guidelines, n.d., p. 11).</p> <p>1.7 Identify the Domains and the Sub-Domains. (Refer to In-service NTS Guidelines, n.d., pp. 12-15).</p> <p>1.8 Think-pair-share on how the Standards are to be used and the role of Teacher Education Institutions. (Refer to In-service NTS Guidelines, n.d., pp. 17- 18).</p> <p>1.9 Discuss the format of the Standards in your groups. (Refer to In-service NTS Guidelines, n.d., pp. 19-32).</p> <p>1.10 Identify and discuss the evidence that a teacher has met or can meet the Standards at the appropriate level by looking at the teacher’s professional portfolio. (Refer to In-service NTS Guidelines, n.d., pp. 34-35).</p>	
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	<p>Evidence criteria:</p> <p>E.g.</p> <ul style="list-style-type: none"> a) Assignment b) Examination Results c) Lecture Notes d) Lesson Plan e) Study Notes f) Assessment Records g) Publications h) Testimonials, etc. <p>1.11 Ask teachers to identify and discuss the competency requirements of the various ranks in the Ghana Education Service. (Refer to In-service NTS Guidelines, n.d., pp. 38-39).</p>	<p>Evidence criteria:</p> <p>E.g.</p> <ul style="list-style-type: none"> a) Assignment b) Examination Results c) Lecture Notes d) Lesson Plan <p>1.11 Identify and discuss the competency requirements of the various ranks in the Ghana Education Service. (Refer to In-service NTS Guidelines, n.d., pp. 38-39).</p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 In groups, ask teachers to think-square- share and prepare an outline of a lesson plan that can be used to teach a lesson to the NTS in a particular subject in any class (NTS 3a).</p> <p><i>E.g. Sample lesson plan in Social Studies: Refer to Social Studies Teaching syllabus 2010 Year 1.</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <ul style="list-style-type: none"> a) Topic: Self Identity b) Sub-topic: Actions of False Identity c) Objectives: By the end of the lesson the learner will be able to: <ul style="list-style-type: none"> i. Explain the term self ii. Identify at least two actions of false identity and their related problems d) Relevant previous knowledge: Students know themselves. 	<p>2.1. Think-square-share and prepare an outline of a lesson plan that can be used to teach a lesson to the NTS in a particular subject in any class (NTS 3a).</p> <p><i>E.g. Sample lesson plan in Social Studies: Refer to Social Studies Teaching syllabus 2010 Year 1.</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <ul style="list-style-type: none"> a) Topic: Self Identity b) Sub-topic: Actions of False Identity c) Objectives: By the end of the lesson the learner will be able to: <ul style="list-style-type: none"> i. Explain the term self ii. Identify at least two actions of false identity and their related problems d) Relevant previous knowledge: Students know themselves. 	20 mins

	<p>e) <i>Introduction: Ask students to describe themselves.</i></p> <p>f) <i>Tasks/activities:</i></p> <ul style="list-style-type: none"> i. <i>Discuss with learners, the concept of self in relation to their capabilities.</i> ii. <i>Group learners to identify actions of false identity and their related problems.</i> <p>g) <i>Core points:</i></p> <ul style="list-style-type: none"> i. <i>Self is the whole being of an individual, taking into consideration their personal and psychological nature and abilities.</i> ii. <i>Some students pretend to be what they are not, e.g. they want to show off that they come from well to do families while it is not the case.</i> <p>h) <i>Core competencies:</i></p> <ul style="list-style-type: none"> i. <i>Communication and collaboration</i> ii. <i>personal development and leadership</i> <p>i) <i>Conclusion: Use questions and answers to summarise the lesson with learners</i></p> <p>j) <i>Evaluation:</i></p> <ul style="list-style-type: none"> i. <i>What is self?</i> ii. <i>What is the meaning of false identity?</i> iii. <i>Mention two examples of false identity.</i> iv. <i>Mention two problems that can result from false identity.</i> 	<p>e) <i>Introduction: Ask students to describe themselves.</i></p> <p>f) <i>Tasks/activities:</i></p> <ul style="list-style-type: none"> i. <i>Discuss with learners, the concept of self in relation to their capabilities.</i> ii. <i>Group learners to identify actions of false identity and their related problems.</i> <p>g) <i>Core points:</i></p> <ul style="list-style-type: none"> i. <i>Self is the whole being of an individual, taking into consideration their personal and psychological nature and abilities.</i> ii. <i>Some students pretend to be what they are not, e.g. they want to show off that they come from well to do families while it is not the case.</i> <p>h) <i>Core competencies:</i></p> <ul style="list-style-type: none"> i. <i>Communication and collaboration</i> ii. <i>personal development and leadership</i> <p>i) <i>Conclusion: Use questions and answers to summarise the lesson with learners</i></p> <p>j) <i>Evaluation:</i></p> <ul style="list-style-type: none"> i. <i>What is self?</i> ii. <i>What is the meaning of false identity?</i> iii. <i>Mention two examples of false identity.</i> iv. <i>Mention two problems that can result from false identity.</i> 	
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	<p>Note: <i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson, so they know the relationship between lesson objectives and learning outcomes</i></p>	<p>Note: <i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson, so they know the relationship between lesson objectives and learning outcomes</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making explicit links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should</p>	<p>3.1 Ask teachers to tease out the learning outcomes and the learning indicators from the sample lesson plan and explain how they are related to the objectives (NTS 3h). <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding of self-identity.</i> <i>LI 1.1 Explain the term self.</i> <i>LI 1.2 Identify at least two actions of false identity and their related problems.</i></p> <p>3.2 Ask teachers to brainstorm and come up with how the NTS can help to promote the delivery of lessons in the secondary school curriculum (NTS 3e, 3f, 3g, 3h, 3i and 3j). <i>E.g.</i> <i>NTS 3e: Employs a variety of instructional strategies that encourage student participation and critical thinking.</i> <i>E.g. Demonstration, Peer teaching</i> <i>Enquiry based teaching, Projects based, etc.</i></p> <p><i>NTS 3f: Pays attention to all learners, especially girls and students with Special Educational Needs, ensuring their progress.</i> <i>E.g.</i> <i>a) Even distribution of questions among male and female students.</i> <i>b) Giving equal opportunities to learners to achieve</i></p>	<p>3.1 Tease out the learning outcomes and the learning indicators from the sample lesson plan and explain how they are related to the objectives (NTS 3h). <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding of self-identity.</i> <i>LI 1.1 Explain the term self</i></p> <p>3.2 Brainstorm to come up with how the NTS can help to promote the delivery of lessons in the secondary school curriculum (NTS 3e, 3f, 3g, 3h, 3i and 3j). <i>E.g.</i> <i>NTS 3e: Employs a variety of instructional strategies that encourage student participation and critical thinking.</i> <i>E.g. Demonstration, Peer teaching</i> <i>Enquiry based teaching, Projects based, etc.</i></p> <p><i>NTS 3f: Pays attention to all learners, especially girls and students with Special Educational Needs, ensuring their progress.</i> <i>E.g.</i> <i>a) Even distribution of questions among male and female students.</i> <i>b) Giving equal opportunities to learners to achieve</i></p>	30 mins

<p>include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point presentations , TLRs or other resources which need to be developed to support learning 	<p>c) <i>Portraying female characters that are mostly represented by male characters.</i></p> <p>d) <i>Put SEN learners in positions that will make them more active.</i></p> <p>e) <i>Encouraging females to study male dominated courses.</i></p> <p><i>NTS 3g: Employs instructional strategies appropriate for mixed ability, multilingual and multi-age classes.</i></p> <p><i>E.g.</i></p> <p>a) <i>Knowing one's learners and giving them individual attention.</i></p> <p>b) <i>Mixed ability grouping</i></p> <p><i>NTS 3h: Sets meaningful tasks that encourage learner collaboration and lead to purposeful learning.</i></p> <p><i>E.g.</i></p> <p>a) <i>Learner centred activities</i></p> <p>b) <i>Interactive teaching</i></p> <p>c) <i>Project work</i></p> <p><i>NTS 3i: Explains concepts clearly using examples that are familiar to students.</i></p> <p><i>E.g.</i></p> <p>a) <i>Teaching from known to unknown</i></p> <p>b) <i>Providing specific examples</i></p> <p><i>NTS 3j: Produces and uses a variety of teaching and learning resources including ICT, to enhance learning.</i></p> <p><i>E.g.</i></p> <p><i>Teaching Learning Resources (TLRs) charts, maps, globe, flash cards, etc.</i></p> <p><i>Examples of ICT integration are:</i></p> <p>a) <i>Using ICT tools in teaching and learning (computers, projectors)</i></p>	<p>c) <i>Portraying female characters that are mostly</i></p>	
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	<p>b) <i>Presentation using PowerPoint</i></p> <p>c) <i>Submission of assignments via mail.</i></p> <p>d) <i>Surfing Open Educational Resources (OERs) and other internet sources for information.</i></p> <p>3.3 Ask teachers in their subject groups to refer to the NTS guidelines and discuss how the Standards are linked to the use of formative assessment (assessment for learning and assessment as learning) tools and summative assessment (assessment of learning) practices in their respective subject areas (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>Note: <i>NTS 3k: Integrates a variety of assessment modes into teaching to support learning.</i></p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Class exercise</i> b) <i>Project work</i> c) <i>Presentation (Individual and group)</i> d) <i>Written assignment</i> e) <i>Oral assignments</i> <p><i>NTS 3l: Listens to learners and gives constructive feedback.</i></p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Marking and submission of books or scripts.</i> b) <i>Asking questions and responding to questions.</i> <p><i>NTS 3m: Identifies and remediates learners' difficulties or misconceptions, referring learners whose needs lie outside the competency of the teacher.</i></p>	<p>3.3 Refer to the NTS guidelines and discuss how the Standards are linked to the use of formative assessment (assessment for learning and assessment as learning) tools and summative assessment (assessment of learning) practices in your respective subject areas (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>Note: <i>NTS 3k: Integrates a variety of assessment modes into teaching to support learning.</i></p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Class exercise</i> b) <i>Project work</i> <p><i>NTS 3l: Listens to learners and gives constructive feedback.</i></p> <p>E.g.</p> <p><i>Marking and submission of books or scripts.</i></p> <p><i>NTS 3m: Identifies and remediates learners' difficulties or misconceptions, referring learners whose needs lie outside the competency of the teacher.</i></p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using resource persons</i> b) <i>Team teaching</i> c) <i>Mixed ability grouping</i> <p><i>NTS 3n: Keeps meaningful records of every learner and communicates progress clearly to parents and learners.</i></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Records of students works</i> b) <i>Continuous assessment</i> c) <i>Learners reports cards</i> <p><i>NTS 3o: Demonstrates awareness of national and school learning outcomes of learners.</i></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Keeping data on learners' performance periodically</i> b) <i>Keeping GES national data</i> <p><i>NTS 3p: Uses objective criterion referencing to assess learners.</i></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using a rating scale to award grades</i> b) <i>Marking scheme</i> <p>3.4 Ask one or two groups to present their work for feedback from the larger group</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using resource persons</i> b) <i>Team teaching</i> <p><i>NTS 3n: Keeps meaningful records of every learner and communicates progress clearly to parents and learners.</i></p> <p><i>E.g.</i></p> <p><i>Records of students works</i></p> <p><i>NTS 3o: Demonstrates awareness of national and school learning outcomes of learners.</i></p> <p><i>E.g.</i></p> <p><i>Keeping data on learners' performance periodically</i></p> <p><i>NTS 3p: Uses objective criterion referencing to assess learners.</i></p> <p><i>E.g.</i></p> <p><i>Using a rating scale to award grades</i></p> <p>3.4 Present your work for feedback from the larger group</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 Ask teachers to reflect and share what they have learnt about the NTS.</p> <p>4.2 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 3 and provide feedback at the next PLC session.</p> <p>4.3 Remind teachers to read Session 4 from the PLC Handbook in preparation for the next PLC session.</p>	<p>4.1 Reflect and share what you have learnt about the NTS.</p> <p>4.2 Remember to identify a critical friend to observe you in your lessons in relation to PLC Session 3 and provide feedback at the next PLC session.</p> <p>4.3 Remember to read Session 4 from the PLC Handbook in preparation for the next PLC session.</p>	15 mins

PLC Session 4: Professional Development			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session.</p>	<p>1.1 Ask a teacher who observed a lesson of a critical friend to share their findings with the group (NTS 1a, 1b and 1e).</p> <p>1.2 Ask teachers to read Standards 1a, 1b, and 1c under <i>Professional Values and Attitudes</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Demonstrate ability to critically and collectively improve teaching and learning (NTS 1a, 3e and 3k).</p> <p>LI 1.1 List strengths and limitations of own practice (NTS 1a).</p> <p>LI 1.2 Critique peers' practice using lesson notes, reflective</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach after the last PLC session (NTS 1a, 1b and 1e).</p> <p>1.2 Read Standards 1a, 1b, and 1c under Professional Values and Attitudes of NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) of the session before reading the LOs and LIs listed for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Demonstrate ability to critically and collectively improve teaching and learning (NTS 1a, 3e and 3k).</p> <p>LI 1.1 List strengths and limitations of own practice (NTS 1a).</p> <p>LI 1.2 Critique peers' practice using lesson notes, reflective</p>	25 mins

	<p>logs, journals, portfolios, etc. (NTS 1a).</p> <p>LO 2: Demonstrate knowledge and skill to improve their personal and professional development through lifelong learning and continuous professional development (1b, 1d).</p> <p>LI 2.1 Identify gaps in knowledge to improve own personal development (go beyond the textbook and show evidence of the use of the library, internet, mentor /resource person's inputs, etc.).</p> <p>L1 2.2 Identify gaps in own knowledge to improve professional development (go beyond the textbook and show evidence of the use of the library, internet, mentor /resource person's inputs, etc.).</p> <p>LO 3: Demonstrate skills in effective leadership qualities both in the classroom and wider school community (NTS 1c, 1f).</p> <p>LI 3.1 Model given roles.</p> <p>LI 3.2 Delegate roles taking into consideration Gender Equality Social Inclusion (GESI) (NTS 3f, 3g).</p>	<p>logs, journals, portfolios, etc. (NTS 1a).</p> <p>LO 2: Demonstrate knowledge and skill to improve their personal and professional development through lifelong learning and continuous professional development(1b, 1d).</p> <p>LI 2.1 Identify gaps in knowledge to improve own personal development (go beyond the textbook and show evidence of the use of the library, internet, mentor /resource person's inputs, etc.).</p> <p>L1.2.2 Identify gaps in own knowledge to improve professional development (go beyond the textbook and show evidence of the use of the library, internet, mentor /resource person's inputs, etc.).</p> <p>LO 3: Demonstrate skills in effective leadership qualities both in the classroom and wider school community (NTS 1c, 1f).</p> <p>LI 3.1 Model given roles.</p> <p>LI 3.2 Delegate roles taking into consideration Gender Equality Social Inclusion (GESI) (NTS 3f, 3g).</p>	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.3 Ask teachers to discuss and relate the concept of school based professional development to their various subjects (NTS 1b, 1c,1d and 1f).</p> <p><i>E.g.</i> <i>Working with other teachers to exchange ideas at professional learning community sessions</i></p> <p><i>Co-teaching with colleagues to</i></p>	<p>1.3 Discuss and relate the concept of professional development to your various subjects (NTS 1b, 1c,1d and 1f).</p> <p><i>E.g.</i> <i>Working with other teachers to exchange ideas at professional learning community sessions</i></p>	

	<p><i>improve learning outcomes in their respective schools</i></p> <p>1.4 Ask teachers to identify further areas of professional development opportunities that will enhance their teaching of subject areas (NTS 1b, 1c and 3a).</p> <p><i>E.g.</i> <i>Universities provide opportunities for further studies in the subject areas</i></p> <p><i>Subject associations organize annual conferences to upgrade teachers' skills in teaching</i></p> <p>1.5 Ask teachers to identify possible misconceptions and stereotypes in their subject areas (NTS 3m).</p> <p><i>E.g. (Science)</i> <i>a) Science is for students with very high IQ.</i> <i>b) Some Science domains are gender specific, e.g., Engineering for males, Nursing for females, etc.</i> <i>c) Science is not suitable for students with Special Educational Needs (SEN)</i> <i>d) Science is expensive</i></p> <p>1.6 Ask teachers to discuss possible ways to mitigate these misconceptions and stereotypes in their subject areas (NTS 3i).</p> <p><i>E.g. (Science)</i> <i>a) Invite role models / resource persons that have overcome these stereotypes and have achieved successes in the Science domains in the</i></p>	<p>1.4 Identify further areas of professional development that will enhance your teaching of Science (NTS 1b, 1c and 3a).</p> <p><i>E.g.</i> <i>Universities provide opportunities for further studies in the subject areas</i></p> <p>1.5 Identify possible misconceptions and stereotypes in Science (NTS 3m).</p> <p><i>E.g. (Science)</i> <i>a) Science is for students with very high IQ.</i> <i>b) Some Science domains are gender specific, e.g., Engineering for males, Nursing for females, etc.</i> <i>c) Science is not suitable for students with Special Educational Needs (SEN)</i></p> <p>1.6 Discuss possible ways to mitigate these misconceptions and stereotypes in your subject area (NTS 3i).</p> <p><i>E.g. (Science)</i> <i>Invite role models / resource persons that have overcome these stereotypes and have achieved successes in the Science domains in the society</i></p>	
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	<p><i>society to share their experiences to encourage the learners.</i></p> <p><i>b) Play a pre-recorded video of persons who have defied these stereotypes and have achieve successes in the society for learners to watch and discuss.</i></p> <p>1.7 In mixed gender groupings (where possible), ask teachers to list, some 21st century skills (NTS 3e, 3f and 3g).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Communication skills</i> b) <i>Collaboration skills</i> c) <i>Observation and enquiry skills</i> d) <i>Digital literacy skills</i> e) <i>Creativity and innovation skills</i> f) <i>Personal development and leadership skills</i> <p>1.8 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners (NTS 3j).</p> <p>Communication skills e.g., group discussion, role-play, presentation, etc.</p> <p>Collaboration skills e.g., group discussion, project / research, role-play, hands-on-activities, etc.</p> <p>Observation and enquiry skills e.g., group discussion, project / research, role-play, hands-on-activities, etc.</p> <p>Creativity and innovation skills e.g., group discussion, project / research, role-play, hands-on-activities, presentation.</p>	<p><i>to share their experiences to encourage the learners.</i></p> <p>1.7 In mixed gender groupings (where possible) list some 21st century skills (NTS 3e, 3f and 3g).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Communication skills</i> b) <i>Collaboration skills</i> c) <i>Observation and enquiry skills</i> d) <i>Digital literacy skills</i> <p>1.8 Discuss possible activities you would adopt to develop the 21st century skills in your learners (NTS 3j).</p> <p>Communication skills e.g., group discussion, role-play, presentation, etc.</p> <p>Collaboration skills e.g., group discussion, project / research, role-play, hands-on-activities, etc.</p> <p>Observation and enquiry skills e.g., group discussion, project / research, role-play, hands-on-activities, etc.</p> <p>Creativity and innovation skills e.g., group discussion, project / research, role-play, hands-on-activities, presentation.</p>	
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	<p>Personal development skills e.g., group discussion, project/ research, role-play, hands-on-activities, extended learning, presentation.</p> <p>Leadership skills e.g., group discussion, project /research, role-play, hands-on-activities, extended learning, presentation.</p> <p>1.9 Ask teachers to identify ways of incorporating ICT in their lessons (NTS 3j).</p> <p>E.g.</p> <p>a) Surfing OERs and other internet sources for information</p> <p>b) Teach using power Point presentation.</p> <p>c) Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc.</p>	<p>1.9 Identify ways of incorporating ICT in your lessons (NTS 3j).</p> <p>E.g.</p> <p>a) Surfing OERs and other internet sources for information</p> <p>b) Teach using power Point presentation.</p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson topics in their various subject areas and link them to the concepts of LOs and LIs (NTS 3a, 3b).</p> <p>E.g.</p> <p>Sample lesson topics in Science domains:</p> <p>Domain: Physics Topic: Scientific Measurement Sub-topic: S.I. Units - Basic units and Derived units of measurement</p> <p>Domain: Biology Topic: Cells Sub-topic: Plant Cell and Animal Cell</p> <p>Domain: Chemistry Topic: Matter Sub-topic: The building blocks of matter</p> <p>Domain: Agricultural Science</p>	<p>2.1 Discuss samples of your lesson topics in your various subject areas and link them to the concepts of LOs and LIs (NTS 3a, 3b).</p> <p>E.g.</p> <p>Sample lesson topics in Science domains:</p> <p>Domain: Physics Topic: Scientific Measurement Sub-topic: S.I. Units - Basic units and Derived units of measurement</p> <p>Domain: Biology Topic: Cells Sub-topic: Plant Cell and Animal Cell</p> <p>Domain: Chemistry Topic: Matter Sub-topic: The building blocks of matter</p> <p>Domain: Agricultural Science</p>	<p>20 mins</p>

	<p><i>Topic: Rocks</i> <i>Sub-topic: Major types of rocks and their formation</i></p> <p><i>An example of an outline of a lesson plan based on the 2010 Senior High School Syllabus for teaching the topic Scientific Measurements. *</i></p> <p>a) Topic: Scientific Measurement</p> <p>b) Sub-topic: S.I. Units - Basic units and Derived units of measurement</p> <p>c) Objectives: By the end of the lesson, the learner will be able to:</p> <ol style="list-style-type: none"> Use S.I. units in measurement Differentiate between basic units and derived units of measurement Give 5 examples of basic units of measurement <p>d) Relevant previous knowledge: Learners have been measuring things around them</p> <p>e) Introduction: Group learners, bearing in mind GESI and ask each group to discuss and write the things we measure in daily life and share with the whole class. Remind each group to appoint a leader and a secretary. The leader will do the sharing on behalf of the group.</p> <p><i>In groups, lead learners to discuss and write the aspects of the things identified that are measured.</i></p>	<p><i>Topic: Rocks</i> <i>Sub-topic: Major types of rocks and their formation</i></p> <p><i>An example of an outline of a lesson plan based on the 2010 Senior High School Syllabus for teaching the topic Scientific Measurements. *</i></p> <p>a) Topic: Scientific Measurement</p> <p>b) Sub-topic: S.I. Units - Basic units and Derived units of measurement</p> <p>c) Objectives: By the end of the lesson, the learner will be able to:</p> <ol style="list-style-type: none"> Use S.I. units in measurement Differentiate between basic units and derived units of measurement Give 5 examples of basic units of measurement <p>d) Relevant previous knowledge: Learners have been measuring things around them</p> <p>e) Introduction: Group learners, bearing in mind GESI and ask each group to discuss and write the things we measure in daily life and share with the whole the class. Remind each group to appoint a leader and a secretary. The leader will do the sharing on behalf of the group.</p> <p><i>In groups, lead learners to discuss and write the aspects of the things identified that are measured.</i></p>	
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	<p>f) Tasks/activities:</p> <p>i. Present a set of materials (e.g., watch, tape measure, etc) to learners and brainstorm with them what the materials are used to measure)</p> <p>ii. Discuss with learners the use of S.I. units in measurement</p> <p>iii. Discuss with class the differences between basic units and derived units of measurement</p> <p>iv. brainstorm with learners to give examples of basic units of measurements</p> <p>g) Closure: Ask learners to reflect on the following questions: What have you learnt today? How are you going to apply what you have learnt today in everyday life?</p> <p>h) Evaluation:</p> <p>i. Match the following quantities with their right units of measurement</p> <table><tr><th>S/ N</th><th>QTY</th><th>S.I. UNITS</th></tr><tr><td>1</td><td>Time</td><td>Metre (m)</td></tr><tr><td>2</td><td>Mass</td><td>Metre square (m²)</td></tr><tr><td>3</td><td>Volume</td><td>Kelvin (K)</td></tr><tr><td>4</td><td>Length</td><td>Kilogram (Kg)</td></tr><tr><td>5</td><td>Area</td><td>Cubic Metre (m³)</td></tr><tr><td>6</td><td>Tempera ture</td><td>Second (S)</td></tr></table> <p>i) Content Some of the things in the environment we measure include: trees, tables, human beings, playing field, food, water, etc.</p>	S/ N	QTY	S.I. UNITS	1	Time	Metre (m)	2	Mass	Metre square (m ²)	3	Volume	Kelvin (K)	4	Length	Kilogram (Kg)	5	Area	Cubic Metre (m ³)	6	Tempera ture	Second (S)	<p>f) Tasks/activities:</p> <p>i. Present a set of materials (e.g., watch, tape measure, etc) to learners and brainstorm with them what the materials are used to measure)</p> <p>ii. Discuss with learners the use of S.I. units in measurement</p> <p>iii. Discuss with class the differences between basic units and derived units of measurement</p> <p>iv. brainstorm with learners to give examples of basic units of measurements</p> <p>g) Closure: Ask learners to reflect on the following questions: What have you learnt today? How are you going to apply what you have learnt today in everyday life?</p> <p>h) Evaluation:</p> <p>i. Match the following quantities with their right units of measurement</p> <table><tr><th>S/ N</th><th>QTY</th><th>S.I. UNITS</th></tr><tr><td>1</td><td>time</td><td>Metre (m)</td></tr><tr><td>2</td><td>mass</td><td>Metre square (m²)</td></tr><tr><td>3</td><td>volume</td><td>Kelvin (K)</td></tr><tr><td>4</td><td>length</td><td>Kilogram (Kg)</td></tr><tr><td>5</td><td>area</td><td>Cubic Metre (m³)</td></tr><tr><td>6</td><td>tempera ture</td><td>Second (S)</td></tr></table> <p>i) Content Some of the things in the environment we measure include: trees, tables, human beings, playing field, food, water, etc.</p>	S/ N	QTY	S.I. UNITS	1	time	Metre (m)	2	mass	Metre square (m ²)	3	volume	Kelvin (K)	4	length	Kilogram (Kg)	5	area	Cubic Metre (m ³)	6	tempera ture	Second (S)
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	<p><i>Aspects of these things that can be measured are:</i></p> <ul style="list-style-type: none"> <i>i. Tree - height</i> <i>ii. Table - length, breadth and height</i> <i>iii. Human being - height and mass</i> <i>iv. Food - mass, etc</i> <p><i>The S.I. Units for these measurements are:</i></p> <p><i>height measured in metres (m)</i> <i>mass measured in kilogram (Kg)</i> <i>volume measured in cubic metre /cubic centimetre (m^3/c^3)</i> <i>electric current measured in ampere (A)</i> <i>time measured in second(s)</i></p> <p><i>The main difference between Basic Units and Derived Units of measurement is that basic units are fundamental units of measurement that are generally recognized and accepted all over the world as units of measurement while derived units are units of measurement obtained by the multiplication or division of the basic units of measurement.</i></p> <p><i>Examples of Basic Units of measurement are:</i></p> <ul style="list-style-type: none"> <i>i. Kilogram for mass</i> <i>ii. Second for time</i> <i>iii. Kelvin for temperature</i> <i>iv. Candela for light intensity</i> <i>v. Mole for amount of substance</i> <i>vi. Ampere for electrical current</i> <i>vii. Metre for length</i> <p><i>j) Core Competencies:</i></p> <ul style="list-style-type: none"> <i>i. Communication and Collaboration</i> <i>ii. Personal Development and Leadership</i> <i>iii. Critical Thinking and Problem Solving</i> 	<p><i>Aspects of these things that can be measured are:</i></p> <ul style="list-style-type: none"> <i>i. Tree - height</i> <i>ii. Table - length, breadth and height</i> <i>iii. Human being - height and mass</i> <i>iv. Food - mass, etc</i> <p><i>The S.I. Units for these measurements are:</i></p> <p><i>height measured in metres (m)</i> <i>mass measured in kilogram (Kg)</i> <i>volume measured in cubic metre /cubic centimetre (m^3/c^3)</i> <i>electric current measured in ampere (A)</i> <i>time measured in second(s)</i></p> <p><i>The main difference between Basic Units and Derived Units of measurement is that basic units are fundamental units of measurement that are generally recognized and accepted all over the world as units of measurement while derived units are units of measurement obtained by the multiplication or division of the basic units of measurement.</i></p> <p><i>Examples of Basic Units of measurement are:</i></p> <ul style="list-style-type: none"> <i>i. Kilogram for mass</i> <i>ii. Second for time</i> <i>iii. Kelvin for temperature</i> <i>iv. Candela for light intensity</i> <i>v. Mole for amount of substance</i> <i>vi. Ampere for electrical current</i> <i>vii. Metre for length</i> <p><i>j) Core Competencies:</i></p> <ul style="list-style-type: none"> <i>i. Communication and Collaboration</i> <i>ii. Personal Development and Leadership</i> <i>iii. Critical Thinking and Problem Solving</i> 	
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	<i>*Teachers will be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan</i>	<i>*Teachers will be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan</i>	
3.0 Teaching, learning and assessment Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification 1.1 Noting opportunities for making explicit links to the Secondary School Curriculum 2.1 Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills 3.1 Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to	<p>3.1 Ask teachers to deduce the learning outcomes and the learning indicators from the sample lesson plan and compare them with the objectives of the lesson.</p> <p><i>E.g.</i> <i>LO: Demonstrate sound knowledge and understanding of scientific measurement.</i> <i>LI 1.1 Use S.I. units in measurement</i></p> <p><i>LI 1.2 Differentiate between basic units and derived units of measurement</i></p> <p><i>LI 1.3 Give 5 examples of basic units of measurement</i></p> <p>Note: <i>The learning outcome can be achieved through the learning objectives as learning indicators</i></p> <p>3.2 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p><i>E.g</i> Possible gaps: <i>absence of a prescribed textbook, etc.</i> Possible Solution: <i>use of a library, OERs and other internet facilities, etc.</i></p> <p>Possible gaps: <i>lack of measuring instruments such as thermometers, meter rules, etc.</i> Possible Solution: <i>use of a video showing how measurement instruments are used, etc.</i></p>	<p>3.1 Deduce the learning outcomes and the learning indicators from the sample lesson plan and compare them with the objectives of the lesson.</p> <p><i>E.g.</i> <i>LO: Demonstrate sound knowledge and understanding of scientific measurement.</i> <i>LI 1.1 Use S.I. units in measurement</i></p> <p><i>LI 1.2 Differentiate between basic units and derived units of measurement</i></p> <p>3.2 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p><i>E.g.</i> Possible gaps: <i>absence of a prescribed textbook, etc.</i> Possible Solution: <i>use of a library, OERs and other internet facilities, etc.</i></p>	30 mins

<p>support student teacher learning</p> <p>4.1 Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any PowerPoint presentations , TLM or other resources which need to be developed to support learning 	<p>3.3 Ask teachers to suggest alternative ways of delivering the sample lessons (NTS 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>use of flipped classroom</i> b) <i>extended learning</i> c) <i>demonstration</i> d) <i>simulation</i> e) <i>field trips /community walk</i> f) <i>work-based learning</i> <p>3.4 Ask teachers to indicate how they will promote GESI responsiveness in the lesson (NTS 2f, 3a, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction between all learners</i> b) <i>Mixed ability/gender group activities</i> c) <i>Positive feedback to all learners especially SEN and other disadvantaged learners</i> d) <i>Use of a local resource person who has defied stereotyping to succeed in science.</i> <p>3.5 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices, e.g., assessment for learning and assessment as learning (NTS 3k, 3l).</p> <p>3.6 In groups, ask teachers to suggest other authentic assessment methods that could be used in their planned lesson (NTS 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Self-assessment</i> b) <i>Peer-assessment</i> c) <i>Appraisal</i> d) <i>Portfolio</i> 	<p>3.3 Suggest alternative ways of delivering the sample lessons (NTS 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>use of flipped classroom</i> b) <i>extended learning</i> c) <i>demonstration</i> d) <i>simulation</i> <p>3.4 Indicate how you will promote GESI responsiveness in the lesson (NTS 2f, 3a, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction between all learners</i> b) <i>Mixed ability/gender group activities</i> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices, e.g., assessment for learning and assessment as learning (NTS 3k, 3l).</p> <p>3.6 In groups, suggest other authentic assessment methods that could be used in your planned lesson (NTS 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Self-assessment</i> b) <i>Peer-assessment</i> c) <i>Appraisal</i> d) <i>Portfolio</i> 	
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	<p>e) <i>Project</i> f) <i>Role play</i></p> <p>3.7 Ask teachers to list and discuss how the lesson makes use of resources to support relevant activities in the NTS (NTS 3j).</p> <p>E.g. a) <i>Pre-recorded videos</i> b) <i>YouTube videos</i> c) <i>Photographs</i> d) <i>OERs/Internet facilities</i> e) <i>Projectors</i> f) <i>Calculators</i></p> <p>3.8 Ask one teacher to model a teaching activity in the sample lesson plan. (EXTENSION ACTIVITY)</p>	<p>3.7 List and discuss how the lesson makes use of resources to support relevant activities in the NTS (NTS 3j).</p> <p>E.g. a) <i>Pre-recorded videos</i> b) <i>YouTube videos</i> c) <i>Photographs</i> d) <i>OERs/Internet facilities</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> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Ask teachers to reflect and write what they have learnt in the session (NTS 1a, 3l and 3n).</p> <p>4.2 Ask them to share what they have learnt with the larger group.</p> <p>4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC session 4 and provide feedback at the next PLC Session.</p> <p>4.4 Ask teachers to read Session 5 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l and 3n).</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 4 and provide feedback at the next PLC Session.</p> <p>4.4 Read Session 5 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session 5: Community of Practice			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the sessions</i>	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the sessions</i>	Time in session
1. Review of previous session and introduction to new session NB: The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Ask a teacher who observed a lesson of a critical friend to share their findings with the group.</p> <p>1.2 Ask teachers to read Standards 1d, 1e, 1f and 1g under <i>Professional Values and Attitudes</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Demonstrate knowledge and understanding of ethical, legal, and professional code of conduct (NTS 1d).</p> <p>LI 1.1 Mention at least three Ministry of Education (MoE)/Ghana Education Service (GES) ethical codes of conduct for teachers.</p> <p>LI 1.2 State the duties and responsibilities of a teacher.</p>	<p>1.1 Share your findings of the lesson you observed with your critical friend after the last PLC session.</p> <p>1.2 Read Standards 1d, 1e, 1f and 1g under <i>Professional Values and Attitudes</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Demonstrate knowledge and understanding of ethical, legal, and professional code of conduct (NTS 1d).</p> <p>LI 1.1 Mention at least three Ministry of Education (MoE)/Ghana Education Service (GES) ethical codes of conduct for teachers.</p> <p>LI 1.2 State the duties and responsibilities of a teacher.</p>	25 mins

	<p>LI 1.3 List the dos and don'ts of the teaching profession.</p> <p>LO 2: Demonstrate knowledge, understanding and skills in establishing and maintaining a cordial relationship with staff, learners and the entire school community (NTS 1e).</p> <p>LI 2.1 State ways by which teachers can establish and maintain cordial relationship with staff, learners and the school community.</p> <p>LI 2.2 State ways by which teachers can be involved in community activities.</p> <p>LI 2.3 State ways by which teachers can participate in school activities.</p> <p>LO 3: Demonstrate knowledge, understanding and skills in establishing a positive teacher identity and acting as a good role model (NTS 1f).</p> <p>LI 3.1 Mention at least five qualities of a good teacher.</p> <p>LI 3.2 List sources or records of class attendance by teachers.</p> <p>LI 3.3 List four ways by which a teacher can be GESI responsive.</p> <p>LO 4: Demonstrate knowledge, skills and understanding of the teacher's roles as a potential agent of change in the school, community and the nation (NTS 1g).</p> <p>LI 4.1 List at least four ways by which a teacher can be seen as a change agent in the school, community and the nation.</p>	<p>LI 1.3 List the dos and don'ts of the teaching profession.</p> <p>LO 2: Demonstrate knowledge, understanding and skills in establishing and maintaining a cordial relationship with staff, learners, and the entire school community (NTS 1e).</p> <p>LI 2.1 State ways by which teachers can establish and maintain cordial relationship with staff, learners and the school community.</p> <p>LI 2.2 State ways by which teachers can be involved in community activities.</p> <p>LI 2.3 State ways by which teachers can participate in school activities.</p> <p>LO 3: Demonstrate knowledge, understanding and skills in establishing a positive teacher identity and acting as a good role model (NTS 1f).</p> <p>LI 3.1 Mention at least five qualities of a good teacher.</p> <p>LI 3.2 List sources or records of class attendance by teachers.</p> <p>LI 3.3 List four ways by which a teacher can be GESI responsive.</p> <p>LO 4: Demonstrate knowledge, skills and understanding of the teacher's roles as a potential agent of change in the school, community and the nation (NTS 1g).</p> <p>LI 4.1 List at least four ways by which a teacher can be seen as a change agent in the school, community and the nation.</p>	
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	<p>LI 4.2 Give examples of challenges of the school and the community and suggest possible solutions.</p> <p>1.3 Ask teachers to list at least three ethical codes of conduct for teachers in the Ghana Education Service (NTS 1d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Teachers should be punctual to class</i> b) <i>Teachers should show regard for policies of MoE/GES and the school in their work</i> c) <i>Teachers should maintain respect for both males and females' dignity in class and community</i> d) <i>Teachers should avoid exploiting learners' vulnerability, etc.</i> <p>1.4 Ask teachers to discuss at least three duties and responsibilities of a teacher (NTS 1d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Prepare relevant and adequate teaching notes</i> b) <i>Teach and give class exercises</i> c) <i>Mark and give feedback on class exercises</i> d) <i>Supervise learners, etc.</i> <p>1.5 Ask teachers to list at least four dos and four don'ts of the teaching profession (NTS 1d).</p> <p><i>E.g.</i></p> <p><i>Dos:</i></p> <ul style="list-style-type: none"> a) <i>Do teach and give class exercises</i> b) <i>Do mark and give feedback on class exercises</i> c) <i>Do supervise learners' work</i> 	<p>LI 4.2 Give examples of challenges of the school and the community and suggest possible solutions.</p> <p>1.3 List at least three ethical codes of conduct for teachers in the Ghana Education Service (NTS 1d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Teachers should be punctual to class</i> b) <i>Teachers should show regard for policies of MoE/GES and the school in their work</i> <p>1.4 Discuss at least three duties and responsibilities of a teacher (NTS 1d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Prepare relevant and adequate teaching notes</i> b) <i>Teach and give class exercises, etc.</i> <p>1.5 List at least four dos and four don'ts of the teaching profession (NTS 1d).</p> <p><i>E.g.</i></p> <p><i>Dos:</i></p> <ul style="list-style-type: none"> a) <i>Do teach and give class exercises</i> b) <i>Do mark and give feedback on class exercises</i> c) <i>Do supervise learners' work</i> 	
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	<p>d) <i>Do offer guidance and counselling services to learners</i></p> <p>e) <i>Do take part in school activities, etc.</i></p> <p><i>Don'ts</i></p> <p>a) <i>Don't exploit the vulnerability of learners</i></p> <p>b) <i>Don't send learners on errands during contact hours</i></p> <p>c) <i>Don't engage in physical violence</i></p> <p>d) <i>Don't administer corporal punishment on learners</i></p> <p>e) <i>Don't discriminate against learners, etc.</i></p> <p>1.6 Ask teachers to state at least four ways by which they can establish and maintain cordial relationship with staff, learners and the school community (NTS 1e).</p> <p><i>E.g.</i></p> <p>a) <i>Read the teachers' code of ethics</i></p> <p>b) <i>Attend and contribute to school meetings</i></p> <p>c) <i>Take part in parent-teacher consultations</i></p> <p>d) <i>Attend and contribute to School Management Committee (SMC) and Parents Association (PA) meetings</i></p> <p>e) <i>Sensitize others on the need to educate both boys and girls</i></p> <p>f) <i>Become aware of learners' background, etc.</i></p> <p>1.7 Ask teachers to state at least four ways by which they can be involved in community activities (NTS 1e).</p>	<p><i>Don'ts</i></p> <p>a) <i>Don't exploit the vulnerability of learners</i></p> <p>b) <i>Don't send learners on errands during contact hours</i></p> <p>c) <i>Don't engage in physical violence, etc.</i></p> <p>1.6 State at least four ways by which you can establish and maintain cordial relationship with staff, learners and the school community (NTS 1e).</p> <p><i>E.g.</i></p> <p>a) <i>Read the teachers' code of ethics</i></p> <p>b) <i>Attend and contribute to school meetings</i></p> <p>c) <i>Take part in parent-teacher consultations, etc.</i></p> <p>1.7 State at least four ways by which you can be involved in community activities (NTS 1e).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Take part in community durbars</i> b) <i>Attend community festivals, funerals, naming ceremonies, etc.</i> c) <i>Take part in community sports and games</i> d) <i>Participate in community cleanup exercises</i> e) <i>Support communities to organize their events in the school environment, etc.</i> <p>1.8 Ask teachers to mention at least five qualities of a good teacher (NTS 1f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Be a good communicator</i> b) <i>Be a good listener</i> c) <i>Be a good collaborator</i> d) <i>Be adaptable</i> e) <i>Be empathetic</i> f) <i>Be patient</i> g) <i>Share best practices</i> h) <i>Master content knowledge in their subject areas of specialization, etc.</i> <p>1.9 Ask teachers to list at least three sources of records to monitor the attendance of teachers (NTS 1f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Clock-in and out machine</i> b) <i>Staff attendance register</i> c) <i>Teachers' attendance register in class</i> d) <i>Learners' attendance register</i> e) <i>Headmasters/mistress records, etc.</i> <p>1.10 Ask teachers to state at least three ways by which a teacher can be GESI responsive (NTS 1f).</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Take part in community durbars</i> b) <i>Attend community festivals, funerals, naming ceremonies, etc.</i> c) <i>Take part in community sports and games, etc.</i> <p>1.8 Mention at least five qualities of a good teacher (NTS 1f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Be a good communicator</i> b) <i>Be a good listener</i> c) <i>Be a good collaborator</i> d) <i>Be adaptable, etc.</i> <p>1.9 List at least three sources of records to monitor the attendance of teachers (NTS 1f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Clock-in and out machine</i> b) <i>Staff attendance register, etc.</i> <p>1.10 State at least three ways by which a teacher can be GESI responsive (NTS 1f).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Be a good role model for all learners in class irrespective of their background</i> b) <i>Respect the views of all learners</i> c) <i>Distribute questions to male and female learners fairly</i> d) <i>Make reasonable adjustment to cater for SEN learners</i> e) <i>Focus on effective and efficient classroom management, etc.</i> <p>1.11 Ask teachers to list at least four ways by which a teacher can be seen as an agent of change in the school, community and the nation (NTS 1g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Promote inclusion and tolerance of all learners</i> b) <i>Actively prevent intolerance</i> c) <i>Challenge traditional gender roles and promote gender equality</i> d) <i>Engage in initiatives that bring about changes or improvement in the school (i.e., innovative use of local materials or facilitating access and social inclusion by learners' disability or access to water or clean latrines)</i> e) <i>Support parents to help with their ward's homework</i> f) <i>Follow up on learners who are absent from school, etc.</i> <p>1.12 Ask teachers to identify at least two challenges of the school and the community and suggest possible solutions (NTS 1g).</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> c) <i>Be a good role model for learners in class</i> d) <i>Respect the views of all learners</i> e) <i>Provide special attention to learners with special educational needs (SEN), etc.</i> <p>1.11 List at least four ways by which a teacher can be seen as an agent of change in the school, community and the nation (NTS 1g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Promote inclusion and tolerance of all learners</i> b) <i>Actively prevent intolerance</i> c) <i>Challenge traditional gender roles and promote gender equality issues, etc.</i> <p>1.12 Identify at least two challenges of the school and the community and suggest possible solutions (NTS 1g).</p>	
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	<p><i>E.g.</i> School Challenges and solutions:</p> <ul style="list-style-type: none"> a) Accommodation challenges – seek support from PA, District Assembly and other benevolent organizations b) Indiscipline – effective enforcement of school rules and regulations c) Low performance – effective and efficient assessment, monitoring and supervision of learners, etc. <p>Community Challenges and solutions:</p> <ul style="list-style-type: none"> a) Teenage pregnancies – awareness creation/education to both learners and community b) Irresponsible parenting – sensitizing parents c) Ignorance - Awareness creation/education, etc. <p>1.13 Ask teachers to discuss and relate the concept of community of practice to the delivery of lessons in their various subject areas.</p> <p><i>E.g.</i> <i>In English Language, learners could be put into two GESI responsive groups to debate a motion such as “Female education is the panacea for the country’s underdevelopment”, thereby engaging in different areas of English language like grammar, writing (composition), listening and speaking (speech work), etc.</i></p>	<p><i>E.g.</i> School Challenges and solutions:</p> <ul style="list-style-type: none"> a) Accommodation challenges – seek support from PA, District Assembly and other benevolent organizations, etc. b) Indiscipline – effective enforcement of school rules and regulations <p>Community Challenges and solutions:</p> <ul style="list-style-type: none"> a) Teenage pregnancies – awareness creation/education to both learners and community, etc. b) Irresponsible parenting – sensitizing parents <p>1.13 Discuss and relate the concept of community of practice to the delivery of lessons in your various subject areas.</p> <p><i>E.g.</i> <i>In English Language, learners could be put into two GESI responsive groups to debate a motion such as “Female education is the panacea for the country’s underdevelopment”, thereby engaging in different areas of English language like grammar, writing (composition), listening and speaking (speech work), etc.</i></p>	
Give regard for possible misconceptions	1.14 Ask teachers to identify possible misconceptions in various subject areas.	1.14 Identify possible misconceptions in your various subject areas.	

<p>and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p><i>E.g. (English)</i></p> <ul style="list-style-type: none"> <i>a) English Language is for learners with high IQ</i> <i>b) Females are more fluent in English than males</i> <i>c) Girls are good at English and boys are good at Mathematics</i> <i>d) English Language is perceived to be a very difficult subject to pass, etc.</i> <p>1.15 Discuss with teachers, possible ways to mitigate these misconceptions and stereotypes in teaching the various subjects.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) In English Language, you may invite role models/resource persons that have overcome these stereotypes and have achieved successes in the study of English Language to give a talk on such misconceptions and stereotypes</i> <i>b) Organize orientations to sensitize all learners on the benefits of the study of English Language by all categories of learners</i> <i>c) Organize English Language remediation for learners and professional development training to make English Language teachers more effective in classrooms, etc.</i> <p>1.16 In mixed gender groupings (where possible), ask teachers to list at least four 21st century skills related to community of practice.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Critical thinking</i> <i>b) Research skills</i> <i>c) Digital citizenship</i> <i>d) Communication skills</i> 	<p><i>E.g. (English)</i></p> <ul style="list-style-type: none"> <i>a) English Language is for learners with high IQ</i> <i>b) Females are more fluent in English than males, etc.</i> <p>1.15 Discuss possible ways to mitigate these misconceptions and stereotypes in teaching the various subjects.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) In English Language, you may invite role models/resource persons that have overcome these stereotypes and have achieved successes in the study of English Language to give a talk on such misconceptions and stereotypes</i> <i>b) Organize orientations to sensitize all learners on the benefits of the study of English Language by all categories of learners, etc.</i> <p>1.16 In mixed gender groupings (where possible), list at least four 21st century skills related to community of practice.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Critical thinking</i> <i>b) Research skills</i> <i>c) Digital citizenship</i> <i>d) Communication skills</i> 	
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	<p>e) <i>Collaboration skills</i> f) <i>Observation and enquiry skills</i> g) <i>Digital literacy</i> h) <i>Creativity skills, etc.</i></p> <p>1.17 Ask teachers to identify ways of incorporating ICT in their lessons.</p> <p><i>E.g.</i> a) <i>Employ computer assisted approaches such as surfing Open Educational Resources (OERs), Encarta Encyclopedia, Google classroom, etc., in teaching English Language</i> b) <i>Employ computer software such as Sunflower, Microsoft office, AnswerGarden, BrainPOP, Mathkids, etc., in teaching Mathematics and Science related subjects</i> c) <i>Explore and adopt the use of various teaching and learning research links to plan and deliver lessons in various subject areas e.g. academia.edu, ai.google, data-gov.in, etc.</i></p> <p>1.18 Ask teachers to mention and discuss their lists of 21st century skills (from 1.16 above) and how they can support community of practice.</p> <p><i>E.g.</i> a) <i>Critical thinking:</i> <i>Teamwork, assigning tasks, brainstorming, etc.</i> b) <i>Research skills:</i> <i>Google search, group work and other research tools, etc.</i> c) <i>Digital Citizenship:</i> <i>Use of mobile phones, computers, being IT compliant and use it to</i></p>	<p>e) <i>Collaboration skills</i></p> <p>1.17 Identify ways of incorporating ICT in your lessons.</p> <p><i>E.g.</i> a) <i>Employ computer assisted approaches such as surfing Open Educational Resources (OERs), Encarta Encyclopedia, Google classroom, etc., in teaching English Language</i> b) <i>Employ computer software such as Sunflower, Microsoft office, AnswerGarden, BrainPOP, Mathkids, etc., in teaching Mathematics and Science related subjects</i></p> <p>1.18 Mention and Discuss your lists of 21st century Skills (from 1.16 above) and how they can support community of practice.</p> <p><i>E.g.</i> a) <i>Critical thinking:</i> <i>Teamwork, assigning tasks, brainstorming, etc.</i> b) <i>Research skills:</i> <i>Google search, group work and other research tools, etc.</i></p>	
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	<p><i>work with others in teaching and learning, etc.</i></p> <p>1.19 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners.</p> <p><i>E.g. Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development skills, etc., can be developed in learners using the following activities;</i></p> <ul style="list-style-type: none"> <i>a) group discussion</i> <i>b) project/research work</i> <i>c) role-play</i> <i>d) hands-on activities</i> <i>e) extended learning</i> <i>f) presentation</i> <i>g) drama</i> <i>h) field Trips</i> <i>i) debates</i> <i>j) quizzes, etc.</i> 	<p>1.19 Discuss possible activities you would adopt to develop the 21st century skills in their learners.</p> <p><i>E.g. Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development skills, etc., can be developed in learners using the following activities;</i></p> <ul style="list-style-type: none"> <i>a) group discussion</i> <i>b) project/research work</i> <i>c) role-play</i> <i>d) hands-on activities, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to secondary school curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various subject areas and link them to the NTS, particularly to community of practice (NTS 1d, 1e, 1f and 1g).</p> <p><i>An example of an outline of a Lesson Plan based on the 2010 Senior High School Syllabus in English Language *</i></p> <ul style="list-style-type: none"> <i>a) Aspect: Writing</i> <i>b) Topic: Debate writing</i> <i>c) Sub-topic: Format of debate writing</i> <i>d) Objectives:</i> <i>By the end of the lesson, the learner will be able to;</i> <ul style="list-style-type: none"> <i>i. explain the term debate</i> <i>ii. list the features of a debate</i> 	<p>2.1 Discuss samples of your lesson plans in your various subject areas and link them to the NTS, particularly to community of practice (NTS 1d, 1e, 1f and 1g).</p> <p><i>An example of an outline of Lesson Plan based on the 2010 Senior High School Syllabus in English Language *</i></p> <ul style="list-style-type: none"> <i>a) Aspect: Writing</i> <i>b) Topic: Debate writing</i> <i>c) Sub-topic: Format of debate writing</i> <i>d) Objectives:</i> <i>By the end of the lesson, the learner will be able to;</i> <ul style="list-style-type: none"> <i>i. explain the term debate</i> <i>ii. list the features of a debate</i> 	20 mins

	<p>iii. write a good debate using the features</p> <p>iv. present a debate</p> <p>e) RPK: Learners argue on issues of interest.</p> <p>f) Introduction/pre-writing stage: Introduce the lesson by asking learners to;</p> <p>i. brainstorm (in two mixed gender groups), on which of these two people is more important – a farmer and a teacher</p> <p>ii. share their opinions with the wider class</p> <p>g) Tasks/Activities/ Writing Stage:</p> <p>i. In mixed gender groups, let learners brainstorm and come out with the meaning of debate.</p> <p>Note: A debate is a formal discussion or a process that involves a formal discourse of a particular topic often including a moderator and audience, etc. Also, it is an organized argument between two opposing sides on a given topic with some agreed modalities.</p> <p>ii. Through a discussion method, guide learners to identify the features of a debate.</p> <p>Note: A debate has three main features.</p> <p>Introduction: (Vocatives, motion and declaration of stand)</p> <p>Body :(Explanation of key terms or words of the motion,</p>	<p>iii. write a good debate using the features</p> <p>iv. present a debate</p> <p>v.</p> <p>e) RPK: Learners argue on issues of interest.</p> <p>f) Introduction/pre-writing stage:Introduce the lesson by asking learners to;</p> <p>i. brainstorm (in two mixed gender groups), on which of these two people is more important – a farmer and a teacher</p> <p>ii. share their opinions with the wider class</p> <p>g) Tasks/Activities/ Writing Stage:</p> <p>i. In mixed gender groups, let learners brainstorm and come out with the meaning of debate.</p> <p>Note: A debate is a formal discussion or a process that involves a formal discourse of a particular topic often including a moderator and audience, etc. Also, it is an organized argument between two opposing sides on a given topic with some agreed modalities</p> <p>ii. Through a discussion method, guide learners to identify the features of a debate.</p> <p>Note: A debate has three main features.</p> <p>Introduction: (Vocatives, motion and declaration of stand)</p> <p>Body: (Explanation of key terms or words of the motion,</p>	
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	<p><i>rebuttal of opponent points, state your main points, etc.)</i></p> <p>Conclusion: (Summarize main points in the body, call for support, etc.)</p> <p>iii. <i>In two groups, introduce a debate topic for learners and guide them to develop a good debate using the features of a debate. E.g. "Female education is the panacea for the country's underdevelopment"</i></p> <p>iv. <i>Allow the groups to select their members to present their debate in the class.</i></p> <p>h) Core Points: <i>Writing skills, speaking skills, listening skills, critical thinking, etc.</i></p> <p>i) Closure: <i>Review the lesson by asking the learners to mention what they have learnt</i></p> <p>j) Evaluation</p> <p>i. <i>What is a debate?</i></p> <p>ii. <i>List the features of a debate</i></p> <p>iii. <i>Write a debate for or against the motion: "The extraction of Ghana's mineral resources has caused more harm than good" and submit in the next lesson.</i></p> <p>k) Remarks: <i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</i></p>	<p><i>rebuttal of opponent points, state your main points, etc.)</i></p> <p>Conclusion: (Summarize main points in the body, call for support, etc.)</p> <p>iii. <i>In two groups, introduce a debate topic for learners and guide them to develop a good debate using the features of a debate. E.g. "Female education is the panacea for the country's underdevelopment"</i></p> <p>iv. <i>Allow the groups to select their members to present their debate in the class.</i></p> <p>h) Core Points: <i>Writing skills, speaking skills, listening skills, critical thinking, etc.</i></p> <p>i) Closure: <i>Review the lesson by asking the learners to mention what they have learnt</i></p> <p>j) Evaluation</p> <p>i. <i>What is a debate?</i></p> <p>ii. <i>List the features of a debate</i></p> <p>iii. <i>Write a debate for or against the motion: "The extraction of Ghana's mineral resources has caused more harm than good" and submit in the next lesson.</i></p> <p>k) Remarks: <i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</i></p>	
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<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making explicit links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support</p>	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing same.</p> <p><i>E.g.</i> a) <i>Possible gap: Inadequate reading/reference materials on debate topics in English Language, etc.</i> <i>Possible Solution: Use of a library, Newspapers, Journals, OERs and other internet facilities, etc</i> .</p> <p>b) <i>Possible gap: Not enough differentiated work to reflect different fluency level of learners</i> <i>Possible solution: Set differentiated activities and allow more time for slow learner</i></p> <p>3.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan above and link these to the objectives of the lesson.</p> <p>LO: Demonstrate knowledge and understanding of a debate and its features. LI 1.1 Explain the term <i>debate</i></p> <p>LI 1.2 State the features of a debate.</p> <p>LI 1.3 Write a debate for or against the motion: “Technology has made the world a better place”.</p> <p><i>E.g</i> <i>The LO ‘goes beyond’ the objectives so concentrating only of the objectives is not enough</i></p>	<p>3.1 Identify gaps in your sample lesson plans and possible ways of addressing same.</p> <p><i>E.g.</i> <i>Possible gap: Inadequate reading/reference materials on debate topics in English Language, etc.</i> <i>Possible Solution: Use of a library, Newspapers, Journals, OERs and other internet facilities, etc.</i></p> <p>3.2 Tease out the learning outcomes and learning indicators from the sample lesson plan above.</p> <p>LO: Demonstrate knowledge and understanding of a debate and its features. LI 1.1 Explain the term debate</p> <p>LI 1.2 State the features of a debate.</p>	<p>30 mins</p>
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<p>learner teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>3.3 Ask teachers to suggest alternative ways of delivering the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use YouTube videos or pre-recorded videos on academic and political debates etc.</i> b) <i>Demonstration/ simulation</i> c) <i>Invite resources persons</i> d) <i>Peer teaching, etc.</i> <p>3.4 Ask teachers to show how their sample lesson plan can promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction</i> b) <i>Putting learners in mixed ability/gender groups</i> c) <i>Using positive feedback to learners especially the disadvantaged/marginalized</i> d) <i>Using a local resource person(s) who has/have defied stereotyping to succeed in English Language, etc.</i> <p>3.5 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices i.e., assessment for learning and assessment as learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use assessment to diagnose learners' needs (for)</i> b) <i>Use assessment to review learners' progress (for)</i> c) <i>Use assessment to give guidance about opportunities through feedback (for)</i> 	<p>3.3 Suggest alternative ways of delivering the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use YouTube videos or pre-recorded videos on academic and political debates etc.</i> b) <i>Demonstration/ simulation</i> <p>3.4 Review the sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Using classroom arrangement that facilitates interaction among all learners</i> b) <i>Putting learners in mixed ability/gender groups</i> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices i.e., assessment for learning and assessment as learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use assessment to diagnose learners' needs (for)</i> b) <i>Use assessment to review learners' progress (for)</i> c) <i>Encourage self-assessment (as), etc.</i> 	
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	<p>d) Encourage self-assessment (as), etc.</p> <p>3.6 In groups, ask teachers to suggest other assessment methods that could be used in the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Self-assessment b) Peer-assessment c) Project d) Role-play e) Portfolio, etc. <p>3.7 Guide teachers to list and discuss how the session makes use of resources to support relevant activities in the NTS.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Pre-recorded videos b) Photographs c) OERs/Internet facilities d) Projectors, etc. <p>3.8 Ask a teacher to model a teaching activity if the sample lesson plan. (Extension Activity)</p>	<p>3.6 In groups suggest other authentic assessment methods that could be used in the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Self-assessment b) Peer-assessment <p>3.7 List and discuss how the session makes use of resources to support relevant activities in the NTS.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Pre-recorded videos b) Photographs c) OERs/Internet facilities, etc. <p>3.8 Model a teaching activity in the sample lesson plan. (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to reflect and write what they have learnt in the session.</p> <p>4.2 Ask them to share what they have learnt with the larger group.</p> <p>4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 5 and provide feedback at the next PLC session.</p> <p>4.4 Remind teachers to read Session 6 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 Reflect and write what you have learnt in the session.</p> <p>4.2 Share what they have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lesson in relation to PLC Session 5 and provide feedback at the next PLC session.</p> <p>4.4 Read Session 6 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session 6: Knowledge of Educational Frameworks and Curriculum			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Ask a teacher who observed a lesson of a critical friend to share their findings with the group.</p> <p>1.2 Ask a teacher to read National Teachers' Standards 2a, 2b, 2c and 2d under <i>Professional Knowledge</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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>LO 1: Exhibit familiarity with the education system and key policies guiding it (NTS 2a, 2b).</p> <p>LI 1.1 State the similar characteristics of key educational policies</p> <p>LI 1.2 State two differences in key educational policies</p> <p>LI 1.3 Explain expected outcomes of educational curricula</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach after the last PLC session.</p> <p>1.2 Read National Teachers' Standards (NTS 2a, 2b, 2c and 2d) under <i>Professional Knowledge</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>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: Exhibit familiarity with the education system and key policies guiding it (NTS 2a, 2b).</p> <p>LI 1.1 State the similar characteristics of key educational policies</p> <p>LI 1.2 State two differences in key educational policies</p> <p>LI 1.3 Explain expected outcomes of educational curricula</p>	25 mins

	<p>LI 1.4 Analyse the importance of educational frameworks.</p> <p>LO 2: Demonstrate comprehensive knowledge of the official school curriculum, including learning outcomes (NTS 2b, 3o).</p> <p>LI 2.1 Discuss issues that surround the implementation of the curriculum for vulnerable groups (NTS 3f, 3g and 3m)</p> <p>LI 2.2 Describe how gender inequalities can affect learner outcomes.</p> <p>LI 2.3 Outline what learners need to work towards achieving higher examination grades.</p> <p>LO 3: Show a command of content knowledge, pedagogical knowledge and pedagogical content knowledge (NTS 2c).</p> <p>LI 3.1 State how gaps in subject and pedagogical knowledge of teachers can be identified and addressed</p> <p>LI 3.2 Explain how children develop and learn in diverse contexts and apply this in teaching</p> <p>LI 3.3 Describe how you will organize learning using teacher and learner centred and gender responsive pedagogies.</p> <p>LO4: Demonstrate knowledge of how to teach numeracy and literacy in multi-grade classrooms at the early grade level (NTS 2d).</p>	<p>LI 1.4 Analyse the importance of educational frameworks.</p> <p>LO 2: Demonstrate comprehensive knowledge of the official school curriculum, including learning outcomes (NTS 2b, 3o).</p> <p>LI 2.1 Discuss issues that surround the implementation of the curriculum for vulnerable groups (NTS 3f, 3g and 3m)</p> <p>LI 2.2 Describe how gender inequalities can affect learner outcomes.</p> <p>LI 2.3 Outline what learners need to work towards achieving higher examination grades.</p> <p>LO 3: Show a command of content knowledge, pedagogical knowledge and pedagogical content knowledge (NTS 2c).</p> <p>LI 3.1 State how gaps in subject and pedagogical knowledge of teachers can be identified and addressed</p> <p>LI 3.2 Explain how children develop and learn in diverse contexts and apply this in teaching</p> <p>LI 3.3 Describe how you will organize learning using teacher and learner centred and gender responsive pedagogies.</p> <p>LO 4: Demonstrate knowledge of how to teach numeracy and literacy in multi-grade classrooms at the early grade level (NTS 2d).</p>	
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	<p>LI 4.1 Plan and teach using differentiated instruction</p> <p>LI 4.2 Guide learners to perform mathematical operations using manipulatives</p> <p>LI 4.3 Guide learners to read and write using an appropriate language teaching tool.</p> <p>1.3 Ask teachers to state the similar characteristics of key educational policies.</p> <p><i>E.g. Each policy has items including the following:</i></p> <ul style="list-style-type: none"> a) Preamble b) Policy goal(s) c) Policy objective(s) d) Policy statement(s) e) Policy implementation plan. <p>1.4 In groups, ask teachers to discuss the differences of key educational policies.</p> <p><i>E.g. Content of policy depends on rationale, objectives, outcomes, etc.</i></p> <p>1.5 Ask teachers to identify expected outcomes of some educational policies.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) The Pre-Tertiary Teacher Professional Development and Management (PTPDM) Policy Expected Outcomes b) Provide the framework for developing standards, core values and ethics for the teaching profession. c) Develop teachers' ability to adopt reflective 	<p>LI 4.1 Plan and teach using differentiated instruction</p> <p>LI 4.2 Guide learners to perform mathematical operations using manipulatives</p> <p>LI 4.3 Guide learners to read and write using an appropriate language teaching tool.</p> <p>1.3 State the similar characteristics of key educational policies.</p> <p><i>E.g. Each policy has items including the following:</i></p> <ul style="list-style-type: none"> a) Preamble b) Policy goal(s) c) Policy objective(s) <p>1.4 In groups, discuss the differences of key educational policies.</p> <p><i>E.g. Content of policy depends on rationale, objectives, outcomes, etc.</i></p> <p>1.5 Identify expected outcomes of some educational policies.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) The Pre-Tertiary Teacher Professional Development and Management (PTPDM) Policy Expected Outcomes b) Provide the framework for developing standards, core values and ethics for the teaching profession. c) Develop teachers' ability to adopt reflective teaching approaches to enhance the 	
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	<p><i>teaching approaches to enhance the quality of lesson delivery</i></p> <p>d) <i>Specify principles for teacher management in order to motivate excellence in teacher performance and commitment to lifelong learning</i></p> <p>e) <i>Provide areas for setting regulatory standards to govern teachers' work and living conditions in order to make teaching an attractive and rewarding career</i></p> <p>f) <i>Foster the notion of teaching as a life-long career which is linked to an evidence-based system of career advancement and promotion, etc.</i></p> <p>1.6 Ask teachers to write some of the expected outcomes of the educational curricula.</p> <p><i>E.g. The Senior High School mathematics curriculum is aimed at developing individuals to become mathematically literate, good problem solvers, have the ability to think creatively and have both the confidence and competence to participate fully in Ghanaian society as responsible local and global citizens (Mathematics Syllabus for SHS, 2010).</i></p> <p>1.7 Lead teachers to discuss the benefits of educational frameworks.</p>	<p><i>quality of lesson delivery, etc.</i></p> <p>1.6 Write some of the expected outcomes of the educational curricula.</p> <p><i>E.g. The Senior High School mathematics curriculum is aimed at developing individuals to become mathematically literate, good problem solvers, have the ability to think creatively and have both the confidence and competence to participate fully in Ghanaian society as responsible local and global citizens (Mathematics Syllabus for SHS, 2010).</i></p> <p>1.7 Discuss the benefits of educational frameworks.</p>	
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	<p><i>E.g. National Teacher Education Curriculum Frameworks</i></p> <p>Note: <i>Educational frameworks are informed models for course designed that helps instructors align learning goals with classroom activities, create motivating and inclusive environment, integrate assessment into learning. For example, in demonstrating knowledge of educational frameworks and curriculum, every teacher needs to:</i></p> <ul style="list-style-type: none"> <i>a) show comprehensive knowledge of the official school curriculum, including learning outcomes</i> <i>b) secure content knowledge, pedagogical knowledge and pedagogical content knowledge</i> <i>c) demonstrate how curricula are approached and taught at all levels</i> <i>d) highlight possible misconceptions and how they can be addressed, etc. (NTS 2a, 2b, 2c and 2d).</i> 	<p><i>E.g. National Teacher Education Curriculum Frameworks</i></p> <p>Note: <i>Educational frameworks are informed models for course designed that helps instructors align learning goals with classroom activities, create motivating and inclusive environment, integrate assessment into learning. For example, in demonstrating knowledge of educational frameworks and curriculum, every teacher needs to:</i></p> <ul style="list-style-type: none"> <i>a) show comprehensive knowledge of the official school curriculum, including learning outcomes</i> <i>b) secure content knowledge, pedagogical knowledge and pedagogical content knowledge</i> 	
<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.8 Ask teachers to identify possible misconceptions and stereotypes in learning various subjects.</p> <p><i>E.g. (Mathematics)</i></p> <ul style="list-style-type: none"> <i>a) If you want to be good at mathematics, you have to memorize lots of facts and formulas</i> 	<p>1.8 Identify possible misconceptions and stereotypes in learning various subjects</p> <p><i>E.g. (Mathematics)</i></p> <ul style="list-style-type: none"> <i>a) If you want to be good at mathematics, you have to memorize lots of facts and formulas</i> 	

	<p>b) <i>Some students don't just have an aptitude for mathematics</i></p> <p>c) <i>There is only one way to solve a problem in mathematics</i></p> <p>d) <i>Girls are less interested in mathematics than boys, etc.</i></p> <p>1.9 Discuss with teachers how these misconceptions about teaching and learning in mathematics classroom can be addressed.</p> <p>E.g.</p> <p>a) <i>Teachers should discover students' systematic errors in mathematics</i></p> <p>b) <i>Teachers should mostly focus on identifying students' misconceptions rather than student errors</i></p> <p>c) <i>Teachers must create conducive learning environment for all learners, etc.</i></p> <p>1.10 Ask teachers to identify activities that promote GESI responsiveness in the classroom (NTS 3a, 3c).</p> <p>E.g.</p> <p>a) <i>Classroom arrangement that facilitates interaction</i></p> <p>b) <i>Mixed ability/gender groupings</i></p> <p>c) <i>Using positive feedback to students especially the disadvantaged</i></p> <p>d) <i>Use of gender responsive language (E.g. Head of school), etc.</i></p> <p>1.11 Ask teachers to identify ways of incorporating ICT in</p>	<p>b) <i>Some students don't just have an aptitude for mathematics</i></p> <p>1.9 Discuss how these misconceptions about teaching and learning in mathematics classroom can be addressed.</p> <p>E.g.</p> <p>a) <i>Teachers should discover students' systematic errors in mathematics</i></p> <p>b) <i>Teachers should mostly focus on identifying students' misconceptions rather than student errors</i></p> <p>1.10 Identify activities that promote GESI responsiveness in the classroom (NTS 3a, 3c).</p> <p>E.g.</p> <p>a) <i>Classroom arrangement that facilitates interaction</i></p> <p>b) <i>Mixed ability/gender groupings</i></p> <p>c) <i>Using positive feedback to students especially the disadvantaged, etc.</i></p> <p>1.11 Identify ways of incorporating ICT into their</p>	
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	<p>their lessons taking into consideration different learning styles (NTS 3i, 3j)</p> <p>E.g.</p> <p>a) <i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></p> <p>b) <i>Teaching using different representation formats including presentations using Microsoft PowerPoint, Microsoft Excel, Microsoft Word, etc.</i></p> <p>1.12 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: Communication skill <i>E.g. group discussion, Role-play, presentation, etc.</i></p> <p>Collaboration <i>E.g. group discussion, project/research, Role-play, hands-on activities, etc.</i></p> <p>Observation and enquiry skills <i>E.g. group discussion, project/research Role-play, hands-on activities, etc.</i></p> <p>Creativity and innovation <i>E.g. group discussion, project/research, role-play, hands-on activities, presentation, etc.</i></p> <p>Personal development <i>E.g. group discussion, project/research, role-play,</i></p>	<p>lessons taking into consideration different learning styles (NTS 3i, 3j).</p> <p>E.g.</p> <p><i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></p> <p>1.12 Discuss possible activities you would adopt to develop the 21st century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: Communication skills <i>E.g. group discussion, Role-play, presentation, etc.</i></p> <p>Collaboration <i>E.g. group discussion, project/research, Role-play, hands-on activities, etc.</i></p> <p>Observation and enquiry skills <i>E.g. group discussion, project/research Role-play, hands-on activities, etc.</i></p> <p>Creativity and innovation <i>E.g. group discussion, project/research, Role-play, hands-on activities, presentation, etc.</i></p>	
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	<i>hands-on activities, extended learning, presentation, etc.</i>		
2. Planning for teaching, learning and assessment activities for the lesson/s making links to secondary school curriculum	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the SHS 2010 syllabuses in their respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j). (E.g. Mathematics) <i>An example of an outline for teaching understanding Sets and Operations on Sets from the SHS 2010 Mathematics Syllabus*</i></p> <p>a) Topic: Sets and Operations on Sets</p> <p>b) Sub-topic: Finding the number of subsets in a set with N elements</p> <p>c) Objective: Determine and write the number of subsets in a set</p> <p>d) Relevant previous knowledge: students can describe sets</p> <p>e) Introduction: Review with students the description of sets</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Present instructional resources (consider different learning styles in selection) and guide students to group them into various sets Guide learners in a discussion to find the number of subsets they can derive from the set of objects given In groups, let learners discuss to deduce a formula for finding the 	<p>2.1 Discuss samples of their lesson plans based on the SHS 2010 syllabuses in your respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j). (E.g. Mathematics) <i>An example of an outline for teaching understanding Sets and Operations on Sets from the SHS 2010 Mathematics Syllabus*</i></p> <p>a) Topic: Sets and Operations on Sets</p> <p>b) Sub-topic: Finding the number of subsets in a set with N elements</p> <p>c) Objective: Determine and write the number of subsets in a set</p> <p>d) Relevant previous knowledge: students can describe sets</p> <p>e) Introduction: Review with students the description of sets</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Present instructional resources (consider different learning styles in selection) and guide students to group them into various sets Guide learners in a discussion to find the number of subsets they can derive from the set of objects given In groups, let learners discuss to deduce a formula for finding the 	20 mins

	<p>number of subsets that can be derived in a given set. E.g. The Set {a} has two subsets {a} and the { }</p> <p>iv. Guide students to create a table showing the relationship between elements in a set and the number of subsets</p> <p>g) Core Points: The number of subsets in a given set is calculated as 2^n where 'n' is the number of elements in the set</p> <p>h) Core Competencies: Collaboration, problem solving, critical thinking, etc.</p> <p>i) Closure: Review the lesson and ask evaluation questions</p> <p>j) Evaluation: Find the number of subsets in a set with 5 elements.</p> <p>*Teachers would be guided to tease out the LOs and the LIs from the sample lesson and compare with the objectives of the lesson.</p>	<p>number of subsets that can be derived in a given set. E.g. The Set {a} has two subsets {a} and the { }</p> <p>iv. Guide students to create a table showing the relationship between elements in a set and the number of subsets</p> <p>g) Core Points: The number of subsets in a given set is calculated as 2^n where 'n' is the number of elements in the set</p> <p>h) Core Competencies: Collaboration, problem solving, critical thinking, etc.</p> <p>i) Closure: Review the lesson and ask evaluation questions</p> <p>j) Evaluation: Find the number of subsets in a set with 5 elements.</p> <p>* Teachers would be guided to tease out the LOs and the LIs from the sample lesson and compare with the objectives of the lesson.</p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p>	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing them (NTS 1a, 3d, 3e, 3f, 3g and 3m).</p> <p>Examples of possible gaps:</p> <p>a. <i>Inadequate prescribed textbooks for mathematics</i></p> <p>b. <i>Lack of gender responsive materials in the classroom, etc.</i></p>	<p>3.1 Identify gaps in their sample lesson plans and discuss possible ways of addressing them (NTS 1a, 3d, 3e, 3f, 3g and 3m).</p> <p>Examples of possible gaps:</p> <p>a) <i>Inadequate prescribed textbooks for mathematics,</i></p> <p>b) <i>Lack of gender responsive materials in the classroom, etc.</i></p>	30 mins

<p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point presentations, 	<p>Possible solutions:</p> <p>Use of:</p> <ul style="list-style-type: none"> a) a library b) Open Educational Resources (OERs) and other Internet facilities c) PLC sessions on GESI, etc. <p>3.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan.</p> <p>E.g. LO: Demonstrate knowledge of the subsets in a set. LI 1. Determine the number of subsets in a set LI 2. Deduce a formula for calculating the number of subsets in a given set.</p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lesson.</p> <p>E.g. Use of:</p> <ul style="list-style-type: none"> a) flipped classroom, b) extended learning c) simulation d) real life examples e) using algebra f) using Venn diagrams, etc. <p>3.4 Ask teachers to identify activities that promote GESI responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) Classroom arrangement that facilitates interaction 	<p>Possible solutions:</p> <p>Use of:</p> <ul style="list-style-type: none"> a) a library b) Open Educational Resources (OERs) and other Internet facilities <p>3.2 Tease out the learning outcomes and learning indicators from the sample lesson plan.</p> <p>E.g. LO: Demonstrate knowledge of the subsets in a set. LI 1. Determine the number of subsets in a set</p> <p>3.3 Suggest alternative ways of delivering the sample lesson.</p> <p>E.g. Use of:</p> <ul style="list-style-type: none"> a) flipped classroom, b) extended learning c) simulation <p>3.4 Identify activities that promote GESI responsiveness in your sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) Classroom arrangement that facilitates interaction 	
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<p>TLM or other resources which need to be developed to support learning</p>	<p>b) <i>Mixed ability/gender groupings</i></p> <p>c) <i>Using positive feedback to students especially the disadvantaged</i></p> <p>d) <i>Use of a local materials</i></p> <p>e) <i>Fair distribution of questions</i></p> <p>f) <i>Using posters that represent male and female students appropriately, etc.</i></p> <p>3.5 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices for example, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p>E.g. <i>Self-assessment (as), peer-assessment (as/for) Project (for), portfolio (for)</i></p> <p>3.6 Ask teachers to list and discuss how the sample lesson makes use of resources to support relevant activities in the NTS.</p> <p>E.g.</p> <p>a) <i>Posters on Sets</i></p> <p>b) <i>Charts showing the relationship between operations on sets</i></p> <p>c) <i>Task sheets, etc.</i></p> <p>3.7 Ask one teacher to model a teaching activity in the sample lesson plan. (Extension Activity)</p>	<p>b) <i>Mixed ability/gender groupings</i></p> <p>c) <i>Using positive feedback to students especially the disadvantaged, etc.</i></p> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices for assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p>E.g. <i>Self-assessment (as), peer-assessment (as/for) Project (for),</i></p> <p>3.6 List and discuss how the sample lesson makes use of resources to support relevant activities in the NTS.</p> <p>E.g.</p> <p>a) <i>Posters on Sets,</i></p> <p>b) <i>Charts showing the relationship between operations on sets</i></p> <p>3.7 Model a teaching activity in the sample lesson plan. (Extension Activity)</p>	
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<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to reflect and write what they have learnt in the session using 'Talk-to-the-hand' strategy (Each teacher places the palm on a sheet of paper and trace the fingers out, and in each finger, write one thing learnt. In all, five things will be written.</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a).</p> <p>4.3 Remind teachers to identify a critical friend to observe them while they teach their lesson in relation to PLC Session 6 and provide feedback at the next PLC session.</p> <p>4.4 Remind teachers read Session 7 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 Reflect and write what you have learnt in the session. Using the 'Talk-to-the-hand' strategy, write five things learnt.</p> <p>4.2 Share what you have written with the larger group (NTS 1a).</p> <p>4.3 Identify a critical friend to observe your lessons in relation to PLC Session 6 and provide feedback at the next PLC session.</p> <p>4.4 Remember to read Session 7 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>
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PLC Session 7: Knowledge of Learners			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <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 ice breaker. <i>E.g. Candy ice, double-double.</i></p> <p>1.2 Ask a teacher who observed a lesson of a critical friend to share their findings with the group.</p> <p>1.3 Ask a teacher to read Standards 2e and 2f of the NTS.</p> <p>1.4 Ask a teacher to read the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Demonstrate understanding of how students learn in diverse contexts.</p> <p>LI 1.1 Give examples of different contexts under which learners learn.</p> <p>LI 1.2 Explain how contexts under which learners learn influence how they learn.</p> <p>LO 2: Demonstrate understanding of different learning styles of learners.</p> <p>LI 2.1 List at least three different learning styles.</p> <p>LI 2.2 Analyse at least three different learning styles of learners.</p>	<p>1.1 Participate in the ice breaker.</p> <p>1.2 Share your findings of the lesson you observed your critical friend teach after the last PLC session.</p> <p>1.3 Read Standards 2e and 2f the NTS.</p> <p>1.4 Read the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Demonstrate understanding of how students learn in diverse contexts.</p> <p>LI 1.1 Give examples of different contexts under which learners learn.</p> <p>LI 1.2 Explain different contexts under which learners learn influence how they learn.</p> <p>LO 2: Demonstrate understanding of different learning styles of learners.</p> <p>LI 2.1 List at least three different learning styles.</p> <p>LI 2.2 Analyse at least three different learning styles of learners.</p>	25 mins

	<p>LO 3: Demonstrate knowledge and understanding of GESI issues.</p> <p>LI 3.1 Mention at least five GESI related issues in learning.</p> <p>LI 3.2 Outline the need for incorporating GESI issues into classroom activities.</p> <p>LO 4: Demonstrate the use of GESI issues in lesson plan preparation and classroom management.</p> <p>LI 4.1 Show how GESI issues can be embedded in lesson plan preparation.</p> <p>LI 4.2 Describe how GESI would be integrated into classroom management.</p> <p>1.5 Ask teachers to discuss and relate the concept of knowledge of learners to their various subject domains (NTS 1a, 2e and 3i).</p> <p>1.6 Ask teachers to identify different learning styles of learners that will enhance teaching of their subjects (NTS 2e, 2f, 3e and 3g). E.g.</p> <ul style="list-style-type: none"> a) Auditory learning b) Kinesthetic learning c) Tactile learning d) Visual learning 	<p>LO 3: Demonstrate knowledge and understanding of GESI.</p> <p>LI 3.1 Mention at least five GESI related issues in learning.</p> <p>LI 3.2 Outline the need for incorporating GESI issues into classroom activities.</p> <p>LO 4: Demonstrate the use of GESI issues in lesson plan preparation and classroom management.</p> <p>LI 4.1 Show how GESI issues can be embedded in lesson plan preparation.</p> <p>LI 4.2 Describe how GESI would be integrated into classroom management.</p> <p>1.5 Discuss and relate the concept of knowledge of learner to your various subject domains (NTS 1a, 2e and 3i).</p> <p>1.6 Identify different learning styles of learners that will enhance teaching of your subjects (NTS 2e, 2f, 3e and 3g). E.g.</p> <ul style="list-style-type: none"> a) Auditory learning b) Visual learning 	
<p>Give regard for possible misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.7 Ask teachers to identify possible misconceptions and stereotypes about their subjects (NTS 3m). E.g. (Social Studies)</p> <ul style="list-style-type: none"> a) Social Studies is for students with very low IQ 	<p>1.7 Identify possible misconceptions and stereotypes about your subject (NTS 3m). E.g. (Social Studies)</p> <ul style="list-style-type: none"> a) Social Studies is for students with very low IQ. 	<p>30 mins</p>

	<p>b) <i>Social Studies is easy to pass</i></p> <p>c) <i>Social Studies is mainly Geography, etc.</i></p> <p>1.8 Ask teachers to discuss possible ways to address these misconceptions and stereotypes in their subject areas in the classroom (NTS 3m).</p> <p><i>E.g. (Social Studies)</i> <i>Invite a resource person to draw the attention of teachers and learners to the links between Social Studies and the other subjects.</i> <i>The message could be that Social Studies as a subject supports other subjects and is supported by other subjects.</i> <i>For example, why learners from a particular background cannot access support in English language easily can be explained by Social Studies. Similarly, good numeracy skills (such as calculations) can facilitate map reading in Social Studies.</i></p> <p>1.9 Ask teachers, in mixed gender groups (where possible), to list some 21st century skills that are required to cater for all learners' needs in the classroom (NTS 3f, 3g and 3j).</p> <p><i>E.g. Communication skills, collaboration skills, observation and enquiry skills, digital literacy, creativity, personal development.</i></p> <p>1.10 Ask teachers to identify ways of incorporating ICT in their lessons to cater for</p>	<p>b) <i>Social Studies is easy to pass</i></p> <p>1.8 Discuss possible ways to address these misconceptions and stereotypes in your subject areas in the classroom (NTS 3m).</p> <p><i>E.g. (Social Studies)</i> <i>Invite a resource person to draw the attention of teachers and learners to the links between Social Studies and the other subjects.</i></p> <p>1.9 In mixed gender groupings (where possible), list some 21st century skills that are required to cater for all learners' needs in the classroom (NTS 3f, 3g and 3j).</p> <p><i>E.g. Communication skills, collaboration skills, etc.</i></p> <p>1.10 Identify ways of incorporating ICT in your lessons to cater for every learner's needs (NTS 3j).</p>	
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	<p>every learner's needs (NTS 3j).</p> <p>E.g.</p> <p>a) <i>Surfing, Open Educational Resources (OERs) and other Internet sources for teaching and learning strategies that make use of learners' preferred learning styles.</i></p> <p>b) <i>Other sources and tools that can be used to learn more about ICT mediated teaching and learning include:</i></p> <p><i>Office 365 vs G-suite for education, google meet for online teaching, google classroom for online assignment submissions, plagiarism checking software, tools for checking grammar errors online, etc.</i></p> <p>1.11 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners (NTS 2c, 3h and 3j).</p> <p>E.g.</p> <p>a) Communication skills: <i>E.g., group discussion providing opportunities for learners to develop oral presentation skills.</i></p> <p>b) Collaboration skills: <i>E.g. group projects that will make use of the strengths of learners of different backgrounds.</i></p> <p>c) Observation and enquiry skill: <i>E.g., group discussion or project/research work that encourages all learners to experiment with ideas and come up with their own findings.</i></p>	<p><i>E.g. Surfing Open Educational Resources and other Internet sources for teaching and learning strategies that make use of learners' preferred learning styles, etc.</i></p> <p>1.11 Discuss possible activities you would adopt to develop the 21st century skills in your learners (NTS 2c, 3h and 3j).</p> <p>E.g.</p> <p>a) Communication skills: <i>E.g., group discussion providing opportunities for learners to develop oral presentation skills.</i></p> <p>b) Collaboration skills: <i>E.g., group projects that will make use of the strengths of learners of different backgrounds.</i></p>	
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	<p>d) Creativity and innovation skills: E.g. activities that provide opportunities for learners to create variants of given scenarios using their own experiences</p> <p>e) Personal development skills: E.g. group projects that provide opportunities for learners to take leadership roles irrespective of how they learn</p>		
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various subject areas that take different learning styles of learners into account (NTS 2e, 3a).</p> <p><i>E.g. Sample lesson plan in Social Studies: Refer to Social Studies Teaching syllabus 2010 Year 1.</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <p>a) Topic: National Independence and Self-reliance b) Sub-topic: Political Independence c) Objectives: By the end of the lesson, the learner will be able to;</p> <ol style="list-style-type: none"> i. explain the term political independence. ii. state at least two reasons why Ghanaians misconstrued the implications of independence. 	<p>➤ Discuss samples of your lesson plans in your various subject areas that take different learning styles of learners into account (NTS 2e, 3a).</p> <p><i>E.g. Sample lesson plan in Social Studies: Refer to Social Studies Teaching syllabus 2010 Year 1.</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <p>a) Topic: National Independence and Self-reliance b) Sub-topic: Political Independence c) Objectives: By the end of the lesson, the learner will be able to;</p> <ol style="list-style-type: none"> i. explain the term political independence. ii. state at least two reasons why Ghanaians misconstrued the implications of independence. 	20 mins

	<p>d) Relevant Previous Knowledge (RPK): <i>Learners have been taking part in 6th March activities.</i></p> <p>e) Introduction: <i>Discuss with learners what 6th March reminds them of.</i></p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> <i>Ask learners to brainstorm the concept of political independence.</i> <i>Put learners in mixed ability groups to discuss whether an independent nation should continue to rely on the colonial masters for their survival.</i> <i>Ask each group to present their findings to the class using variety of resources.</i> <p>g) Core Points:</p> <ol style="list-style-type: none"> <i>Political independence means gaining self-rule from a colonial master thus entitling the new nation to govern itself.</i> <i>Some people thought independence was an end in itself and was a time to amass wealth.</i> <i>Some people believed that political independence was an answer to their economic woes.</i> <p>h) Core competencies: <i>Critical thinking and problem solving, communication and collaboration, personal development and leadership, and digital literacy.</i></p>	<p>d) Relevant Previous Knowledge (RPK): <i>Learners have been taking part in 6th March activities.</i></p> <p>e) Introduction: <i>Discuss with learners what 6th March reminds them of.</i></p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> <i>Ask learners to brainstorm the concept of political independence.</i> <i>Put learners in mixed ability groups to discuss whether an independent nation should continue to rely on the colonial masters for their survival.</i> <i>Ask each group to present their findings to the class using variety of resources.</i> <p>g) Core Points:</p> <ol style="list-style-type: none"> <i>Political independence means gaining self-rule from a colonial master thus entitling the new nation to govern itself.</i> <i>Some people thought independence was an end in itself and was a time to amass wealth.</i> <i>Some people believed that political independence was an answer to their economic woes.</i> <p>h) Core competencies: <i>Critical thinking and problem solving, communication and collaboration, personal development and leadership, and digital literacy.</i></p>	
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	<p>i) Closure: Use leading questions to review the lesson with learners.</p> <p>j) Evaluation:</p> <ul style="list-style-type: none"> a) What is political independence? b) Explain at least 2 reasons why Ghanaians misconstrued the implications of independence. <p>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan.</p>	<p>i) Closure: Use leading questions to review the lesson with learners.</p> <p>j) Evaluation:</p> <ul style="list-style-type: none"> a) What is political independence? b) Explain at least 2 reasons why Ghanaians misconstrued the implications of independence. <p>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan.</p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st Century skills</p> <p>➤ Reading, discussion, and identification of</p>	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p>E.g. Possible gap: Inadequate prescribed textbooks, etc.</p> <p>Possible Solution: use of a library, OERs and other Internet facilities, etc.</p> <p>Possible gap: Lack of differentiation in activities in the lesson.</p> <p>Possible solution: Set tasks taking into account learners different learning styles</p> <p>3.2 Ask teachers to tease out the learning outcomes and the learning indicators from the sample lesson plan (NTS 3h).</p> <p>E.g. LO: Demonstrate understanding of the concept</p>	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p>E.g. Possible gap: Inadequate prescribed textbooks, etc.</p> <p>Possible Solution: use of a library, OERs and other Internet facilities.</p> <p>3.2 Tease out the learning outcomes and the learning indicators from the sample lesson plan (NTS 3h).</p> <p>E.g. LO: Demonstrate understanding of the concept</p>	30 mins

<p>continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>of political independence</i> <i>LI 1 Explain the term political independence.</i> <i>LI 2 State at least two reasons why Ghanaians misconstrued the implications of independence.</i></p> <p>3.3 Ask teachers to identify activities that promote GESI responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction among learners.</i> b) <i>Mixed ability/gender grouping that encourage collaboration among learners.</i> c) <i>Using positive feedback to students especially the disadvantaged.</i> d) <i>Use of a local resource person who has defied stereotyping / stigma to succeed in Social Studies.</i> <p>3.4 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices, e.g., assessment <i>for learning</i> and assessment <i>as learning</i> (NTS 3k, 3l).</p> <p>3.5 In groups, ask teachers to suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l and 3p).</p> <p>E.g. <i>Self-assessment, peer-assessment, portfolio, project, role-play, etc.</i></p>	<p><i>of political independence</i> <i>LI 1 Explain the term political independence.</i></p> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3g).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction among learners.</i> b) <i>Mixed ability/gender grouping that encourage collaboration among learners.</i> <p>3.4 Discuss how the session is linked to the use of formative assessment tools and practices, e.g., assessment <i>for learning</i> and assessment <i>as learning</i> (NTS 3k, 3l).</p> <p>3.5 In groups, suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l and 3p).</p> <p>E.g. <i>Self-assessment, peer-assessment, etc.</i></p>	
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	<p>3.6 Guide teachers to list and discuss how the session makes use of resources to support relevant activities in the NTS (NTS 3j).</p> <p><i>E.g. Pre-recorded videos, posters, photographs, OERs/Internet facilities, projectors, etc.</i></p> <p>3.7 Ask one teacher to model a teaching activity in the sample lesson plan (NTS 1a, 3a). (Extension Activity)</p>	<p>3.6 List and discuss how the session makes use of resources to support relevant activities in the NTS (NTS 3j).</p> <p><i>E.g. Pre-recorded videos, posters, etc.</i></p> <p>3.7 Model a teaching activity in the sample lesson plan (NTS 1a, 3a). (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to reflect and write what they have learnt in the session.</p> <p>4.2 Ask teachers to share what they have learnt with the larger group.</p> <p>4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 7 and provide feedback at the next PLC session.</p> <p>4.4 Remind teachers to read Session 8 from the PLC Handbook in preparation for the next session.</p>	<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 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 for Topic 8: Managing the Learning Environment

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session.</p>	<p>1.1 Ask a teacher who observed a lesson of a critical friend to share their findings with the group (NTS 1a, 1b and 1e).</p> <p>1.2 Ask a teacher to read Standards 3a, 3b, 3c and 3d under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Demonstrate knowledge and understanding of creating safe and encouraging learning environment (NTS 3c, 3d, 3e and 3f).</p> <p>LI 1.1 Give examples of how to create a warm, friendly and fair environment for teaching and learning (NTS 3c, 3d, 3e and 3f).</p> <p>LI 1.2 Give examples of how to create conducive physical learning environment (NTS 3c, 3d, 3e and 3f).</p> <p>LO 2: Demonstrate knowledge, understanding and skills of planning and delivering varied and</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach after the last PLC session (NTS 1a, 1b and 1e).</p> <p>1.2 Read Standards 3a, 3b, 3c and 3d under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Demonstrate knowledge and understanding of creating safe and encouraging learning environment (NTS 3c, 3d, 3e and 3f).</p> <p>LI 1.1 Give examples of how to create a warm, friendly and fair environment for teaching and learning (NTS 3c, 3d, 3e and 3f).</p> <p>LI 1.2 Give examples of how to create conducive physical learning environment (NTS 3c, 3d, 3e and 3f).</p> <p>LO 2: Demonstrate knowledge, understanding and skills of planning and delivering varied and</p>	25 mins

	<p>challenging lessons showing a grasp of the intended outcomes of teaching (NTS 3e, 3f, 3g and 3j).</p> <p>LI 2.1 Prepare a scheme of learning for the semester bearing in mind GESI (NTS 2b, 2e and 3a).</p> <p>LI 2.2 Prepare a lesson plan showing cross- cutting issues including GESI (NTS 2d, 2f and 3a).</p> <p>LI 2.3 Model the delivery of a planned lesson (NTS 3e, 3g, 3k and 3p). (Extension Activity)</p> <p>LO 3: Demonstrate knowledge, understanding and skills of carrying out action research to improve practices in the learning environment (NTS 3b).</p> <p>LI 3.1 List learners' learning needs identified in the classroom (NTS 3a, 3b and 3m).</p> <p>LI 3.2 Design an instrument for data collection (NTS 3n).</p> <p>LI 3.3 List interventions to solve a problem identified in class (NTS 3a).</p> <p>LI 3.4 Analyse and interpret data collected on teaching and learners' learning needs (NTS 3n).</p>	<p>challenging lessons showing a grasp of the intended outcomes of teaching (NTS 3e, 3f, 3g and 3j).</p> <p>LI 2.1 Prepare a scheme of learning for the semester bearing in mind GESI (NTS 2b, 2e and 3a).</p> <p>LI 2.2 Prepare a lesson plan showing cross- cutting issues and GESI (NTS 2d, 2f and 3a).</p> <p>LI 2.3 Model the delivery of a planned lesson (NTS 3e, 3g, 3k and 3p). (Extension Activity)</p> <p>LO 3: Demonstrate knowledge, understanding and skills of carrying out action research to improve practices in the learning environment (NTS 3b).</p> <p>LI 3.1 List learners' learning needs identified in the classroom (NTS 3a, 3b and 3m).</p> <p>LI 3.2 Design an instrument for data collection (NTS 3n).</p> <p>LI 3.3 List interventions to solve a problem identified in class (NTS 3a).</p> <p>LI 3.4 Analyse and interpret data collected on teaching and learners learning needs (NTS 3n).</p>	
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	<p>LO 4: Demonstrate knowledge understanding and skills of managing behaviours with small and large class sizes (NTS 3c).</p> <p>LI 4.1 Give examples of how to overcome challenges of teaching large class sizes (NTS 3d).</p> <p>LI 4.2 Give examples of how to manage behaviour in large classes (NTS 3d).</p>	<p>LO 4: Demonstrate knowledge understanding and skills of managing behaviours with small and large class sizes (NTS 3c).</p> <p>LI 4.1 Give examples of how to overcome challenges of teaching large class sizes (NTS 3d).</p> <p>LI 4.2 Give examples of how to manage behaviour in large classes (NTS 3d).</p>	
<p>Give regard for GESI, ICT, 21st century skills, etc</p>	<p>1.3 In small groups, ask teachers to discuss acceptable social behaviour that promotes teaching and learning and share with the larger group (NTS 1c, 1d, 1g and 1p).</p> <p><i>E.g. Obedience, discipline, punctuality, regularity, commitment, respect and hard work, etc.</i></p> <p>1.4 In small groups, ask teachers to discuss how to create a warm and friendly environment for effective teaching and learning and ask group leaders to share their findings with the larger group (NTS 3c, 3d and 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Teacher being friendly to the learners b) Teacher showing love, affection and empathy to the learners c) Creating classroom rules together with the learners and making 	<p>1.3 Discuss acceptable social behaviour that promotes teaching and learning and share with the larger class (NTS 1c, 1d, 1g and 1p).</p> <p><i>E.g. Obedience, discipline, punctuality, regularity, hard work, etc.</i></p> <p>1.4 In small groups, discuss how to create a warm and friendly environment for effective teaching and learning and share your findings with the larger group (NTS 3c, 3d and 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Teacher being friendly to the learners b) Teacher showing love, affection and empathy to the learners c) Creating classroom rules together with the learners and making sure 	

	<p><i>sure learners obey rules and regulations</i></p> <p>d) <i>Encouraging learner to feel free to approach teacher where necessary</i></p> <p>e) <i>Encourage learners tolerate and cooperate with each other</i></p> <p>f) <i>Teacher being GESI responsive in teaching and learning</i></p> <p>1.5 In subject groups, ask teachers to discuss their prepared scheme of learning for the semester to find out if GESI, ICT and 21st century skills have been embedded (NTS 1d, 1f and 3g). (Extension Activity)</p> <p><i>E.g. (Science)</i></p> <p>a) <i>In a Science practical lesson, both boys and girls should be encouraged to do dissection of rodents.</i></p> <p>b) <i>Both boys and girls as well as SEN learners should be encouraged to show interest in both biological and physical sciences</i></p> <p>1.6 In subject groups, ask teachers to suggest ways of addressing gaps identified in learners' learning (NTS 1a, 3l and 3n).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Invite role models/resource persons to give a talk on the</i></p>	<p><i>learners obey rules and regulations</i></p> <p>1.5 In subject groups, discuss your prepared scheme of learning for the semester to find out if GESI, ICT and 21st century skills have been embedded (NTS 1d, 1f and 3g). (Extension Activity)</p> <p><i>E.g. (Science)</i></p> <p><i>In a Science practical lesson, both boys and girls should be encouraged to do dissection of rodents.</i></p> <p>1.6 In subject groups, suggest ways of addressing gaps identified in learners' learning (NTS 1a, 3l and 3n).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Invite role models/resource persons to give a talk on</i></p>	
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	<p><i>application of scientific principles</i></p> <p>b) <i>Organize trips to science fairs</i></p> <p>c) <i>Organize remediation classes for learners who need them.</i></p> <p>1.7 Ask teachers to discuss, in their subject groups, the teaching and learning resources they will use in their lesson presentation, providing examples (NTS 3j).</p> <p><i>E.g. (Science)</i></p> <p>g) <i>Models</i></p> <p>h) <i>Chemicals</i></p> <p>i) <i>Science equipment</i></p> <p>j) <i>Posters</i></p> <p>k) <i>Pre-recorded videos</i></p> <p>l) <i>YouTube videos</i></p> <p>m) <i>Photographs</i></p> <p>n) <i>OERs/Internet facilities</i></p> <p>o) <i>Projectors</i></p> <p>p) <i>Calculators</i></p> <p>1.8 In subject groups, ask teachers to discuss how they will assess their learners, giving examples (NTS 3k, 3l, 3n and 3p).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Self-assessment</i></p> <p>b) <i>Peer-assessment</i></p> <p>c) <i>Modelling</i></p> <p>d) <i>Portfolio</i></p> <p>e) <i>Project</i></p> <p>f) <i>Practical activities</i></p> <p>g) <i>Quizzes</i></p> <p>1.9 Using think-pair-share strategy, let teachers come out with various strategies that will be used to manage unacceptable</p>	<p><i>the application of scientific principles</i></p> <p>b) <i>Organize trips to science fairs</i></p> <p>1.7 Discuss in subject groups the teaching and learning resources you will use in your lesson presentation, providing examples (NTS 3j).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Models</i></p> <p>b) <i>Chemicals</i></p> <p>c) <i>Science equipment</i></p> <p>d) <i>Posters</i></p> <p>e) <i>Pre-recorded videos</i></p> <p>f) <i>YouTube videos</i></p> <p>1.8 In your subject groups, discuss how you will assess your learners, giving examples (NTS 3k, 3l, 3n and 3p).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Self-assessment</i></p> <p>b) <i>Peer-assessment</i></p> <p>c) <i>Modelling</i></p> <p>d) <i>Portfolio</i></p> <p>e) <i>Project</i></p> <p>1.9 Using think-pair-share strategy, come out with various strategies that will be used to manage</p>	
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	<p>behaviours in large classes (NTS 3d, 3g and 3m).</p> <p><i>E.g.</i> <i>Disruption avoidance Strategies</i></p> <ul style="list-style-type: none"> <i>a) Organising classroom environment to suit the learning context, e.g. rearranging desks for groupwork</i> <i>b) Getting appropriate and adequate teaching learning resources</i> <i>c) Ensuring gender equity during teaching and learning. For example, male and female learners including SEN be given equal opportunities during Science practical lesson</i> <p><i>Anticipation Strategies</i></p> <ul style="list-style-type: none"> <i>a) Assigning roles to learners who have tendency of disturbing during teaching and learning</i> <i>b) Teachers should use hands-on-activities and task setting</i> <p><i>Response Strategies</i></p> <ul style="list-style-type: none"> <i>a) Use of rewards such as gifts, awarding of extra marks to well behaved students or groups</i> <i>b) Use of positive reinforcement such as</i> 	<p>unacceptable behaviours in large classes (NTS 3d, 3g and 3m).</p> <p><i>E.g.</i> <i>Disruption avoidance Strategies</i></p> <ul style="list-style-type: none"> <i>a) Organising classroom environment to suit the learning context, e.g. rearranging desks for groupwork</i> <i>b) Getting appropriate and adequate teaching learning resources</i> <p><i>Anticipation Strategies</i></p> <ul style="list-style-type: none"> <i>a) Assigning roles to learners who have tendency of disturbing during teaching and learning</i> <i>b) Teachers should use hands-on-activities and task setting</i> <p><i>Response Strategies</i></p> <p><i>Use of rewards such as gifts, awarding of extra marks to well behaved students or groups</i></p>	
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	<i>counseling and encouragement</i>		
2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum	<p>2.1 In small groups ask teachers to brainstorm the meaning of learning needs and share with the larger group (NTS 1e, 2c).</p> <p><i>E.g. Learning need is the gap between the learner's present knowledge and skills levels and the knowledge and skills levels required to perform an activity</i></p> <p>2.2 Still in the small groups, ask teachers to list examples of learners' learning needs they can identify in their subject area (NTS 1e, 2c).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Learners' inability to plot graph with coordinates obtained from pendulum experiment</i></p> <p>b) <i>Learners' inability to differentiate between diffusion and osmosis</i></p> <p>c) <i>Learners' inability to understand the concept photosynthesis.</i></p> <p>d) <i>Learners' inability to differentiate between plant cell and animal cell.</i></p> <p>2.3 Using think-pair-share, ask teachers to identify instruments they can design to collect data to justify or otherwise, an intervention for the problem they have</p>	<p>2.1 In small groups, brainstorm the meaning of learning needs and share with the larger group (NTS 1e, 2c).</p> <p><i>E.g. Learning need is the gap between the learner's present knowledge and skills levels and the knowledge and skills levels required to perform an activity</i></p> <p>2.2 List examples of learners' learning needs you can identify in your subject area; for example, teaching and learning of science (NTS 1e, 2c).</p> <p><i>E.g. (Science)</i></p> <p>a) <i>Learners' inability to plot graph with coordinates obtained from pendulum experiment</i></p> <p>b) <i>Learners' inability to differentiate between diffusion and osmosis</i></p> <p>2.3 Using think-pair-share, identify instruments that can be designed to collect data to justify or otherwise, an intervention for the problem you have identified in the classroom during teaching</p>	20 mins

	<p>identified in the classroom during teaching and learning sessions (NTS 3b, 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Interview guide</i> <i>b) Observation guide checklist</i> <i>c) Questionnaire</i> <i>d) Analysis of marked exercises/tests/and terminal reports</i> <p>2.4 Using talks for learning strategies (eg. concept cartoons), ask teachers to list the appropriate interventions to solve the problem they have identified (NTS 3e).</p> <p><i>E,g, (Science)</i></p> <ul style="list-style-type: none"> <i>a) Problem: Learners' inability to plot graph with coordinates obtained from pendulum experiment</i> <i>Intervention: Remediation classes</i> <i>b) Problem: Learners' inability to differentiate between plant cell and animal cell.</i> <i>Intervention: Aided research on plant cell and animal cell</i> <p>2.5 Ask teachers to prepare a lesson plan for an intervention. This should be based on the 2010 Senior High School Syllabus (NTS 3a, 3j and 3l). (Extension Activity)</p>	<p>and learning sessions (NTS 3b, 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Interview guide</i> <i>b) Observation guide checklist</i> <p>2.4 List the appropriate interventions to solve the problem you have identified (NTS 3e).</p> <p><i>E,g, (Science)</i></p> <ul style="list-style-type: none"> <i>c) Problem: Learners' inability to plot graph with coordinates obtained from pendulum experiment</i> <i>Intervention: Remediation classes</i> <p>2.5 Prepare a lesson plan for an intervention. This should be based on the 2010 Senior High School Syllabus (NTS 3a, 3j and 3l). (Extension Activity)</p>	
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	<p><i>An example of an outline of a lesson plan for an intervention based on the 2010 SHS Integrated Science Syllabus*</i></p> <p>Learning need: learners' inability to differentiate between plant cell and animal cell correctly.</p> <p>Intervention: Re-teaching content</p> <p>a) Topic: Cells</p> <p>b) Sub-topic: Differences between Plant Cell and Animal Cell</p> <p>c) Objectives By the end of the lesson, the student will be able to:</p> <ol style="list-style-type: none"> Describe the structure of the plant cell. Describe the structure of the animal cell. Differentiate between the plant cell and the animal cell. <p>d) Relevant Previous Knowledge: Learners can explain what a cell is.</p> <p>e) Introduction: Elicit from the learners the meaning of cells using brainstorming. Prepare the learners' mind to watch a documentary on plant cell and animal cell.</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Let learners watch a documentary on plant cell and note salient points on the structure of the plant cell for discussion. 	<p><i>An example of an outline of a lesson plan for an intervention based on the 2010 SHS Integrated Science Syllabus*</i></p> <p>Learning need: learners' inability to differentiate between plant cell and animal cell correctly.</p> <p>Intervention: Re-teaching content</p> <p>a) Topic: Cells</p> <p>b) Sub-topic: Differences between Plant Cell and Animal Cell</p> <p>c) Objectives By the end of the lesson, the student will be able to:</p> <ol style="list-style-type: none"> Describe the structure of the plant cell. Describe the structure of the animal cell. Differentiate between the plant cell and the animal cell. <p>d) Relevant Previous Knowledge: learners can explain what a cell is.</p> <p>e) Introduction: Elicit from the learners the meaning of cells using brainstorming. Prepare the learners' mind to watch a documentary on plant cell and animal cell.</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Let learners watch a documentary on plant cell and note salient points on the structure of the plant cell for discussion. 	
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	<p>ii. Show them a chart of a well labelled diagram of the structure of a plant cell for a discussion.</p> <p>iii. Let learners watch a documentary on animal cell and note salient points on the structure of the animal cell for a discussion.</p> <p>iv. Show them a chart of a well labelled diagram of the structure of Animal cell for a discussion.</p> <p>v. Using small group discussion, let the learners discuss and write the differences they have discovered between plant cell and animal cell.</p> <p>Remind the learners to appoint group leaders and secretaries and let the leaders share the group's work with the larger class.</p> <p>g) Closure: Close the lesson by asking learners to reflect on the following questions:</p> <p>a. What new things have you learnt from today's lesson?</p> <p>b. How will today's lesson help you in your daily life activities?</p> <p>h) Evaluation</p> <p>i. Draw a plant cell and animal cell and label them.</p> <p>ii. State 4 differences between plant cell and animal cell.</p>	<p>ii. Show them a chart of a well labelled diagram of the structure of a plant cell for a discussion.</p> <p>iii. Let learners watch a documentary on animal cell and note salient points on the structure of the animal cell for a discussion.</p> <p>iv. Show them a chart of a well labelled diagram of the structure of Animal cell for a discussion.</p> <p>v. Using small group discussion, let the learners discuss and write the differences they have discovered between plant cell and animal cell.</p> <p>Remind the learners to appoint group leaders and secretaries and let the leaders share the group's work with the larger class.</p> <p>g) Closure: Close the lesson by asking learners to reflect on the following questions:</p> <p>a. What new things have you learnt from today's lesson?</p> <p>b. How will today's lesson help you in your daily life activities?</p> <p>h) Evaluation</p> <p>i. Draw a plant cell and animal cell and label them.</p> <p>ii. State 4 differences between plant cell and animal cell.</p>	
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	<p><i>i) Content:</i> Cells are the basic units of life or the building blocks of life. Examples are plant cell and animal cell.</p> <p><i>The differences between plant cell and animal cell include the following:</i></p> <ol style="list-style-type: none"> <i>Plant cell is surrounded by a rigid cell wall but animal cell does not have a cell wall.</i> <i>Plant cell is larger in size but animal cell is smaller in size.</i> <i>While plant cell has a large vacuole animal cell has small vacuole.</i> <i>Plant cell has plastids but animal cell does not have plastids.</i> <i>Plant cell does not have cilia however, animal cell has cilia.</i> <i>Lysosomes are very rare in plant cell but abundant in animal cell.</i> <i>Plant cell does not have centrosome but animal cell has centrosome.</i> <p><i>j) Core competencies</i></p> <ol style="list-style-type: none"> <i>Leadership</i> <i>Communication</i> <i>Collaboration</i> <i>Critical thinking</i> <i>Creativity and innovation</i> 	<p><i>i) Content:</i> Cells are the basic units of life or the building blocks of life. Examples are plant cell and animal cell.</p> <p><i>The differences between plant cell and animal cell include the following:</i></p> <ol style="list-style-type: none"> <i>Plant cell is surrounded by a rigid cell wall but animal cell does not have a cell wall.</i> <i>Plant cell is larger in size but animal cell is smaller in size.</i> <i>While plant cell has a large vacuole animal cell has small vacuole.</i> <i>Plant cell has plastids but animal cell does not have plastids.</i> <i>Plant cell does not have cilia however, animal cell has cilia.</i> <i>Lysosomes are very rare in plant cell but abundant in animal cell.</i> <i>Plant cell does not have centrosome but animal cell has centrosome.</i> <p><i>j) Core competencies</i></p> <ol style="list-style-type: none"> <i>Leadership</i> <i>Communication</i> <i>Collaboration</i> <i>Critical thinking</i> <i>Creativity and innovation</i> 	
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	<p>2.6. Ask teachers, in groups, to do a presentation on the prepared lesson plan whilst their colleagues critique it (NTS 3a). (Extension Activity)</p> <p><i>* Teachers will be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan.</i></p>	<p>2.6. In groups, do a presentation on the prepared lesson plan whilst your colleagues critique it (NTS 3a). (Extension Activity)</p> <p><i>*Teachers will be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan.</i></p>	
<p>3. Teaching, learning and assessment.</p>	<p>3.1 Ask teachers to tease out the learning outcomes and the learning indicators from the sample lesson plan and use them in a post intervention activity. (Extension Activity)</p> <p><i>E.g. LO: Demonstrate sound knowledge and understanding of plant cell and animal cell.</i></p> <p><i>LI 1.1 Describe the structure of the plant cell.</i></p> <p><i>LI 1.2 Describe the structure of the animal cell.</i></p> <p><i>LI 1.3 Differentiate between the plant cell and the animal cell.</i></p> <p>3.2 Ask teachers to discuss how they will collect post intervention data and share their discussion with the larger group (NTS 1e, 3n). <i>E.g. Marked tests, class exercises, project works, etc.</i></p>	<p>3.1 Tease out the learning outcomes and the learning indicators from the sample lesson plan and use them in a post intervention activity. (Extension Activity)</p> <p><i>E.g. LO: Demonstrate sound knowledge and understanding of plant cell and animal cell.</i></p> <p><i>LI 1.1 Describe the structure of the plant cell.</i></p> <p><i>LI 1.2 Describe the structure of the animal cell.</i></p> <p>3.2 Discuss how you will collect post intervention data and share with the larger group data (NTS 1e, 3n). <i>E.g. Marked tests, class exercises, project works, etc.</i></p>	<p>30 mins</p>

	<p>3.3 In plenary, ask teachers to describe how they will analyze the post intervention data and interpret it (NTS 3b).</p> <p><i>E.g. Using tables of test scores to compare the pre and the post-intervention test scores to identify areas of progress and give conclusion and recommendations.</i></p> <p>3.4 In groups, let teachers identify and discuss ways of overcoming challenges in teaching large class size and share with the larger group for further discussion (NTS 3d).</p> <p><i>E.g.</i></p> <p><i>a) Use of group and pair work in large classrooms</i></p> <p><i>b) Altering seating plans so that female and male learners are mixed</i></p> <p><i>c) Managing resources such that all learners get access to resources</i></p> <p><i>d) Involving learners as monitors</i></p> <p><i>e) Using peer teaching to improve learning</i></p> <p>3.5 Ask groups to present their work for feedback from the larger group</p>	<p>3.3 Describe how you will analyze the post intervention data and interpret it (NTS 3b).</p> <p><i>E.g. Using tables of test scores to compare the post and the pre-intervention test scores to identify areas of progress and give conclusion and recommendations.</i></p> <p>3.4 In groups, identify and discuss ways of overcoming challenges in teaching large class size and share with the larger group for further discussion (NTS 3d).</p> <p><i>E.g.</i></p> <p><i>a) Use of group and pair work in large classrooms</i></p> <p><i>b) Altering seating plans so that female and males are mixed</i></p> <p><i>c) Managing resources such that all learners get access to resources</i></p> <p>3.5 Present your work for feedback from the larger group</p>	
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<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 Ask teachers to reflect and write what they have learnt in the session (NTS 1a, 3l and 3n).</p> <p>4.2 Ask teachers to share what they have written with the larger group.</p> <p>4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 8 and provide feedback at the next PLC session.6</p> <p>4.4 Remind teachers to read Session 9 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l and 3n).</p> <p>4.2 Share what you have written with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 8 and provide feedback at the next PLC Session.</p> <p>4.4 Remember to 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: Teaching and Learning			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Ask a teacher who observed a lesson of a critical friend to share their findings with the group.</p> <p>1.2 Ask a teacher to read standard 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Develop a variety of instructional strategies that encourage learners' participation and critical thinking (NTS 3e).</p> <p>LI 1.1 Mention at least three instructional strategies that encourage learners' participation in class.</p> <p>LI 1.2 Mention at least three instructional strategies that encourage learners' critical thinking.</p> <p>LO 2: Employ Gender Equality and Social Inclusive (GESI) responsive activities during teaching and learning (NTS 3f).</p> <p>LI 2.1 State at least four measures a teacher can</p>	<p>1.1 Share your findings of the lesson you observed with your critical friend after the last PLC session.</p> <p>1.2 Ask a teacher to read standard 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Develop a variety of instructional strategies that encourage learners' participation and critical thinking (NTS 3e).</p> <p>LI 1.1 Mention at least three instructional strategies that encourage learners' participation in class.</p> <p>LI 1.2 Mention at least three instructional strategies that encourage learners' critical thinking.</p> <p>LO 2: Employ Gender Equality and Social Inclusive (GESI) responsive activities during teaching and learning (NTS 3f).</p> <p>LI 2.1 State at least four measures a teacher can adopt to be GESI responsive.</p>	25 mins

	<p>adopt to be GESI responsive.</p> <p>LI 2.2 Identify and mention at least three categories of learners that require GESI responsive support approaches in teaching and learning the most.</p> <p>LO 3: Employ instructional strategies appropriate for mixed ability, multilingual, and multi-age classes of learners (NTS 3g).</p> <p>LI 3.1 State at least three instructional strategies that support the teaching of learners from diverse backgrounds.</p> <p>LI 3.2 Identify at least four teaching and learning resources that can be used in teaching learners from different ability groups.</p> <p>LO 4: Discuss meaningful tasks that encourage learner collaboration and lead to purposeful learning (NTS 3h).</p> <p>LI 4.1 List at least four classroom activities that will encourage learners to collaborate during teaching and learning.</p> <p>LI 4.2 List at least three classroom activities that will lead to purposeful learning.</p>	<p>LI 2.2 Identify and mention at least three categories of learners that require GESI responsive support approaches in teaching and learning the most.</p> <p>LO 3: Employ instructional strategies appropriate for mixed ability, multilingual, and multi-age classes of learners (NTS 3g).</p> <p>LI 3.1 State at least three instructional strategies that support the teaching of learners from diverse backgrounds.</p> <p>LI 3.2 Identify at least four teaching and learning resources that can be used in teaching learners from different ability groups.</p> <p>LO 4: Discuss meaningful tasks that encourage learner collaboration and lead to purposeful learning (NTS 3h).</p> <p>LI 4.1 List at least four classroom activities that will encourage learners to collaborate during teaching and learning.</p> <p>LI 4.2 List at least three classroom activities that will lead to purposeful learning.</p>	
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	<p>LO 5: Explain concepts clearly using examples familiar to learners.</p> <p>LI 5.1 Mention at least three strategies teachers can adopt to explain key concepts in their lessons (NTS 3i).</p> <p>LI 5.2 Discuss at least two strategies teachers can adopt to explain key concepts in their lessons.</p> <p>LO 6: Discuss the production and uses of a variety of teaching and learning resources that enhance learning, including Information and Communications Technology (ICT) tools (NTS 3j).</p> <p>LI 6.1 List and discuss at least three ways in which teaching and learning resources can be produced using local resources.</p> <p>LI 6.2 State at least three ways in which teaching and learning resources can be produced using ICT.</p> <p>1.3 Ask teachers to share with the group, various teaching strategies they have been using to deliver their lessons (NTS 3e).</p> <p><i>E.g.</i> a) <i>Role-play</i> b) <i>Demonstrations</i> c) <i>Group discussions</i> d) <i>Project work</i></p>	<p>LO 5: Explain concepts clearly using examples familiar to learners.</p> <p>LI 5.1 Mention at least three strategies teachers can adopt to explain key concepts in the lessons (NTS 3i).</p> <p>LI 5.2 Discuss at least two strategies teachers can adopt to explain key concepts in their lessons.</p> <p>LO 6: Discuss the production and uses of a variety of teaching and learning resources that enhance learning, including Information and Communications Technology (ICT) tools (NTS 3j).</p> <p>LI 6.1 List and discuss at least three ways in which teaching and learning resources can be produced using local resources.</p> <p>LI 6.2 State at least three ways in which teaching and learning resources can be produced using ICT.</p> <p>1.3 Share with the group, various teaching strategies you have been using to deliver your lessons (NTS 3e).</p> <p><i>E.g.</i> a) <i>Role-play</i> b) <i>Demonstrations</i> c) <i>Group discussions, etc.</i></p>	
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	<p><i>e) Flipped classroom, etc.</i></p> <p>1.4. Lead teachers to discuss at least four teaching strategies that encourage learners' critical thinking and participation (NTS 3e, 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Whole-class dialogue</i> <i>b) Questioning/probing</i> <i>c) Group/peer work</i> <i>d) Demonstration</i> <i>e) Project/enquiry base learning</i> <i>f) Story-telling, etc.</i> <p>1.5 Ask teachers to state at least four measures that they can adopt to be GESI responsive (NTS 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Classroom arrangement</i> <i>b) Even distribution of questions</i> <i>c) Provide learning aids appropriate to learners' needs (hearing aids, braille, etc.)</i> <i>d) Differentiated teaching, etc.</i> <p>1.6 Ask teachers to identify and mention at least three categories of learners that require GESI responsive support approaches in teaching and learning the most (NTS 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Hearing impaired</i> <i>b) Visually impaired</i> 	<p>1.4. Discuss at least four teaching strategies that encourage learners' critical thinking and participation (NTS 3e, 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Whole-class dialogue</i> <i>b) Questioning/probing</i> <i>c) Group/peer work, etc.</i> <p>1.5. State at least four measures that you can adopt to be GESI responsive (NTS 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Classroom arrangement</i> <i>b) Even distribution of questions, etc.</i> <p>1.6 Identify and mention at least three categories of learners that require GESI responsive support approaches in teaching and learning the most (NTS 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Hearing impaired</i> <i>b) Visually impaired, etc.</i> 	
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	<p>c) <i>Learners with cerebral palsy</i> d) <i>Other vulnerable groups, etc.</i></p> <p>1.7 Ask teachers to state at least four instructional strategies that support the teaching of learners from diverse backgrounds (NTS 3e, 3g).</p> <p><i>E.g.</i> <i>Organize the classroom to support multi-grade learning through:</i> a) <i>Seating arrangement</i> b) <i>Same or mixed grade groups</i> c) <i>Individual self-directed work</i> d) <i>Differentiated teaching</i> e) <i>The use of diagrams, charts and other displays, etc.</i></p> <p>1.8 Ask teachers to identify at least four teaching and learning resources that can be used in teaching learners from different ability groups (NTS 3i).</p> <p><i>E.g.</i> a) <i>Audio-visual material</i> b) <i>Posters</i> c) <i>Videos</i> d) <i>Braille</i> e) <i>Projector</i> f) <i>Flash cards, etc.</i></p> <p>1.9 Ask teachers to identify teaching and learning resources that will further enhance lesson delivery in the classroom (NTS 3i).</p>	<p>1.7 State at least four instructional strategies that support the teaching of learners from diverse backgrounds (NTS 3e, 3g).</p> <p><i>E.g.</i> <i>Organize the classroom to support multi-grade learning through:</i> a) <i>Seating arrangement</i> b) <i>Same or mixed grade groups</i> c) <i>Individual self-directed work, etc.</i></p> <p>1.8 Identify at least four teaching and learning resources that can be used in teaching learners from different ability groups (NTS 3i).</p> <p><i>E.g.</i> a) <i>Audio-visual material</i> b) <i>Braille</i> c) <i>Videos, etc.</i></p> <p>1.9 Identify teaching and learning resources that will further enhance lessons delivery in the classroom (NTS 3i).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Simple story books</i> b) <i>Charts</i> c) <i>Bottle tops</i> d) <i>Stones</i> e) <i>Pens</i> f) <i>Sticks</i> g) <i>Textbooks</i> h) <i>Clay letters and numbers</i> i) <i>Displays</i> j) <i>ICT tools - computers, scanners, projectors, phones, etc.</i> <p>1.10 Ask teachers to list at least four classroom activities that will encourage learners to collaborate during teaching and learning (NTS 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Peer learning/ teaching</i> b) <i>Talk and debate</i> c) <i>Assigning leadership roles to females and males equally</i> d) <i>Skillful intervention during learning, etc.</i> <p>1.11 Ask teachers to list at least three classroom activities that will lead to purposeful learning (NTS 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Mixed ability group tasks</i> b) <i>Demonstration</i> c) <i>Role-play</i> d) <i>Story-telling</i> e) <i>Differentiated teaching, etc.</i> 	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Simple story books</i> b) <i>Charts</i> c) <i>Bottle tops</i> d) <i>Stones</i> e) <i>Pens, etc.</i> <p>1.10 List at least four classroom activities that will encourage learners to collaborate during teaching and learning (NTS 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Peer learning/ teaching</i> b) <i>Talk and debate, etc.</i> <p>1.11 List at least three classroom activities that will lead to purposeful learning (NTS 3h).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Mixed ability grouping</i> b) <i>Demonstration, etc.</i> 	
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	<p>1.12 Ask teachers to mention at least three strategies they can adopt or adapt to explain key concepts in their lessons (NTS 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Imaginative use of drawings, diagrams, charts, etc.</i> <i>b) Demonstrations</i> <i>c) Use of ICT tools</i> <i>d) Analogy, etc.</i> <p>1.13 Ask teachers to discuss at least two key strategies they can use to explain key concepts in their lessons (NTS 3i).</p> <p><i>E.g.</i></p> <p><i>Using diagrams, drawing, demonstration, and other teaching and learning resources to explain key concepts in a lesson.</i></p> <p>1.14 Ask teachers to list and discuss at least three ways in which teaching and learning resources can be produced using local resources (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Draw on cardboards</i> <i>b) Create pictures, charts, flash cards, etc.</i> <i>c) Use stones, sticks and bottle tops</i> <i>d) Mold clay letters and numbers, etc.</i> 	<p>1.12 Mention at least three strategies you can adopt or adapt to explain key concepts in your lessons (NTS 3i).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Imaginative use of drawings, diagrams, charts, etc.</i> <i>b) Demonstrations, etc.</i> <p>1.13 Discuss at least two key strategies you can use to explain key concepts in your lessons (NTS 3i).</p> <p><i>E.g.</i></p> <p><i>Using diagrams, drawing, demonstration, and other teaching and learning resources to explain key concepts in a lesson.</i></p> <p>1.14 List and discuss at least three ways in which teaching and learning resources can be produced using local resources (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Draw on cardboards</i> <i>b) Create pictures, charts, flash cards, etc.</i> 	
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	<p>1.15 Ask teachers to state at least three ways in which teaching and learning resources can be produced using ICT tools (NTS 3j).</p> <p><i>E.g.</i> <i>Use computers to produce:</i> a) <i>Charts</i> b) <i>Maps</i> c) <i>Images</i> d) <i>Diagrams</i> e) <i>Videos</i> f) <i>PowerPoint presentations, etc.</i></p>	<p>1.15 State at least three ways in which teaching and learning resources can be produced using ICT tools (NTS 3j).</p> <p><i>E.g.</i> <i>Use computers to produce:</i> a) <i>Charts</i> b) <i>Maps, etc.</i></p>	
<p>Give regard for possible misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.15 Ask teachers to identify possible misconceptions and stereotypes in teaching and learning.</p> <p><i>E.g.</i> a) <i>Female teachers can teach lower-level classes better than male teachers</i> b) <i>Male teachers understand lesson delivery better than female teachers</i> c) <i>Some female teachers feel that having a special needs child in their class may lead to them giving birth to such children</i> d) <i>Some think ICT is meant for males and not for females</i> e) <i>ICT tools are difficult to apply in teaching and learning, etc.</i></p> <p>1.16 Discuss with teachers, possible ways to mitigate these misconceptions in</p>	<p>1.15 Identify possible misconceptions and stereotypes in teaching and learning.</p> <p><i>E.g.</i> a) <i>Female teachers can teach lower-level classes better than male teachers</i> b) <i>Male teachers understand lesson delivery better than female teachers</i> c) <i>Some female teachers feel that having a special needs child in their class may lead to them giving birth to such children</i></p> <p>1.16 Discuss possible ways to mitigate these misconceptions in teaching</p>	

	<p>teaching and learning in their various subjects.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Teaching is a profession which requires training irrespective of gender</i> b) <i>Invite female and male professionals and experts who have overcome some of these misconceptions to deliver a talk on them</i> c) <i>Engage the services of professional psychologists and counsellors to counsel female teachers who may harbour the fear of having children with disability because they teach such children</i> d) <i>Invite female ICT experts to have a discussion or engagement with teachers to clear such ICT related misconceptions</i> e) <i>Organize orientation programmes for teachers on the use of ICT tools in lesson delivery, etc.</i> <p>1.17 In mixed gender groupings (where possible), ask teachers to list at least three 21st century skills related to teaching and learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Communication skills</i> b) <i>Collaboration skills</i> 	<p>and learning in your various subjects.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Teaching is a profession which requires training irrespective of gender</i> b) <i>Invite female and male professionals and experts who have overcome some of these misconceptions to deliver a talk on them</i> c) <i>Engage the services of professional psychologists and counsellors to counsel female teachers who may harbour the fear of having children with disability because they teach such children, etc.</i> <p>1.17 In mixed gender groupings (where possible), list at least three 21st century skills related to teaching and learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Communication skills</i> b) <i>Collaboration skills</i> 	
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	<p>c) <i>Observation and enquiry skills</i> d) <i>Digital literacy</i> e) <i>Creativity skills</i> f) <i>Personal development skills</i> g) <i>Presentation skills, etc.</i></p> <p>1.18 Ask teachers to discuss their list of 21st century skills (from 1.18) and how they can support teaching and learning.</p> <p><i>E.g.</i> a) Communication skills: <i>Group discussion, role-play, presentation, debate, etc.</i> b) Collaboration skills: <i>Group discussion, project/research, role-play, hands-on activities, drama, etc.</i> c) Observation and enquiry skills: <i>Group discussion, project/research, role-play, hands-on activities, etc.</i></p> <p>1.19 Ask teachers to identify ways of incorporating ICT in their lessons.</p> <p><i>E.g.</i> <i>Employ ICT tools and applications in teaching and learning:</i> a) <i>Surf Open Educational Resources (OERs)</i> b) <i>Use google classroom</i></p>	<p>c) <i>Observation and enquiry skills, etc.</i></p> <p>1.18 Discuss your list of 21st century skills (from 1.18) and how they can support teaching and learning.</p> <p><i>E.g.</i> a) Communication skills: <i>Group discussion, role-play, presentation, debate, etc.</i> b) Collaboration skills: <i>Group discussion, project/research, role-play, hands-on activities, drama, etc.</i></p> <p>1.19 Identify ways of incorporating ICT in your lessons.</p> <p><i>E.g.</i> <i>Employ ICT tools and applications in teaching and learning:</i> a) <i>Surf Open Educational Resources (OERs)</i> b) <i>Use google classroom</i></p>	
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	<p>c) <i>Use of Microsoft Office Suite (Word, PowerPoint, Excel, etc.)</i></p> <p>d) <i>Use of online search engines (Mozilla Firefox, Google Chrome, Microsoft Edge, etc.)</i></p> <p>e) <i>Use of smartphones projectors, laptops, scanners, calculators, etc.</i></p> <p>f) <i>Use of other applications such as plagiarism checking software, tools for checking grammar errors online, etc.</i></p> <p>1.20 Ask teachers to discuss possible activities they would adopt to develop the following 21st century skills in their learners.</p> <p><i>E.g. Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development skills, etc., can be developed in learners using the following activities;</i></p> <p>a) <i>group discussion</i></p> <p>b) <i>project/research</i></p> <p>c) <i>role-play</i></p> <p>d) <i>hands-on activities</i></p> <p>e) <i>extended learning</i></p> <p>f) <i>presentation</i></p> <p>g) <i>drama</i></p> <p>h) <i>field trips</i></p> <p>i) <i>debates</i></p> <p>j) <i>quizzes, etc.</i></p>	<p>c) <i>Use of Microsoft Office Suite (Word, PowerPoint, Excel, etc.)</i></p> <p>d) <i>Use of online search engines (Mozilla Firefox, Google Chrome, Microsoft Edge, etc.), etc.</i></p> <p>1.20 Discuss possible activities you would adopt to develop the following 21st century skills in your learners.</p> <p><i>E.g. Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development skills, etc., can be developed in learners using the following activities;</i></p> <p>a) <i>group discussion</i></p> <p>b) <i>project/research</i></p> <p>c) <i>role-play</i></p> <p>d) <i>hands-on activities, etc.</i></p>	
2. Planning for teaching, learning and	2.1 Ask teachers to discuss samples of their lesson plans in their various	2.1 Discuss samples of your lesson plans in your various subject areas and link them	20 mins

<p>assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>subject areas and link them to the NTS, particularly to teaching and learning (NTS 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l).</p> <p>An example of an outline of a Lesson Plan based on the 2010 Senior High School Syllabus in Geography*</p> <p>a) Topic: Rocks</p> <p>b) Sub-topic: Types of rocks</p> <p>c) Objectives: By the end of the lesson, the learner will be able to:</p> <ol style="list-style-type: none"> Explain the term "rock" State three types of rocks Give at least two examples each of the types of rocks <p>d) RPK: learners have seen rocks, stones and sand in their environment</p> <p>e) Introduction: Introduce the lesson by giving samples of rocks, stones and sand for learners to observe and come out with their differences and similarities.</p> <p>f) Task/Activities:</p> <ol style="list-style-type: none"> With the aid of pictures, drawings of rocks on cardboard, etc., guide learners to 	<p>to the NTS, particularly to teaching and learning (NTS 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l).</p> <p>An example of an outline of a Lesson Plan based on the 2010 Senior High School Syllabus in Geography*</p> <p>a) Topic: Rocks</p> <p>b) Sub-topic: Types of rocks</p> <p>c) Objectives: By the end of the lesson, learners will be able to:</p> <ol style="list-style-type: none"> Explain the term rock State the types of rocks Give at least two examples each of the types of rocks <p>d) RPK: learners have seen rocks, stones and sand in their environment</p> <p>e) Introduction: Introduce the lesson by giving samples of rocks, stones and sand for learners to observe and come out with their differences and similarities.</p> <p>f) Task/Activities:</p> <ol style="list-style-type: none"> With the aid of pictures, drawings of rocks on cardboard, etc., guide learners to 	
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	<p><i>brainstorm the meaning of rock</i></p> <p>ii. <i>Using samples of the sand, stones, and rocks, guide learners to identify their differences and similarities and come out with the types of rocks</i></p> <p>iii. <i>Guide learners group the rocks according to their types i.e. igneous rocks (basalt, granite, gabbro), sedimentary rocks (chalk, shale, sandstone) and metamorphic rocks (slate, marble, gneiss)</i></p> <p>g) Core Points: <i>Meaning of rock: Rocks are aggregates of a solid mineral matter that constitute a significant part of the earth crust or a mass of a stone projecting out of the ground Types of rocks and their examples:</i> <ul style="list-style-type: none"> i. <i>Igneous rocks e.g. basalt, granite, gabbro,</i> ii. <i>Sedimentary rocks e.g. chalk, shale, sandstone</i> iii. <i>Metamorphic rocks e.g. slate, marble, gneiss</i> </p> <p>h) Core Competencies: <i>identification skills, imagination skills,</i></p>	<p><i>brainstorm the meaning of rock</i></p> <p>ii. <i>Using samples of the sand, stones, and rocks, guide learners to identify their differences and similarities and come out with the types of rocks</i></p> <p>iii. <i>Guide learners group the rocks according to their types i.e. igneous rocks (basalt, granite, gabbro), sedimentary rocks (chalk, shale, sandstone) and metamorphic rocks (slate, marble, gneiss)</i></p> <p>g) Core Points: <i>Meaning of rock: Rocks are aggregates of a solid mineral matter that constitute a significant part of the earth crust or a mass of a stone projecting out of the ground Types of rocks and their examples:</i> <ul style="list-style-type: none"> i. <i>Igneous rocks e.g. basalt, granite, gabbro,</i> ii. <i>Sedimentary rocks e.g. chalk, shale, sandstone</i> iii. <i>Metamorphic rocks e.g. slate, marble, gneiss</i> </p> <p>h) Core Competencies: <i>identification skills, imagination skills,</i></p>	
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	<p><i>observation skills, collaboration skills, communication skills</i></p> <p>i) Closure: <i>Review the lesson with learners and allow them to ask for clarification if any</i></p> <p>j) Evaluation:</p> <ol style="list-style-type: none"> <i>Describe what rocks are.</i> <i>Mention at least two types of rocks.</i> <i>State at least two examples each of the various types of rocks.</i> <p>k) Remarks:</p> <p><i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</i></p>	<p><i>observation skills, collaboration skills, communication skills</i></p> <p>i) Closure: <i>Review the lesson with learners and allow them to ask for clarification if any</i></p> <p>j) Evaluation:</p> <ol style="list-style-type: none"> <i>Describe what rocks are.</i> <i>Mention at least two types of rocks.</i> <i>State at least two examples each of the various types of rocks.</i> <p>k) Remarks:</p> <p><i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making explicit links to the Secondary</p>	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing same.</p> <p><i>E.g.</i></p> <p>a) Possible gaps: <i>Lack of differentiation for learner diversity</i> Possible solution: <i>Use different teaching methods and resources to cater for different learner needs, etc.</i></p> <p>b) Possible gaps: <i>Inadequate real-life resources</i></p> <ol style="list-style-type: none"> Possible solution: <i>Use computer simulation/pre-</i> 	<p>3.1 Identify gaps in your sample lesson plans and possible ways of addressing same.</p> <p><i>E.g.</i></p> <p>a) Possible gaps: <i>Lack of differentiation for learner diversity</i></p> <p>b) Possible solution: <i>Use different teaching methods and resources to cater for different learner needs, etc.</i></p>	30 mins

<p>School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support learner teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference. ○ Material: literature, 	<p><i>recorded videos/ YouTube videos</i></p> <p>3.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan and compare their work.</p> <p><i>E.g.</i></p> <p><i>LO: Demonstrate knowledge and understanding of the various types of rocks.</i></p> <p><i>LI 1.1 Explain the term 'rock'.</i></p> <p><i>LI 1.2 Mention at least two types of rocks.</i></p> <p><i>LI 1.3 Give three examples of igneous rocks.</i></p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Field trips</i> <i>b) Small group work</i> <i>c) Learner presentations</i> <i>d) Use of YouTube/pre-recorded videos</i> <i>e) Flipped classroom</i> <i>f) Individual tasks, etc.</i> <p>3.4 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Plan for differences in learner needs</i> 	<p>3.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan and compare their work.</p> <p><i>E.g.</i></p> <p><i>LO: Demonstrate knowledge and understanding of the various types of rocks.</i></p> <p><i>LI 1.1 Explain the term rock'.</i></p> <p><i>LI 1.2 Mention at least two types of rocks.</i></p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Small group work</i> <i>b) Field trips</i> <i>c) Learner presentations</i> <i>d) Use of YouTube/pre-recorded videos, etc.</i> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Plan for differences in learner needs</i> 	
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<p>on web, YouTube, physical resources, power point; how they should be used.</p> <p>○ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning</p>	<p>b) <i>Use individual tasks reflecting different learning styles</i></p> <p>c) <i>Use mixed gender groups to encourage collaboration between male and female learners</i></p> <p>d) <i>Make reasonable adjustment for SEN learners, etc.</i></p> <p>3.5 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices i.e. assessment for learning and assessment as learning.</p> <p><i>E.g.</i></p> <p>a) <i>Use assessment to diagnose learners' needs (for)</i></p> <p>i. <i>Use assessment to review learners' progress (for)</i></p> <p>ii. <i>Use assessment to give guidance about opportunities through feedback (for)</i></p> <p>iii. <i>Encourage self-assessment (as), etc.</i></p> <p>3.6 In groups, ask teachers to suggest other assessment methods that could be used in the sample lesson.</p> <p><i>E.g.</i></p> <p>a) <i>Self-assessment</i></p> <p>b) <i>Peer-assessment</i></p> <p>c) <i>Portfolio</i></p> <p>d) <i>Observation</i></p> <p>e) <i>Quizzes</i></p> <p>f) <i>Tests</i></p> <p>g) <i>Assignment</i></p>	<p>b) <i>Use individual tasks reflecting different learning styles</i></p> <p>c) <i>Use mixed gender groups to encourage collaboration between male and female learners, etc.</i></p> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices i.e. assessment for learning and assessment as learning.</p> <p><i>E.g.</i></p> <p>a) <i>Use assessment to diagnose learners' needs (for)</i></p> <p>b) <i>Use assessment to review learners' progress (for)</i></p> <p>c) <i>Encourage Self-assessment (as), etc.</i></p> <p>3.6 In groups suggest other assessment methods that could be used in the sample lesson.</p> <p><i>E.g.</i></p> <p>a) <i>Self-assessment</i></p> <p>b) <i>Peer-assessment</i></p> <p>c) <i>Quizzes</i></p> <p>d) <i>Test</i></p> <p>e) <i>Project work, etc.</i></p>	
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	<p><i>h) Project work, etc.</i></p> <p>3.7 Guide teachers to list resources and discuss how the lesson can make use of these to support relevant activities (NTS 3j). E.g. a) <i>Photographs</i> b) <i>YouTube/Pre-recorded videos.</i> c) <i>Projectors</i> d) <i>OERs/Internet facilities</i> e) <i>Smartphones</i> f) <i>Textbooks, newspapers, magazines, handouts, worksheets, etc.</i></p> <p>3.8 Ask a teacher to model a teaching activity in the sample lesson plan. (Extension Activity)</p>	<p>3.7 List resources and discuss how the lesson can make use of these to support relevant activities (NTS 3j). E.g. a) <i>Photographs</i> b) <i>YouTube/Pre-recorded videos.</i> c) <i>Projectors</i> d) <i>OERs/Internet facilities, etc.</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> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to reflect and write what they have learnt in the session (NTS 3e, 3f, 3g, 3h, 3i, 3g and 3k).</p> <p>4.2 Ask them to share what they have written with the larger group.</p> <p>4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 9 and provide feedback at the next PLC session.</p> <p>4.4 Remind teachers to read Session 10 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 Reflect and write what you have learnt in the session (NTS 3e, 3f, 3g, 3h, 3i, 3g and 3k).</p> <p>4.2 Share what you have written with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 9 and provide feedback at the next PLC session.</p> <p>4.4 Remember to read Session 10 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session for Topic 10: Assessment			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB: The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Ask a teacher who observed a critical friend teach, to share their findings with the group.</p> <p>1.2 Introduce Session 10 and ask a teacher to read NTS 3k, 3l, 3m, 3n, 3o and 3p the under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Show an understanding of assessment and how teachers can assess learners inside and outside the classroom (NTS 3k).</p> <p>LI 1.1 Briefly state the meaning of assessment.</p> <p>LI 1.2 State at least three characteristics of continuous assessment.</p> <p>LO 2: Demonstrate understanding of the modes of assessment (<i>assessment for learning</i>, <i>assessment as learning</i>, and <i>assessment of learning</i>) (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 2.1 State how assessment modes are incorporated in teaching and learning.</p> <p>LI 2.2 Describe how the assessment of learners' academic attainment relates to the NTS (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 2.3 Discuss ways in which continuous assessment can be improved.</p>	<p>1.1 Share the findings of the lesson you observed your critical friend teach after the last PLC session.</p> <p>1.2 Read NTS 3k, 3l, 3m, 3n, 3o and 3p the under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Show an understanding of assessment and how teachers can assess learners inside and outside the classroom (NTS 3k).</p> <p>LI.1.1 Briefly state the meaning of assessment.</p> <p>LI 1.2 State at least three characteristics of continuous assessment.</p> <p>LO 2: Demonstrate understanding of the modes of assessment (<i>assessment for</i>, <i>assessment as</i> and <i>assessment of learning</i>) (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 2.1 State how assessment modes are incorporated in teaching and learning.</p> <p>LI 2.2 Describe how the assessment of learners' academic attainment relates to the NTS (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 2.3 Discuss ways in which continuous assessment can be improved.</p>	25 mins

	<p>1.3 Ask teachers to brainstorm the meaning of assessment. <i>Assessment is a variety of procedures used to obtain information about learner performance. It involves the measurement and evaluation of learners/learners' traits', potential and actual performance. (Linn & Miller, 2005).</i></p> <p>1.4 Through the use of think-pair-share, guide teachers to state the characteristics of continuous assessment (NTS 3k). <i>E.g. It is cumulative, comprehensive, diagnostic, formative, guidance-oriented, systematic, etc.</i></p> <p>1.5 Ask teachers to discuss in groups how assessment modes are incorporated in teaching and learning (NTS 3k). <i>E.g.</i> <i>Assessment "for" learning is the process of seeking and interpreting evidence for use by learners and teachers to decide where the learners are in their learning</i> <i>Assessment "as" learning is where learners are able to learn by themselves and become aware of how they learn. They reflect on their work on a regular basis usually through self and peer assessment and decide what their next learning will be</i> <i>Assessment "of" learning occurs when teachers use evidence of learners' learning to make judgement on learners' achievements against goals and standards (Deluca et al., 2019).</i></p>	<p>1.3 Brainstorm the meaning of assessment. <i>Assessment is a variety of procedures used to obtain information about learner performance. It involves the measurement and evaluation of learners/learners' traits', potential and actual performance. (Linn & Miller, 2005)</i></p> <p>1.4 Think-pair-share the characteristics of continuous assessment (NTS 3k). <i>E.g. It is cumulative, comprehensive, diagnostic, etc.</i></p> <p>1.5 Discuss in groups how assessment modes are incorporated in teaching and learning (NTS 3k). <i>E.g.</i> <i>Assessment "for" learning is the process of seeking and interpreting evidence for use by learners and teachers to decide where the learners are in their learning</i> <i>Assessment "as" learning is where learners are able to learn by themselves and become aware of how they learn. They reflect on their work on a regular basis usually through self and peer assessment and decide what their next learning will be</i> <i>Assessment "of" learning occurs when teachers use evidence of learners' learning to make judgement on learners' achievements against goals and standards (Deluca et al., 2019).</i></p>	
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	<p>1.6 In mixed groups, ask teachers to explain ways in which continuous assessment could be improved (NTS 3b, 3h, 3k, 3l and 3n).</p> <p><i>Continuous assessment can be improved through:</i></p> <ul style="list-style-type: none"> a) <i>in-service training on how to keep records</i> b) <i>group assessment tasks to reduce workload resulting from large class sizes</i> c) <i>organizing workshops for teachers on test administration</i> d) <i>regular checks on assessment records kept by teachers, etc.</i> <p>1.7 Ask teachers to reflect and write how they have used <i>assessment for</i> learning, <i>assessment as learning</i> and <i>assessment of</i> learning in their various classrooms.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Class exercise to check understanding (for)</i> b) <i>Asking learners to reflect on their work and indicate the progress they have made (as)</i> c) <i>Giving a test and recording the marks as part of assessment for West African Senior School Certificate (WASSCE) (of)</i> d) <i>Question and answer session to identify learner needs (for), etc.</i> 	<p>1.6 In mixed groups, explain ways in which continuous assessment could be improved (NTS 3b, 3h, 3k, 3l and 3n).</p> <p><i>Continuous assessment can be improved through:</i></p> <ul style="list-style-type: none"> a) <i>in-service training on how to keep records</i> b) <i>group assessment tasks to reduce workload resulting from large class sizes</i> c) <i>organizing workshops for teachers on test administration, etc.</i> <p>1.7 Reflect and write how you have used <i>assessment for</i>, <i>assessment as</i> and <i>assessment of</i> in your classroom.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Class exercise to check understanding (for)</i> b) <i>Asking learners to reflect on their work and indicate the progress they have made (as)</i> c) <i>Giving a test and recording the marks as part of assessment for West African Senior School Certificate (WASSCE) (of)</i> 	
Give regard for possible misconceptions related to GESI,	<p>1.8 Ask teachers to state the misconceptions surrounding the different types of classroom assessments (NTS 3m).</p>	<p>1.8 State the misconceptions surrounding the different types of classroom assessments (NTS 3m).</p>	

<p>ICT, 21st century skills, etc.</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Oral assessment calls for open response</i> <i>b) Boys perform better than girls in classroom assessment</i> <i>c) Multiple-choice type test is easy to construct</i> <i>d) Assessing learners always means testing them</i> <i>e) Only teachers can assess learners</i> <i>f) Assessment always results in learners obtaining marks or grades, etc.</i> <p>1.9 Discuss with teachers, possible ways to mitigate these misconceptions and stereotypes in assessment (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Organise orientation to sensitise teachers on the various assessment mode</i> <i>b) Ask teachers to construct multiple-choice test items</i> <i>c) Provide research data on tests where females have done better than males, etc.</i> <p>1.10 Discuss with teachers what they do to ensure equal participation of male and female learners in classroom assessment (NTS 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Provide opportunities for self-assessment</i> <i>b) Distribute questions in the classroom fairly</i> <i>c) Make adjustment in assessments for SEN</i> 	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Oral assessment calls for open response</i> <i>b) Boys perform better than girls in classroom assessment</i> <i>c) Multiple-Choice type test is easy to construct, etc.</i> <p>1.9 Discuss possible ways to mitigate these misconceptions and stereotypes in assessment (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Organise orientation to sensitise teachers on the various assessment modes</i> <i>b) Ask teachers to construct multiple test items</i> <p>1.10 Discuss what to do to ensure equal participation of male and female learners in classroom assessment (NTS 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Provide opportunities for self-assessment</i> <i>b) Distribute questions in the classroom fairly, etc.</i> 	
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	<p><i>learners such as using bigger font sizes and allowing more time for completion of tasks, etc.</i></p> <p>1.11 Ask teachers to identify ways of incorporating ICT in their lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use Open Educational Resources (OERs) and other Internet sources for information</i> b) <i>Use PowerPoint for presentation</i> c) <i>Use of Excel spreadsheet for teaching graphing, etc.</i> <p>1.12 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in learners through assessment.</p> <p><i>E.g. :</i></p> <ul style="list-style-type: none"> a) Research skills <i>E.g. Google search, group work, etc.</i> b) Critical thinking and problem solving <i>E.g. enquiry, project, etc.</i> c) Creativity and Innovation <i>E.g. role-play, dramatization, etc.</i> d) Communication and collaboration <i>E.g. group discussions, debates, etc.</i> 	<p>1.11 Identify ways of incorporating ICT in lessons (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Use Open Educational Resources (OERs) and other Internet sources for information</i> b) <i>Use PowerPoint for presentation, etc.</i> <p>1.12 Discuss possible activities they would adopt to develop the 21st century skills in learners through assessment.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Research skills <i>E.g. Google search, group work etc.</i> b) Critical thinking and problem Solving <i>E.g. enquiry, project, etc.</i> c) Creativity and Innovation <i>E.g. role-play, dramatization, etc.</i> d) Communication and collaboration <i>E.g. group discussions, debates, etc.</i> 	
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	<p>e) Personal development and leadership E.g. presentations, group work, etc.</p> <p>f) Digital literacy E.g. use of mobile phones, computers, be IT compliant and use it to work with others in teaching and learning, etc.</p>		
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making Links to the secondary school curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the SHS 2010 syllabuses in their respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p><i>An example of an outline for teaching simultaneous linear equations from the SHS 2010 Mathematics Syllabus*</i></p> <p>a) Topic: Simultaneous Linear Equations</p> <p>b) Sub-topic: Graphical Method for solving Linear Equations in two variables</p> <p>c) Objectives: Learners will be able to:</p> <ol style="list-style-type: none"> Plot points for given linear equation Draw graphs for given linear equation Determine the point of intersection as the solution for two given linear equations. <p>d) Relevant previous knowledge: Learners can plot points and draw straight lines on a graph.</p>	<p>2.1 Discuss samples of lesson plans based on the SHS 2010 syllabuses in respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p><i>An example of an outline for teaching simultaneous linear equations from the SHS 2010 Mathematics Syllabus*</i></p> <p>a) Topic: Simultaneous Linear Equations</p> <p>b) Sub-topic: Graphical Method for solving Linear Equations in two variables</p> <p>c) Objectives: Learners will be able to:</p> <ol style="list-style-type: none"> Plot points for given linear equations Draw graphs for given linear equation Determine the point of intersection as the solution for two given linear equations. <p>d) Relevant previous knowledge: Learners can plot points and draw straight lines on a graph.</p>	20 mins

	<p>e) Introduction: Ask learners to come to the board to plot given points on a graph (Ensure males and females including SEN learners)</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Guide learners to plot points for given linear equations In pairs, let learners draw graphs for given linear equations. Move round the tables to observe the learners' activities and provide support where necessary Guide learners to determine the point of intersection as the solution set for the two given linear equations Lead learners to brainstorm the application of the concept in everyday life. <p>g) Core Points:</p> <ol style="list-style-type: none"> Two equations are said to be simultaneous equations in x and y if there exist a set of values for x and y which can satisfy the two equations at the same time The point of intersection is where the two lines meet and that gives the solution set. <p>h) Core Competences:</p> <ol style="list-style-type: none"> Collaboration 	<p>e) Introduction: Ask learners to come to the board to plot given points on a graph (Ensure males and females including SEN learners)</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Guide learners to plot points for given linear equations. In pairs, let learners draw graphs for given linear equations. Move round the tables to observe the learners' activities and provide support where necessary Guide learners to determine the point of intersection as the solution set for the two given linear equations Lead learners to brainstorm the application of the concept in everyday life. <p>g) Core Points:</p> <ol style="list-style-type: none"> Two equations are said to be simultaneous equations in x and y if there exist a values for x and y which can satisfy the two equations at the same time The point of intersection is where the two lines meet and that gives the solution set. <p>h) Core Competences:</p> <ol style="list-style-type: none"> Collaboration Observation and 	
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	<p>ii. Observation and enquiry skills</p> <p>iii. Critical thinking and problem solving</p> <p>iv. Personal development, etc.</p> <p>i) Closure: Recap the lesson by asking the various groups to come out with what they have learned from the lesson.</p> <p>j) Evaluation: Draw graphs for $3x+2y=8$ and $4x-3y=5$ and use the graph to find the solution set of the two equations. *Teachers would be guided to tease out the LOs and the LIs from the sample lesson.</p>	<p>enquiry skills</p> <p>iii. Critical Thinking and problem solving</p> <p>iv. Personal development, etc.</p> <p>i) Closure: Recap the lesson by asking the various groups to come out with what they have learned from the lesson.</p> <p>j) Evaluation: Draw graphs for $3x+2y=8$ and $4x-3y=5$ and use the graph to find the solution set of the two equations. *Teachers would be guided to tease out the LOs and the LIs from the sample lesson.</p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum Noting opportunities for integrating: GESI</p>	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing them (NTS 1a, 3d, 3e, 3f, 3g and 3m).</p> <p>Possible gaps:</p> <ul style="list-style-type: none"> a) inadequate prescribed textbooks for mathematics b) inadequate teaching learning resources c) lack of GESI responsive assessment methods. <p>Possible solutions: E.g. Use of:</p> <ul style="list-style-type: none"> a) a library b) OERs and other Internet facilities c) PLC sessions on GESI and assessment d) self and peer assessment strategies, etc. 	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing them (NTS 1a, 3d, 3e, 3f, 3g and 3m).</p> <p>Possible gaps:</p> <ul style="list-style-type: none"> a) inadequate prescribed textbooks for mathematics b) inadequate teaching learning resource c) lack of GESI responsive assessment methods. <p>Possible solutions: E.g. Use of:</p> <ul style="list-style-type: none"> a) a library b) OERs and other Internet facilities 	

<p>responsiveness and ICT and 21st C skills Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support learner teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations 	<p>3.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan.</p> <p>E.g. LO: Demonstrate understanding of Graphical Method for solving Linear Equations in two variables LI 1. Plot points for given linear equations. LI 2. Draw graphs for given linear equations. LI 3. Determine the point of intersection as the solution for two given linear equations.</p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lesson plan (NTS 2e).</p> <p>E.g. <i>Use of:</i></p> <ul style="list-style-type: none"> a) <i>flipped classroom, i.e. form of blended learning requiring readings at home and work on live problem solving during class time</i> b) <i>demonstration</i> c) <i>simulation</i> d) <i>application of simultaneous linear equation in real life.</i> <p>3.4 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 2e).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction</i> b) <i>Mixed ability/gender groupings</i> 	<p>3.2 Tease out the learning outcomes and learning indicators from the sample lesson plan.</p> <p>E.g. LO: Demonstrate understanding of Graphical Method for solving Linear Equations in two variables LI 1. Plot points for given linear equations. LI 2. Draw graphs for given linear equations. LI 3. Determine the point of intersection as the solution for two given linear equations.</p> <p>3.3 Suggest alternative ways of delivering the sample lesson plan (NTS 2e).</p> <p>E.g. <i>Use of:</i></p> <ul style="list-style-type: none"> a) <i>flipped classroom, i.e. form of blended learning requiring readings at home and work on live problem solving during class time</i> b) <i>demonstration</i> c) <i>simulation.</i> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 2e).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction</i> b) <i>Mixed ability/gender grouping</i> 	
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<p>, TLM or other resources which need to be developed to support learning</p>	<p>c) <i>Giving positive feedback to learners especially the disadvantaged.</i></p> <p>d) <i>Using gender and Special Education Need (SEN) sensitive language and examples, etc.</i></p> <p>3.5 Ask teachers to discuss how the session is linked to the use of assessment tools and practices, i.e. <i>assessment for learning, assessment as learning</i> and <i>assessment of learning</i> (NTS 3k).</p> <p>E.g.</p> <p>a) <i>Question and answer method promotes assessment for learning</i></p> <p>b) <i>Marking own work is an example of assessment as learning</i></p> <p>c) <i>Getting peers to mark work promotes assessment for learning</i></p> <p>d) <i>Presentation of the assessment for grading towards WASSCE is an example of assessment of learning, etc.</i></p> <p>3.6 In groups, ask teachers to suggest other authentic assessment methods that could be used in the sample lesson (NTS 3o).</p> <p>E.g. <i>Observation, simulation, projects (as), Peer-assessment (as or for), Differentiated assessment, portfolio (for) etc.</i></p>	<p>c) <i>Using positive feedback to learners especially the disadvantaged</i></p> <p>3.5 Discuss how the session is linked to the use of assessment tools and practices, i.e. <i>assessment for learning, assessment as learning</i> and <i>assessment of learning</i> (NTS 3k).</p> <p>E.g.</p> <p>a) <i>Question and answer method</i></p> <p>b) <i>promotes assessment for learning</i></p> <p>c) <i>Marking own work promotes assessment as learning</i></p> <p>3.6 Suggest other authentic assessment methods that could be used in the sample lesson (NTS 3o).</p> <p>E.g. <i>Observation, simulation, projects (as), Peer-assessment (as or for), Differentiated assessment, portfolio (for) etc.</i></p>	
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	<p>3.7 Ask teachers to list and discuss how the session makes use of ICT resources to support relevant activities in the NTS (NTS 3n).</p> <p>E.g. <i>Pre-recorded videos, charts, posters, photographs, OERs/Internet facilities, mobile phones, etc.</i></p> <p>3.8 Ask one teacher to model a teaching activity the sample lesson for feedback from the group (NTS 3f, 3p). (Extension Activity)</p>	<p>3.7 List and discuss how the session makes use of ICT resources to support relevant activities in the NTS (NTS 3n). (Extension Activity)</p> <p>E.g. <i>Pre-recorded videos, charts, etc.</i></p> <p>3.8 Model the sample lesson for feedback from the group (NTS 3f, 3p). (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers to reflect and write what they have learnt in the session using the “Talk-to-the-hand” strategy (teacher place their palm on a sheet of paper and trace the fingers out, and in each finger, write the key thing they have learnt) (NTS 3e).</p> <p>4.2 Ask them to share their reflections with the larger group (NTS 1a).</p> <p>4.3 Remind teachers to identify a critical friend to observe them while they teach their lesson in relation to PLC Session 10 and provide feedback at the next PLC session (NTS 3l).</p> <p>4.4 Remind teachers to read Session 11 of the PLC Handbook in preparation for the next session (NTS 3a).</p>	<p>4.1 Reflect and write what you have learnt in the session using the “Talk-to-the-hand” strategy (teacher place their palm on a sheet of paper and trace the fingers out, and in each finger, write the key thing they have learnt) (NTS 3e).</p> <p>4.2 Share your reflections with the larger group (NTS 1a).</p> <p>4.3 Identify a critical friend who observed you teach your lesson in relation to PLC Session 10 and provide feedback at the next PLC session (NTS 3l).</p> <p>4.4 Remember to read Session 11 from the PLC Handbook in preparation of the next session (NTS 3a).</p>	15 mins

PLC Session for Topic 11: Training needs of teachers			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Start the session with an ice breaker. <i>E.g. bowl of questions, riddles, double- double game, etc.</i></p> <p>1.2 Ask teachers to write one thing they have learnt in PLC Session 10 and share with the group.</p> <p>1.3 Ask a teacher to read the learning outcomes (LOs) and learning indicators (LIs) below to set the stage for the session.</p> <p>LO 1: Demonstrate knowledge in Professional Portfolio (PP) development and action research in the classroom.</p> <p>LI 1.1 Identify items to be included in the PP. LI 1.2 Give examples of the issues in the classroom that need action research to address.</p> <p>LO 2: Demonstrate knowledge and skills required for implementing equity and inclusion policies in schoolwork.</p> <p>LI 2.1 Identify skills required for implementing</p>	<p>1.1 Participate in ice breaker.</p> <p>1.2 Write one thing you have learnt in PLC Session 10 and share with the group.</p> <p>1.3 Read the learning outcomes (LOs) and learning indicators (LIs) below to set the stage for the session.</p> <p>LO 1: Demonstrate knowledge in Professional Portfolio (PP) development and action research in the classroom.</p> <p>LI 1.1 Identify items to be included in the PP. LI 1.2 Give examples of the issues in the classroom that need action research to address.</p> <p>LO 2: Demonstrate knowledge and skills required for implementing equity and inclusion policies in schoolwork.</p> <p>LI 2.1 Identify skills required for implementing equity and</p>	25 mins

	<p>equity and inclusion policies in schoolwork.</p> <p>LI 2.2 Show how inclusive issues can be addressed.</p> <p>LI 2.3 Give examples of how equity and inclusion policies improve teaching and learning in schools.</p> <p>LO 3: Demonstrate knowledge in ICT integration in teaching and learning.</p> <p>LI 3.1 State how to integrate ICT in teaching and learning.</p> <p>LI 3.2 Explain how integration of ICT improves teaching and learning in schools.</p> <p>LI 3.3 Identify three challenges associated with integrating ICT in teaching and learning.</p> <p>LI 3.4 Analyse ways to address the challenges of integrating ICT in teaching and learning.</p> <p>LO 5: Demonstrate knowledge and understanding of the key GES policies.</p> <p>LI 5.1 State at least three policies of GES.</p> <p>LI 5.2 Analyse at the relevance of at least three key GES policies.</p>	<p>inclusion policies in schoolwork.</p> <p>LI 2.2 Show how inclusive issues can be addressed.</p> <p>LI 2.3 Give examples of how equity and inclusion policies improve teaching and learning in schools.</p> <p>LO 3: Demonstrate knowledge in ICT integration in teaching and learning.</p> <p>LI 3.1 State how to integrate ICT in teaching and learning.</p> <p>L1 3.2 Explain how integration of ICT improves teaching and learning in schools.</p> <p>LI 3.3 Identify three challenges associated with integrating ICT in teaching and learning.</p> <p>LI 3.4 Analyse ways to address the challenges of integrating ICT in teaching and learning.</p> <p>LO 5: Demonstrate knowledge and understanding of the key GES policies.</p> <p>LI 5.1 State at least three policies of GES.</p> <p>LI 5.2 Analyse at the relevance of at least three key GES policies.</p>	
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	<p>LO 6: Demonstrate knowledge and understanding of leadership for learning.</p> <p>LI 6.1 State at least three qualities of a good leader.</p> <p>LI 6.2 Analyse at least three leadership styles.</p> <p>1.4 In six groups, ask teachers to discuss the various ranks in the GES listed in the NTS for general discussion.</p> <p><i>E.g. Rank 1, Rank 2, Rank 3, Rank 4, Rank 5 and Rank 6.</i></p> <p>1.5 In their groups, ask teachers to present on training needs of teachers in the rank they discussed under Activity 1.4.</p> <p>1.6 Ask teachers to identify and discuss items in the portfolio at Rank 1 of the GES (NTS 1b).</p> <p><i>E.g. assignments, reflective practice, lesson notes, teaching philosophy, photographs, etc.</i></p> <p>1.7 Ask teachers to write some of the issues in the classroom that trigger action research (NTS 3b,3c).</p> <p><i>E.g. Absenteeism, indiscipline, poor performance in a particular subject, weak</i></p>	<p>LO 6: Demonstrate knowledge and understanding of leadership for learning.</p> <p>LI 6.1 State at least three qualities of a good leader.</p> <p>LI 6.2 Analyse at least three leadership styles.</p> <p>1.4 Discuss the various ranks in the GES listed in the NTS for general discussion.</p> <p><i>E.g. Rank 1, Rank 2, Rank 3, Rank 4, Rank 5 and Rank 6.</i></p> <p>1.5 In your groups, present on the training needs of teachers at the rank you discussed under Activity 1.4.</p> <p>1.6 Identify and discuss items in the portfolio at Rank 1 of the GES (NTS 1b).</p> <p><i>E.g. assignments, reflective practice, lesson notes, etc.</i></p> <p>1.7 Write some of the issues in the classroom that trigger action research (NTS 3b, 3c).</p> <p><i>E.g. Absenteeism, indiscipline, etc.</i></p>	
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	<p><i>teaching strategies, lateness, etc.</i></p> <p>1.8 In groups, ask teachers to list four skills required for implementing equity and inclusion policies in schoolwork (NTS 3f, 3g).</p> <p><i>E.g. ICT skills, communication skills, identifying learning needs of learners, using different assessment strategies, being dynamic with class space, , accommodating learning styles and disabilities, being able to integrate technology in teaching and learning, be aware of religious diversity, etc.</i></p> <p>1.9 Ask teachers to identify and write how inclusive issues in schools can be addressed (NTS 3f, 3g)</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Using mixed groupings of students with different learning abilities.</i> <i>b) Giving students with Special Education Needs (SEN) equal opportunity to learn</i> <i>c) Eliminating gender and ethnic barriers to learning.</i> <p>1.10 Using think-pair-share, ask teachers to discuss how equity and inclusion policies affect teaching and learning.</p>	<p>1.8 List four skills required for implementing equity and inclusion policies in schoolwork (NTS 3f, 3g).</p> <p><i>E.g. ICT skills, communication skills, identifying learning needs of learners, using different assessment strategies, etc.</i></p> <p>1.9 Identify and write how inclusive issues in schools can be addressed (NTS 3f, 3g).</p> <p><i>E.g.</i></p> <p><i>Using mixed groupings of students with different learning abilities.</i></p> <p>1.10 Discuss how equity and inclusion policies affect teaching and learning.</p>	
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	<p>E.g.</p> <ul style="list-style-type: none"> a) <i>Prevent exploitation of vulnerable groups</i> b) <i>Provide learning opportunities for disadvantaged groups</i> c) <i>Lead to equitable distribution of learning resources</i> <p>1.11 Ask teachers, in groups, to identify training activities for teachers at the various GES ranks, as indicated in the NTS, that can support teaching and learning in secondary schools.</p> <p>E.g.</p> <p><i>Rank 1</i></p> <ul style="list-style-type: none"> a) <i>Portfolio writing/development</i> b) <i>Action research in classroom teaching and learning</i> <p><i>Rank 2</i></p> <ul style="list-style-type: none"> a) <i>Mentoring and coaching skills</i> b) <i>Leadership for learning skills</i> <p><i>Rank 3</i></p> <ul style="list-style-type: none"> a) <i>Examination item writing and management</i> b) <i>School curriculum and policy development and reviews</i> <p><i>Rank 4</i></p> <ul style="list-style-type: none"> a) <i>Integrating ICT and other technologies in school administration and governance</i> b) <i>Leadership for learning</i> 	<p>E.g.</p> <ul style="list-style-type: none"> a) <i>Prevent exploitation of vulnerable groups</i> b) <i>Provide learning opportunities for disadvantaged groups</i> <p>.</p> <p>1.11 Identify training activities for teachers at the various GES ranks, as indicated in the NTS, that can support teaching and learning in secondary schools</p> <p>E.g.</p> <p><i>Rank 1</i></p> <p><i>Portfolio writing/development</i></p> <p><i>Rank 2</i></p> <p><i>Mentoring and coaching skills</i></p> <p><i>Rank 3</i></p> <p><i>Examination item writing and management</i></p> <p><i>Rank 4</i></p> <p><i>Integrating ICT and other technologies in school administration and governance</i></p>	
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	<p><i>Rank 5</i></p> <p>a) <i>Knowledge of procurement laws</i></p> <p>b) <i>Knowledge of GES and MoE organograms and working principles</i></p> <p><i>Rank 6</i></p> <p>a) <i>Strategic planning and management in education</i></p> <p>b) <i>Communication skills (oral and written) for dealing with policy makers and writing policy document and memoranda</i></p> <p>1.12 Ask teachers, in groups of different areas of specialization (making sure female and male teachers are appropriately represented in each group, where applicable), to identify specific Standards of the NTS that seek to address the training needs of teachers in various ranks of the GES.</p> <p>Note: <i>See the training needs listed in the appendix of the NTS and identify the Standards that can address them.</i></p> <p>1.13 Ask teachers to write at least four qualities of a good leader that are capable of helping to address the training needs of teachers in the various ranks of the GES (NTS 1c, 1f and 1g).</p>	<p><i>Rank 5</i></p> <p>a) <i>Knowledge of procurement laws</i></p> <p><i>Rank 6</i></p> <p><i>Strategic planning and management in education</i></p> <p>1.12 Identify specific Standards of NTS that seek to address the training needs of teachers in various ranks of the GES.</p> <p>Note: <i>See the training needs listed in the appendix of the NTS and identify the Standards that can address them.</i></p> <p>1.13 Write at least four qualities of a good leader that are capable of helping to address the training needs of teachers in the various ranks of the GES (NTS 1c, 1f and 1g).</p>	
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	<p><i>E.g. Ranks 2, 3, and 5 of the GES</i></p> <p>1.15 Using think-pair-share, ask teachers to state and discuss the types of leadership styles that can be employed to address the training needs of teachers in the various ranks of the GES Ranks 2, 3, and 5 in the NTS (NTS 1c, 1f and 1g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Authoritarian</i> <i>b) Participative</i> <i>c) Delegative</i> <i>d) Transactional</i> <i>e) Transformational</i> 	<p><i>E.g. Ranks 2, 3, and 5 of the GES</i></p> <p>1.15 State and discuss the types of leadership styles that can be employed to address the training needs of teachers in the various ranks of the GES Ranks 2, 3, and 5 in the NTS (NTS 1c, 1f and 1g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Authoritarian</i> <i>b) Participative</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to secondary school curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their respective subject areas and link them to the NTS (NTS 3a, 3b and 3e).</p> <p><i>Sample of lesson outline in Social Studies:</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <ul style="list-style-type: none"> <i>a) Topic:</i> <i>The role of the individual in a community development</i> <i>b) Sub-topic:</i> <i>Levels of community and community development</i> 	<p>2.1 Discuss samples of your lesson plans in your respective subject areas and link them to the NTS (NTS 3a, 3b and 3e).</p> <p><i>Sample of lesson outline in Social Studies:</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <ul style="list-style-type: none"> <i>a) Topic:</i> <i>The role of the individual in a community development</i> <i>b) Sub-topic:</i> <i>Levels of community and community development</i> 	<p>20mins</p>

	<p>c) Objectives: By the end of the lesson, the learner will be able to;</p> <ul style="list-style-type: none"> i. identify the levels of community, ii. explain at least four ways by which an individual can contribute to the development of their community. <p>d) RPK: Learners have been taking part in communal labour.</p> <p>e) Introduction: Ask learners to mention things they have observed during communal labour.</p> <p>f) Teacher and learner activities:</p> <ul style="list-style-type: none"> i. Students undertake a case study of the community development project and present their findings. ii. Students brainstorm to come up with ways an individual can contribute to the development of their community. <p>g) Core points:</p> <ul style="list-style-type: none"> i. A community is a group of people living in a locality. The group has common values, interest, enduring ties, frequent interactions and a sense of closeness. 	<p>c) Objectives: By the end of the lesson, the learner will be able to;</p> <ul style="list-style-type: none"> i. identify the levels of community, ii. explain at least four ways by which an individual can contribute to the development of their community. <p>d) RPK: Learners have been taking part in communal labour.</p> <p>e) Introduction: Ask learners to mention things they have observed during communal labour.</p> <p>f) Teacher and learner activities:</p> <ul style="list-style-type: none"> i. Students undertake a case study of the community development project and present their findings. ii. Students brainstorm to come up with ways an individual can contribute to the development of their community. <p>g) Core points:</p> <ul style="list-style-type: none"> i. A community is a group of people living in a locality. The group has common values, interest, enduring ties, frequent interactions and a sense of closeness. 	
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	<p>ii. <i>The levels of community include: neighbourhood, village, town, district/municipal/metropolitan, regional and national.</i></p> <p>iii. How to contribute to community development</p> <ol style="list-style-type: none"> 1. <i>Attending community meetings</i> 2. <i>Volunteer to help at a local event hosted by the community</i> 3. <i>Volunteer time for a committee that helps with community development, etc.</i> <p>h) Core competencies:</p> <ol style="list-style-type: none"> <i>Personal development and leadership</i> <i>Communication and collaboration</i> <i>Critical thinking and problem solving</i> <p>i) Conclusion: <i>Elicit responses from learners about what they have learnt from lesson through questioning and answering technique.</i></p> <p>j) Evaluation:</p> <ol style="list-style-type: none"> <i>What is community?</i> <i>State 3 ways an individual can contribute to the</i> 	<p>ii. <i>The levels of community include: neighbourhood, village, town, district/municipal/metropolitan, regional and national.</i></p> <p>iii. How to contribute to community development</p> <ol style="list-style-type: none"> 1. <i>Attending community meetings</i> 2. <i>Volunteer to help at a local event hosted by the community</i> 3. <i>Volunteer time for a committee that helps with community development, etc.</i> <p>h) Core competencies:</p> <ol style="list-style-type: none"> <i>Personal development and leadership</i> <i>Communication and collaboration</i> <i>Critical thinking and problem solving</i> <p>i) Conclusion: <i>Elicit responses from learners about what they have learnt from lesson through questioning and answering technique.</i></p> <p>j) Evaluation:</p> <ol style="list-style-type: none"> <i>What is community?</i> <i>State 3 ways an individual can contribute to the</i> 	
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	<p><i>development of his/her community.</i></p> <p>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</p>	<p><i>development of his/her community.</i></p> <p>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making explicit links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification</p>	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p><i>E.g.</i></p> <p>a) Possible gaps: <i>Inadequate teaching and learning resources.</i> Possible Solution: <i>Online search for resources.</i></p> <p>b) Possible gaps: <i>Not integrating technology in the enactment of the plan.</i> Possible Solution: <i>Use videos and PowerPoint slides as appropriate</i></p> <p>3.2 Ask teachers to tease out the learning outcomes and the learning indicators from the sample lesson plan and compare these with the objectives (NTS 3h).</p> <p><i>E.g.</i> <i>LO: Demonstrate knowledge and understanding in the levels of community and community development.</i></p>	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p><i>E.g.</i> Possible gaps: <i>Inadequate teaching and learning resources.</i> Possible Solution: <i>Online search for resources</i></p> <p>3.2 Tease out the learning outcomes and the learning indicators from the sample lesson plan and compare these with the objectives (NTS 3h).</p> <p><i>E.g.</i> <i>LO: Demonstrate knowledge and understanding in the levels of community and community development.</i></p>	30 mins

<p>n of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <ul style="list-style-type: none"> • Resources: ➤ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ➤ Consideration needs to be given to local availability and 	<p><i>LI 1.1 Identify the levels of community.</i> <i>LI 1.2 Explain at least four ways by which an individual can contribute to the development of their community.</i></p> <p>3.3 Ask teachers to identify and discuss ways the lessons could be taught using creative approaches and making the lesson ICT mediated and GESI responsive.</p> <p>E.g. <i>a) teach using PowerPoint</i> <i>b) providing opportunities for both male and female students to participate fully in the lesson</i> <i>c) making reasonable adjustment so that disadvantaged learners can benefit from the lesson</i></p> <p>3.4 Ask teachers to write how the NTS will help to promote the delivery of lessons in the secondary school curriculum (NTS 2b, 2d).</p> <p>E.g. <i>a) By highlighting the way in which lessons are to be delivered effectively</i> <i>b) By indicating the training needs of teachers at the lower ranks of the GES where classroom teaching is the teacher's main work</i></p>	<p><i>LI 1.1 Identify the levels of community.</i></p> <p>3.3 Identify and discuss ways the lessons could be taught using creative approaches and making the lesson ICT mediated and GESI responsive.</p> <p>E.g. <i>a) teach using PowerPoint</i> <i>b) providing opportunities for both male and female students to participate fully in the lesson</i></p> <p>3.4 Write how the NTS will help to promote the delivery of lessons in the secondary school curriculum (NTS 2b, 2d).</p> <p>E.g. <i>By highlighting the way in which lessons are to be delivered effectively</i></p>	
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<p>guidance on any power point presentations, TLRs or other resources which need to be developed to support learning</p>	<p>3.5 Ask teachers to state alternative ways of delivering the sample lesson plan (NTS 3a, 3e and 3g).</p> <p><i>E.g.</i> Use of a) <i>flipped classroom</i>, b) <i>extended learning</i>, c) <i>demonstration</i>, d) <i>field trips/community walk</i>, e) <i>work-based learning</i>, <i>etc.</i></p> <p>3.6 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3l).</p> <p><i>E.g.</i> a) <i>Assessment for learning and assessment as learning should be encouraged</i> b) <i>Use of well-constructed marking schemes</i></p> <p>3.7 Ask teachers to brainstorm the sources of support and resources teachers need to enable them to improve their teaching.</p> <p><i>E.g.</i> a) <i>Professional Learning Community sessions</i> b) <i>Posters</i> c) <i>Pictures</i> d) <i>Further reading</i> e) <i>Online support (e.g. YouTube lessons)</i> f) <i>Further studies, etc.</i></p>	<p>3.5 State alternative ways of delivering the sample lessons plan (NTS 3a, 3e and 3g).</p> <p><i>E.g.</i> Use of a) <i>flipped classroom</i>, b) <i>extended learning, etc.</i></p> <p>3.6 Discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3l).</p> <p><i>E.g.</i> <i>Assessment for learning and assessment as learning should be encouraged</i></p> <p>3.8 Brainstorm the sources of support and resources teachers need to enable them to improve their teaching.</p> <p><i>E.g.</i> a) <i>Professional Learning Community sessions</i></p>	
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	3.9 Ask one teacher to model a teaching activity in the sample lesson plan (NTS 1a, 3a). (Extension Activity)	<i>b) Further reading, etc.</i> 3.9 Model a teaching activity in the sample lesson plan (NTS 1a, 3a). (Extension Activity)	
4. Evaluation and review of session: a. Teachers need to identify critical friends to observe lessons and report at next session b. Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1 Ask teachers to reflect and write what they have learned in the session. 4.2 Ask teachers to share what they have learned in the session with the larger group. 4.3 Ask teachers to reflect and write what they have learned from PLC Session 1 to Session 10 4.4 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 11 and provide feedback to them.	4.1 Reflect and write what you have learned in the session. 4.2 Share what you have learned in the session with the larger group. 4.3 Reflect and write what you have learned from PLC Session 1 to Session 10 4.4 Remember to identify a critical friend to observe you in teaching your lessons in relation to PLC Session 11 and provide feedback to you.	15 mins

TVET PLC Session 4: Professional Development

TVET Domain:

1. Agricultural Science
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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 of new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Ice breaker activity: <i>Either use:</i></p> <p style="text-align: center;"><i>The Allegory of the Tailless Monkey</i></p> <p>There lived a happy community of monkeys in the <i>Nunya</i> forest. One day a middle-aged sanguine monkey called <i>Blekpo</i> ventured out of the forest into a large farm. To his joyful surprise, he saw many new things he had never seen before. The air was fresh and the land was flat with very few trees. There was a lot of space to run and jump as much as he could. He sighed with excitement, ‘what a freedom! ‘At last I am free. I can do whatever I like without the disruption from those old clumpy folks who think they have seen it all. When I get back and tell my experience, the old fools will keep quiet because they will know that they do not have monopoly over experience’. Soon he was all over the place, jumping and climbing the yam poles from one yam mound to another.</p> <p>Unfortunately, he got his head trapped in the farmer’s trap. Seeing that he was</p>	<p>1.1 Ice breaker activity: <i>Either use:</i></p> <p style="text-align: center;"><i>The Allegory of the Tailless Monkey</i></p> <p>There lived a happy community of monkeys in the <i>Nunya</i> forest. One day a middle-aged sanguine monkey called <i>Blekpo</i> ventured out of the forest into a large farm. To his joyful surprise, he saw many new things he had never seen before. The air was fresh and the land was flat with very few trees. There was a lot of space to run and jump as much as he could. He sighed with excitement, ‘what a freedom! ‘At last I am free. I can do whatever I like without the disruption from those old clumpy folks who think they have seen it all. When I get back and tell my experience, the old fools will keep quiet because they will know that they do not have monopoly over experience’. Soon he was all over the place, jumping and climbing the yam poles from one yam mound to another.</p> <p>Unfortunately, he got his head trapped in the farmer’s trap. Seeing that he was going to die,</p>	25 mins

	<p>going to die, he managed to exchange his tail with his head, Having lost his tail in the process, he sneaked back into the forest shamefully. He began to feel odd and lonely because he was the only one without a tail. Cunningly, he decided to trick other monkeys also to cut off their tails so they can become equal. As a good orator his ideas began to gain grounds and many young monkeys were willing to cut off their tails as he suggested.</p> <p><i>Abrewaa</i> the oldest female monkey in the <i>Nunya</i> forest who herself had survived many disasters saw everything that happened to troublesome monkey, <i>Blekpo</i>, that faithful day. She was on her own lookout for her naughty grandson who also went on adventure in the forest that day. She called a meeting of all the monkeys and narrated all that had happened to the tailless monkey. He explained that, every monkey's agility to climb is in its tail, hence the tail cannot be a nuisance as <i>Blekpo</i> was making it look like. She warned that monkeys will be unable to escape as fast as they need should they chop off their tails. Having shared many experiences, <i>Abrewaa</i> succeeded in persuading the younger monkeys from cutting off their tails.</p> <p>a) What lesson have you learnt from this story? b) What saved the other monkeys that were going</p>	<p>he managed to exchange his tail with his head, Having lost his tail in the process, he sneaked back into the forest shamefully. He began to feel odd and lonely because he was the only one without a tail. Cunningly, he decided to trick other monkeys also to cut off their tails so they can become equal. As a good orator his ideas began to gain grounds and many young monkeys were willing to cut off their tails as he suggested.</p> <p><i>Abrewaa</i> the oldest female monkey in the <i>Nunya</i> forest who herself had survived many disasters saw everything that happened to troublesome monkey, <i>Blekpo</i>, that faithful day. She was on her own lookout for her naughty grandson who also went on adventure in the forest that day. She called a meeting of all the monkeys and narrated all that had happened to the tailless monkey. He explained that, every monkey's agility to climb is in its tail, hence the tail cannot be a nuisance as <i>Blekpo</i> was making it look like. She warned that monkeys will be unable to escape as fast as they need should they chop off their tails. Having shared many experiences, <i>Abrewaa</i> succeeded in persuading the younger monkeys from cutting off their tails.</p> <p>a) What lesson have you learnt from this story? b) What saved the other monkeys that were going to</p>	
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	<p>to chop off their tails as a result of the deception?</p> <p>c) How can you relate this story to the PLC sessions?</p> <p>Or</p> <p>Begin the session by asking teachers to mention what they know about the National Teachers' Standards (NTS)</p> <p>1.2 Ask a teacher who observed a lesson of a critical friend to share their findings with the group (NTS 1a, 1e).</p> <p>1.3 Ask a teacher to read NTS 1a, 1b, and 1c and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate ability to critically and collectively improve teaching and learning.</p> <p>LI 1.1 Reflect on one's own practice.</p> <p>LI 1.2 Reflect and critique one's own and peers' practice using lesson notes, reflective log, reflective journals, portfolios, etc.</p> <p>LO 2: Demonstrate knowledge, skill and willingness to improve personal and professional development through lifelong learning and continuous professional development.</p>	<p>chop off their tails as a result of the deception?</p> <p>c) How can you relate this story to the PLC sessions?</p> <p>Or</p> <p>Begin the session by asking teachers to mention what they know about the National Teachers' Standards (NTS)</p> <p>1.2 Share your findings of the lesson you observed your critical friend teach after the last PLC session (NTS 1a, 1e).</p> <p>1.3 Read NTS 1a, 1b, and 1c and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session. and compare with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate ability to critically and collectively improve teaching and learning.</p> <p>LI 1.1 Reflect on one's own practice.</p> <p>LI 1.2 Reflect and critique one's own and peers' practice using lesson notes, reflective log, reflective journals, portfolios, etc.</p> <p>LO 2: Demonstrate knowledge skill and willingness to improve personal and professional development through lifelong learning and continuous professional development.</p>	
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	<p>LI 2.1 Identify gaps in knowledge that can impede personal development.</p> <p>LI 2.2 Identify gaps in knowledge that can impede professional development.</p> <p>LO 3: Demonstrate skill in effective leadership both in the classroom and wider school community.</p> <p>LI 3.1 Model GESI compliant qualities in the classroom and beyond.</p> <p>LI 3.2 Show high quality of attendance and punctuality to class and meetings.</p> <p>LI 3.3 Delegate roles to all learners equally irrespective of gender or ability.</p> <p>LI 3.4 Attend and contribute meaningfully to school, Parent-Teacher Association/Parent Association and other relevant community meetings.</p> <p>LI 3.5 Avoid exploiting the vulnerability of both male and female learners including SEN.</p> <p>LI 3.6 Comply with Ministry of Education (MoE) and Ghana Education Service (GES) Ethical Codes.</p> <p>LI 3.7 Volunteer to perform roles that will lead to the growth and</p>	<p>LI 2.1 Identify gaps in knowledge that can impede personal development.</p> <p>LI 2.2 Identify gaps in knowledge that can impede professional development.</p> <p>LO 3: Demonstrate skill in effective leadership both in the classroom and wider school community.</p> <p>LI 3.1 Model GESI compliant qualities in the classroom and beyond.</p> <p>LI 3.2 Show high quality of attendance and punctuality to class and meetings.</p> <p>LI 3.3 Delegate roles to all learners equally irrespective of gender or ability.</p> <p>LI3.4 Attend and contribute meaningfully to school, Parent-Teacher Association/Parent Association and other relevant community meetings.</p> <p>LI 3.5 Avoid exploiting the vulnerability of both male and female learners including SEN.</p> <p>LI 3.6 Comply with Ministry of Education (MoE) and Ghana Education Service (GES) Ethical Codes.</p> <p>LI 3.7 Volunteer to perform roles that will lead to the growth and development</p>	
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	<p>development of learners, the school and the wider community.</p> <p>1.4 Ask teachers to discuss the relationship between the LOs and the LIs.</p> <p>Note: LO is the expected knowledge, understanding, skills, etc. to be acquired at the end of a lesson,</p> <p>LI is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</p> <p>1.5 Ask teachers to discuss and relate the concept of Professional Development to their various TVET domains.</p> <p>E.g. Professional development refers to continuing education and career training after a person has entered the workforce in order to help them develop new skills, stay up-to-date on current trends and advance their career (NTS 2c, 3j).</p> <p>Ref. https://www.webce.com (retrieved 24/03/2022)</p> <p>1.6 Ask teachers to identify further areas of professional development that will enhance their teaching.</p> <p>E.g. Short courses such as cake making, exterior</p>	<p>of learners, the school and the wider community.</p> <p>1.4 Discuss the relationship between the LOs and the LIs.</p> <p>Note: LO is the expected knowledge, understanding, skills, etc. to be acquired at the end of a lesson,</p> <p>LI is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</p> <p>1.5 Discuss and relate the concept of Professional Development to their various TVET domains.</p> <p>E.g. Professional development refers to continuing education and career training after a person has entered the workforce in order to help them develop new skills, stay up-to-date on current trends and advance their career (NTS 2c, 3j).</p> <p>Ref. https://www.webce.com (retrieved 24/03/2022)</p> <p>1.6 Identify further areas of professional development that will enhance your teaching.</p> <p>E.g. Short courses such as cake making, exterior and</p>	
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	<i>and interior decoration, exhibitions, training in the use of agrochemicals, fish farming, art association meetings, courses in ICT, etc., (NTS 1b, 3m).</i>	<i>interior decoration, exhibitions, fish farming, art association meetings, courses in ICT, etc., (NTS 1b, 3m).</i>	
Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.	<p>1.7 Ask teachers to identify possible misconceptions and stereotypes in TVET.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>TVET is for learners with low IQ.</i> b) <i>Some TVET domains are gender specific, e.g., Agriculture for males Home Economics for females, Technical and Visual Art, etc.</i> c) <i>TVET is not suitable for SEN student.</i> d) <i>iv. TVET is expensive, (NTS 2f, 3f and 3m).</i> <p>1.8 Ask teachers to discuss the possible ways of mitigating these misconceptions and stereotypes in TVET in the classroom and elsewhere.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Invite role models/resource persons that have overcome these stereotypes and have achieve successes in the TVET domains in the society to interact with learners</i> b) <i>Use a pre-recorded videos of persons who have defied these stereotypes and have achieve successes in the society to inspire learners</i> 	<p>1.7 Identify possible misconceptions and stereotypes in TVET.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>TVET is for learners with low IQ.</i> b) <i>Some TVET domains are gender specific, e.g., Agriculture for males, Home Economics for females, Technical and Visual Art, etc.</i> c) <i>TVET is not suitable for SEN student, NTS 2f, 3f and 3m).</i> <p>1.8 Discuss possible ways of mitigating these misconceptions and stereotypes in TVET in the classroom and elsewhere.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Invite role models/resource persons that have overcome these stereotypes and have achieve successes in the TVET domains in the society to interact with learners</i> b) <i>Use a pre-recorded videos of persons who have defied these stereotypes and have achieve successes in the society to inspire learners</i> 	20 mins

	<p>c. <i>Do community walk to expose learners to the contribution of TVET to society.</i></p> <p>d. <i>Take learners on an educational trip to industry to see at first-hand how people of diverse backgrounds and abilities including people with SEN are playing diverse roles in real life and industry</i> (NTS 1a, 2f, 3a, 3e, 3g, and 3j).</p> <p>1.9 In mixed gender grouping, ask teachers to list (where possible) some 21st century skills.</p> <p><i>E.g. Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, innovative skills, life-long learning skills</i> (NTS 2c, 3a).</p> <p>1.10 Ask teachers to identify ways of incorporating ICT in their lesson.</p> <p><i>E.g.</i></p> <p>a) <i>surfing Open Educational Resources (OERs) and other internet sources for information</i></p> <p>b) <i>teach using PowerPoint</i></p> <p>c) <i>employ computer software such as AutoCAD, Photoshop, Coral Draw, Paint, in teaching and learning, etc.</i></p> <p>d) <i>interact with learners via the Internet</i></p>	<p>c. <i>Do community walk to expose learners to the contribution of TVET to society</i> (NTS 2f, 3a, 3e, 3g and 3j).</p> <p>1.9 In mixed gender groupings (where possible) list some 21st century skills.</p> <p><i>E.g. Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, etc.,</i> (NTS 2c, 3a).</p> <p>1.10 Identify ways of incorporating ICT in your lesson.</p> <p><i>E.g.</i></p> <p>a) <i>surfing Open Educational Resources (OERs) and other internet sources for information</i></p> <p>b) <i>teach using PowerPoint</i></p> <p>c) <i>employ computer software such as AutoCAD in teaching and learning, Photoshop, Coral Draw, Paint, etc.</i> (NTS 1a, 3j).</p>	
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	<p><i>e) create, use and encourage learners to use e-portfolios, etc., (NTS 1a, 3j).</i></p> <p>1.11 Ask teachers to discuss possible activities they would adopt to develop 21st century skills such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development, in their learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) group discussion</i> <i>b) project</i> <i>c) research</i> <i>d) role play</i> <i>e) hands-on activities</i> <i>f) extended learning</i> <i>g) PowerPoint</i> <p><i>(NTS 3e, 3h and 3j).</i></p>	<p>1.11 Discuss possible activities you would adopt to develop the 21st century skills such communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development in your learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) group discussion</i> <i>b) project</i> <i>c) research</i> <i>d) role play</i> <i>e) hands-on activities</i> <p><i>(NTS 3e, 3h and 3j).</i></p>	
<p>2 Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and LIs*</p> <p><i>Sample Lesson Topic in the TVET: Introduction to Agriculture, Home Economics, Technical Skills, Visual Art.</i></p> <p>Agricultural Science <i>Topic: Introduction to Agriculture</i> <i>Sub-topic: Importance of Agriculture (to the national economy).</i></p> <p>Home Economics <i>Topic: Introduction to Nutrition</i></p>	<p>2.1 Discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and LIs*</p> <p><i>Sample Lesson Topic in the TVET: Introduction to Agriculture, Home Economics, Technical Skills, Visual Art.</i></p> <p>Agricultural Science <i>Topic: Introduction to Agriculture</i> <i>Sub-topic: Importance of Agriculture (to the national economy).</i></p> <p>Home Economics <i>Topic: Introduction to Nutrition</i> <i>Sub-topic: Importance of Nutrition.</i></p>	20 mins

	<p><i>Sub-topic: Importance of Nutrition.</i></p> <p>Technical Skills <i>Topic: Introduction to Technical Drawing.</i> <i>Sub-topic: Importance of Technical Drawing.</i></p> <p>Visual Art <i>Topic: Introduction to Picture Making</i> <i>Sub-topic: Importance of Picture Making.</i></p> <p>a) Objectives <i>By the end of the lesson, learners will be able to:</i></p> <ol style="list-style-type: none"> <i>List the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Discuss the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>List and discuss five products of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Discuss the importance of Agriculture, Nutrition, Technical Drawing and Picture making to the economy of Ghana.</i> <p>b) Core activities</p> <ol style="list-style-type: none"> <i>Guide learners in groups to list the components of Agriculture, Nutrition, Technical Drawing and Picture making</i> 	<p>Technical Skills <i>Topic: Introduction to Technical Drawing.</i> <i>Sub-topic: Importance of Technical Drawing.</i></p> <p>Visual Art <i>Topic: Introduction to Picture Making</i> <i>Sub-topic: Importance of Picture Making.</i></p> <p>a) Objectives <i>By the end of the lesson, learners will be able to:</i></p> <ol style="list-style-type: none"> <i>List the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Discuss the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>List and discuss products of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Discuss the importance of Agriculture, Nutrition, Technical Drawing and Picture making to the economy of Ghana.</i> <p>b) Core activities</p> <ol style="list-style-type: none"> <i>Guide learners in groups to list the components of Agriculture, Nutrition, Technical Drawing and Picture making</i> 	
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	<p>ii. <i>Guide learners to surf OERs and other sources on the Internet to find more information to discuss the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p>iii. <i>Guide learners to list and discuss five products of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p>v. <i>Put learners in mixed ability/gender groups (where possible) discuss the importance of Agriculture, Nutrition, Technical Drawing and Picture making to the economy of Ghana.</i></p> <p>c) Evaluation <i>Evaluate the lesson by using question and answer method.</i></p> <p><i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.1 Ask teachers to tease out LOs and LIs from the sample lesson.</p> <p>LO: <i>Demonstrate understanding of the importance of agriculture, nutrition, technical drawing and picture making (to the national economy).</i></p>	<p>ii. <i>Guide learners to surf OERs and other sources on the Internet to find more information to discuss the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p>iii. <i>Guide learners to list and discuss five products of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p>vi. <i>Put learners in mixed ability/gender groups (where possible) discuss the importance of Agriculture, Nutrition, Technical Drawing and Picture making to the economy of Ghana.</i></p> <p>c) Evaluation <i>Evaluate the lesson by using question and answer method.</i></p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.1 Tease out LOs and LIs from the sample lesson.</p> <p>LO: <i>Demonstrate understanding of the importance of agriculture, nutrition, technical drawing and picture making (to the national economy).</i></p>	
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	<p><i>LI.1 List the components of Agriculture, Nutrition, Technical Drawing and Picture making, etc.</i></p> <p><i>LI.2 State the uses of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p><i>LI.3 Identify some products of Agriculture, Nutrition, Technical Drawing and Picture making (NTS 3a).</i></p>	<p><i>LI.1 List the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p><i>LI.2 State the importance of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p><i>LI.3 Identify some products of Agriculture, Nutrition, Technical Drawing and Picture making (NTS 3a).</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 explicit links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and 	<p>3.1 Ask teachers to identify gaps in their sample lesson plans and discuss possible ways of addressing same (NTS 1a, 1e and 2c).</p> <p><i>E.g.</i></p> <p>Possible gaps:</p> <p><i>a) inadequate prescribed textbooks,</i></p> <p><i>b) inadequate model farms, workshops, kitchens and studios, etc.</i></p> <p><i>c) inadequate tools and materials</i></p> <p>Possible Solution:</p> <p><i>a) use of a library (e-library and physical), Open Educational Resources (OERs) and other Internet facilities</i></p> <p><i>b) use work-based learning method of teaching, etc.</i></p> <p><i>c) adopt local tools and materials in the immediate environment.</i></p> <p>3.2 Ask teachers to suggest alternative ways of delivering the sample lessons (NTS 3f, 3j).</p> <p><i>E.g. use of:</i></p> <p><i>a) flipped classroom,</i></p> <p><i>b) extended learning</i></p> <p><i>c) demonstration</i></p> <p><i>d) simulation</i></p>	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 1a, 1e and 2c).</p> <p><i>E.g.</i></p> <p>Possible gap:</p> <p><i>Inadequate prescribed textbooks, etc.</i></p> <p>Possible Solution:</p> <p><i>a) use of a library (e-library and physical), Open Educational Resources (OERs) and other Internet facilities</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3f, 3j).</p> <p><i>E.g. use of:</i></p> <p><i>a) flipped classroom,</i></p> <p><i>b) extended learning</i></p> <p><i>c) demonstration</i></p> <p><i>D) simulation</i></p>	30 mins

<p>identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations , TLM or other resources which need to be developed 	<p><i>e) field trips</i> <i>f) community walk</i> <i>g) work-based learning, etc.</i></p> <p>3.3 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) classroom arrangement that facilitates interaction</i> <i>b) mixed ability or gender groupings that facilitate collaboration</i> <i>c) non-stereotype role play</i> <i>d) use of positive feedback to learners, especially, the disadvantaged</i> <i>e) use of a local resource person who has defied stereotyping/ stigma to succeed in TVET.</i> <p>3.4 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Assessment for learning</i> <i>b) Assessment as Learning</i> <i>c) Project work</i> <i>d) Role play</i> <p>3.5 Ask teachers in their domain groups to brain-write other possible authentic assessment methods that could be used in the sample lesson and share same with the whole group (NTS 2e, 3k, 3l and 3o).</p>	<p><i>e) field trips, etc.,</i></p> <p>3.3 Review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) classroom arrangement that facilitates interaction</i> <i>b) mixed ability or gender groupings that facilitates collaboration</i> <i>c) non-stereotype role play in TVET.</i> <p>3.4 Discuss how the unit is linked to the use of formative assessment tools and practices (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Assessment for learning</i> <i>b) Assessment as learning</i> <p>3.5 In your domain groups brain-write other possible authentic assessment methods that could be used in the sample lesson and share same with the whole group (NTS 2e, 3k, 3l and 3o).</p>	
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<p>to support learning</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Self-assessment</i> <i>b) Peer-assessment</i> <i>c) Jury</i> <i>d) Appreciation and Appraisal</i> <i>e) Portfolio, etc.</i> <p>3.6 Guide teachers to list and discuss how the session makes use of ICT resources to support relevant activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Pre-recorded video</i> <i>b) Photographs,</i> <i>c) OERs/internet facilities</i> <i>d) Projectors, etc.</i> <p>3.7 Ask one teacher to model the sample lesson. (NTS 1f, 1c and 3a). (Extension Activity)</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Self-assessment</i> <i>b) Peer-assessment</i> <i>c) Jury, etc.</i> <p>3.6 List and discuss how the session makes use of ICT resources to support relevant activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Pre-recorded video</i> <i>b) Photographs,</i> <i>c) OERs/internet facilities</i> <p>3.7 Ask one teacher to model the sample lesson. (NTS 1f, 1c and 3a). (Extension Activity)</p>	
<p>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 Ask teachers to reflect and brain-write what they have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Ask them to share what they have learnt with the larger group (NTS 1e).</p> <p>4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons as they relate to PLC session 4 and provide feedback at the next PLC session (NTS 1a, 1e and 3l).</p> <p>4.4 Remind teachers to read Session 5 from the PLC Handbook in preparation for the next session (NTS 3b).</p>	<p>4.1 Reflect and brain-write what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share with the larger group (NTS 1e).</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC session 4 and provide feedback at the next PLC session (NTS 1a,1e and 3l)</p> <p>4.4 Read Session 5 from the PLC Handbook in preparation for the next session (NTS 3b).</p>	<p>15 mins</p>

TVET PLC Session 5: Community of Practice TVET Domains: 1. Agriculture 2. Home Economics 3. Technical Skills 4. Visual Art			
	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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. Review of previous session and introduction to new lesson NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	1.1 Ask teachers to share some of the successes and challenges in their lesson delivery after the PLC Session 4. 1.2 Ask a teacher to read NTS 1d, 1e, 1f and 1g. (Refer teachers to Appendix B) and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session with colleagues (NTS 1d, 1e, and 1f) and compare these with the LOs and LIs listed below. LO 1: Demonstrate knowledge and understanding of the legal and ethical codes of conduct for teachers and how they guide teacher behaviour. LI 1.1 State the code of ethics for teachers. LI 1.2 Explain how the code of ethics guides teachers' practice, professional conduct and relationship with stakeholders. LI 1.3 State the role of the head teacher in	1.1 Share your successes and challenges in their lesson delivery after the PLC session 4. 1.2 Read NTS 1d, 1e, 1f and 1g on the Community of Practice and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion with colleagues (NTS 1 d, 1e, 1f and 1g) and compare these with the LOs and LIs listed below. LO 1: Demonstrate knowledge and understanding of the legal and ethical codes of conduct for teachers and how they guide teacher behaviour. LI 1.1 State the code of ethics for teachers. LI 1.2 Explain how the code of ethics guides teachers' practice, professional conduct and relationship with stakeholders. LI 1.3 State the role of the head teacher in enforcing the code of ethics.	25mins

	<p>enforcing the code of ethics.</p> <p>LI 1.4 Prepare and deliver a sample lesson reflecting teacher professional ethics, good conduct, and appropriate relationship with all learners within the context of GESI (NTS 1d, 2a).</p> <p>LO 2: Demonstrate knowledge and skill of engaging positively with all stakeholders (colleagues, learners, parents, school management committee (SMC), parent association and wider public) as an agent of change in a school's community of practice.</p> <p>LI 2.1 Identify at least three stakeholders within the school's community of practice.</p> <p>LI 2.2 Explain the role of stake holders in promoting a strong community of practice.</p> <p>LI 2.3 Explain the role of the teacher as an agent of change (NTS 1e, 1f and 1g).</p> <p>LO 3: Exhibit positive teacher identity by acting as a good role model for learners.</p> <p>LI 3.1 Identify at least three characteristics of a good teacher.</p> <p>LI 3.2 Explain how the attributes of a good</p>	<p>LI 1.4 Prepare and deliver a sample lesson reflecting teacher professional ethics, good conduct, and appropriate relationship with all learners within the context of GESI (NTS 1d, 2a).</p> <p>LO 2: Demonstrate knowledge and skill of engaging positively with all stakeholders (colleagues, learners, parents, school management committee (SMC), parent association and wider public) as an agent of change in a school's community of practice.</p> <p>LI 2.1 Identify at least three stakeholders within the school's community of practice.</p> <p>LI 2.2 Explain the role of stake holders in promoting a strong community of practice.</p> <p>LI 2.3 Explain the role of the teacher as an agent of change (NTS 1e, 1f and 1g).</p> <p>LO 3: Exhibit positive teacher identity by acting as a good role model for learners.</p> <p>LI 3.1 Identify at least three characteristics of a good teacher.</p> <p>LI3.2 Explain how the attributes of a good teacher</p>	
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	<p>teacher promote a strong community of practice (NTS 1f, 1g).</p> <p>1.3 Guide teachers to discuss and relate the concept of community of practice to their various TVET domains (NTS 3a, 3c and 3e).</p> <p>1.4 Ask teachers to identify other areas of community of practice that will enhance their teaching.</p> <p><i>E.g.</i> Professional TVET Associations such as:</p> <ul style="list-style-type: none"> a) Ghana Art Teachers Association (GATA) b) Ghana Home Economics Association (GHEA) c) Agriculture Educators and Trainers Association of Ghana (EATAG) d) Ghana National Association of Teachers (GNAT) e) National Association of Graduate Teachers (NAGRAT) f) Coalition of Concerned Teachers Ghana (CCT-GH), etc. (o). NTS 3m, 3n and 3 	<p>promote a strong community of practice (NTS 1f, 1g).</p> <p>1.3 Discuss and relate the concept of community of Practice to the various TVET domains (NTS 3a, 3c and 3e).</p> <p>1.4 Identify other areas of community of practice that will enhance their teaching.</p> <p><i>E.g.</i> Professional TVET Associations such as:</p> <ul style="list-style-type: none"> a) Ghana Art Teachers Association (GATA) b) Ghana Home Economics Association (GHEA) c) Agriculture Educator and Trainers Association of Ghana (EATAG) d) Ghana National Association of Teachers (GNAT), etc. (NTS 3m, 3n and 3o). 	
<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.5 Ask teachers to identify possible misconceptions and stereotypes related to their various TVET lessons for the week (NTS 1a, 2e, 2f and 3m).</p> <p><i>E.g.</i> Lesson topic for the week: Tools and materials Misconceptions</p> <ul style="list-style-type: none"> a) Females cannot operate tractors and other farm equipment 	<p>1.5 Identify possible misconceptions and stereotypes related to their various TVET lessons for the week (NTS 1a, 2e, 2f and 3m).</p> <p><i>E.g.</i> Lesson topic for the week: Tools and materials Misconceptions</p> <ul style="list-style-type: none"> a) Females cannot operate tractors and other farm equipment 	

	<p><i>b) Females who operate heavy machinery cannot give birth</i></p> <p><i>c) SEN learners cannot operate machines, etc.</i></p> <p>1.7 Guide teachers to discuss possible ways of mitigating these misconceptions and stereotypes in a TVET classroom using the concept of community of practice (NTS 1a, 2c, 2e, 2f, 3e and 3m).</p> <p><i>E.g.</i></p> <p><i>a) Invite a female machine operator or a machine operator with SEN as role models and resource persons to interact with learners to dispel the misconception.</i></p> <p><i>b) Use pre-recorded videos of persons who have defied these stereotypes and operating various machines successfully in the society</i></p> <p><i>c. Take learners on an educational trip to a TVET enterprise to see at first-hand how females and persons with disability have overcome such stereotypes in real life situations, etc.</i></p> <p>1.8 Ask teachers in mixed gender groups (where possible) to list some 21st century skills (NTS 2c, 3e, 3g, 3j and 3k).</p>	<p><i>b) SEN learners cannot operate machines, etc.</i></p> <p>1.7 Discuss possible ways of mitigating these misconceptions and stereotypes in a TVET classroom using the concept of community of practice (NTS 1a, 2c, 2e, 2f, 3e and 3m).</p> <p><i>E.g.</i></p> <p><i>a) Invite a female machine operator or a machine operator with SEN as role models and resource persons to interact with learners to dispel the misconception.</i></p> <p><i>b) Take learners on an educational trip to a TVET enterprise to see at first-hand how females and persons with disability have overcome such stereotypes in real life situations, etc.</i></p> <p>1.8 In mixed gender groups (if feasible) list some 21st century skills (NTS 2c, 3e, 3g, 3j and 3k).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Communication skills</i> <i>b) Collaboration</i> <i>c) Observation and enquiry skills</i> <i>d) Digital literacy</i> <i>e) Creativity, etc.</i> <p>1.9. Ask teachers to identify ways of incorporating ICT in their lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Surf open educational resources (OERs) and other sources from the Internet for tools and how they are operated</i> <i>b) Simulate using smartboard and other ICT tools</i> <i>c) Teacher monitors learners in the workshop using CCTV cameras, etc.</i> <p>1.10 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners (NTS 3i, 3l).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Hands-on activities</i> <i>b) Group discussion</i> <i>c) Role play</i> <i>d) Fieldtrip</i> <i>e) Research/project, etc.</i> 	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Communication skills</i> <i>b) Collaboration</i> <i>c) Observation and enquiry skills, etc.</i> <p>1.9. Identify ways of incorporating ICT in their lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Surf open educational resources (OERs) and other sources from the Internet for tools and how they are operated</i> <i>b) Simulate using smartboard and other ICT tools</i> <p>1.10 Discuss possible activities you would adopt to develop the 21st century skills in your learners (NTS 3i, 3l).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Hands-on actives</i> <i>b) Group discussion</i> <i>c) Role play</i> <i>d) Field trip</i> 	
2. Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and Lis*</p> <p><i>Sample Lesson Topic in the TVET: The Production Process in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	<p>2.1 Discuss samples of your lesson plans in your various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and Lis*</p> <p><i>Sample Lesson Topics in the TVET: The Production Process in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	20 min

	<p>Agricultural Science Sub-topic: Tools and Materials in Agriculture.</p> <p>Home Economics Sub-topic: Tools and Materials in Home Economics.</p> <p>Technical Skills Sub-topic: Tools and Materials for Technical Drawing.</p> <p>Visual Art Sub-topic: Tools and Materials in Picture Making (NTS 1a, 1e and 3a).</p> <p>a) Lesson Objectives: By the end of the lesson learners will be able to;</p> <ol style="list-style-type: none"> list at least five tools and five materials for Agriculture, Home Economics, Technical Skills and Visual Art demonstrate the proper use of simple tools in Agriculture, Home Economics, Technical Skills and Visual Art describe how basic tools and materials in Agriculture, Home Economics, Technical Skills and Visual Art can be maintained and preserved formulate simple safety rules in the use of tools and materials in Agriculture, Home Economics, Technical Skills and Visual Art, etc. 	<p>Agricultural Science Sub-topic: Tools and Materials in Agriculture.</p> <p>Home Economics Sub-topic: Tools and Materials in Home Economics.</p> <p>Technical Skills Sub-topic: Tools and Materials Technical Drawing.</p> <p>Visual Art Sub-topic: Tools and Materials in Picture Making (NTS 1a, 1e and 3a).</p> <p>a) Lesson Objectives: By the end of the lesson learners will be able to;</p> <ol style="list-style-type: none"> List some tools and materials for Agriculture, Home Economics, Technical Skills and Visual Art demonstrate the proper use of simple tools in Agriculture, Home Economics, Technical Skills and Visual Art describe how basic tools and materials in Agriculture, Home Economics, Technical Skills and Visual Art can be maintained and preserved formulate simple safety rules in the use of tools and materials in Agriculture, Home Economics, Technical and Visual Art, etc. 	
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	<p>b) Core Activities:</p> <ul style="list-style-type: none"> i. Guide learners to list basic tools and materials in Agriculture, Home Economics, Technical Skills and Visual Art ii. Demonstrate or simulate the use of basic tools in Agriculture, Home Economics, Technical Skills and Visual Art using hands-on activity, smart board, YouTube videos or pre-recorded videos, etc. iii. Assist learners to try their hands at operating basic tools using basic instructional guides like flowchart, spidergram, etc. iv. Guide learners to formulate simple safety rules for the use, maintenance and preservation of tools and materials. <p>c) Evaluation: Use question and answer, concept mapping, etc., to review the lesson. *Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</p> <p>2.2 Ask teachers to tease out the LOs and LIs from their sample lessons and compare them with the objectives.</p> <p>LO: Demonstrate the appropriate uses of tools and materials in Agriculture,</p>	<p>b) Core Activities:</p> <ul style="list-style-type: none"> i. Guide learners to list basic tools and materials in Agriculture, Home Economics, Technical Skills and Visual Art ii. Demonstrate or simulate the use of basic tools in Agriculture, Home Economics, Technical Skills and Visual Art using hands-on activity, smart board, YouTube videos or pre-recorded videos, etc. iii. Assist learners to try their hands at operating some basic tools using basic instructional guides like flowchart, spidergram, etc. iv. Guide learners to formulate simple safety rules for the use, maintenance and preservation of tools and materials. <p>c) Evaluation: Use question and answer, concept mapping, etc., to review the lesson. *Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</p> <p>2.2 Tease out the LOs and LIs from their sample lessons and compare them with the objectives.</p> <p>LO: Demonstrate the appropriate use of tools and materials in Agriculture, Home</p>	
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	<p><i>Home Economics Technical Skills and Visual Art.</i></p> <p><i>LI 1 List the tools and materials in Visual Art, Technical Skills, Home Economics, and Agriculture</i></p> <p><i>LI 2 State the uses of tools and materials in Visual Art, Technical Skills, Home Economics, and Agriculture</i></p> <p><i>LI 3 Discuss ways of caring and maintaining tools and materials in Agriculture, Home Economics Technical Skills and Visual Art (NTS 3g, 3h and 3i).</i></p>	<p><i>Economics Technical Skills and Visual Art.</i></p> <p><i>LI 1 List the tools and materials in Visual Art, Technical Skills, Home Economics, and Agriculture</i></p> <p><i>LI 2 State the uses of tools and materials in Visual Art, Technical Skills, Home Economics, and Agriculture</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating:</p>	<p>3.1 Ask teachers to identify gaps in their lesson plans.</p> <p><i>E.g.</i> <i>Possible gaps:</i></p> <p><i>a) Inadequate teaching and learning resources.</i> <i>b) Non availability of workshops, model farms, kitchen, etc.</i> <i>c) Inadequate time on the school time table for practical work</i> <i>d) low morale among TVET student</i></p> <p>3.2 Ask teachers to suggest ways they can apply the concept of community of practice to resolve the possible gaps in their lesson plans (NTS 3a, 3b, 3c and 3d).</p> <p><i>Possible Solutions:</i></p> <p><i>a) field trip to workshops in town to observe the real uses of tools and materials.</i></p>	<p>3.1 Identify gaps in your lesson plans.</p> <p><i>E.g.</i> <i>Possible gaps:</i></p> <p><i>a) Inadequate teaching and learning resources.</i> <i>b) Non availability of workshops, model farms, kitchen, etc.</i></p> <p>3.2 Suggest ways you can apply the concept of community of practice to resolve the possible gaps in their lesson plans (NTS 3a, 3b, 3c and 3d).</p> <p><i>Possible Solutions:</i></p> <p><i>a) field trip to workshops in town to observe the real uses of tools and materials.</i></p>	30 mins

<p>GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power 	<p><i>b) use local experts in your community of practice as resource person etc.</i></p> <p><i>c) use team teaching methods</i></p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lessons (NTS 3e, 3g).</p> <p><i>E.g. Use of:</i></p> <ul style="list-style-type: none"> <i>a) Pre-recorded video or YouTube videos</i> <i>b) Extended learning</i> <i>c) Demonstration or simulation</i> <i>d) Field trips/community walk</i> <i>e) Work-based learning etc.</i> <p>3.4 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness, (NTS 3f, 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Classroom arrangement to facilitate effective learners' interaction</i> <i>b) Mixed ability/gender groupings to facilitate collaboration among learners</i> <i>c) Non-stereotype role-play to encourage all learners including SEN learners to participate in the learning process.</i> <i>d) Using positive feedback to learners especially female and SEN learners to motivate them to put up their best.</i> <i>e) Use of a local resource person who has defied stereotyping/ stigma to succeed in TVET.</i> 	<p><i>b) use local experts in your community of practice as resource person etc. (NTS 3a, 3b, 3c and 3d).</i></p> <p>3.3 Suggest alternative ways of delivering the sample lessons (NTS 3e, 3g).</p> <p><i>E.g. Use of:</i></p> <ul style="list-style-type: none"> <i>a) Video with discussion,</i> <i>b) Extended learning</i> <i>c) Demonstration or simulation etc.</i> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Classroom arrangement to facilitate effective learners' interaction</i> <i>b) Mixed ability/gender groupings to facilitate collaboration among learners</i> <i>c) Non-stereotype role-play to encourage all learners including SEN to participate in the learning process, etc.</i> 	
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<p>point presentations , TLM or other resources which need to be developed to support learning</p>	<p>3.5 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Assessment for learning</i> b) <i>Assessment as learning</i> c) <i>Project work</i> d) <i>Portfolio building</i> <p>3.6 In groups, ask teachers to suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Self-assessment</i> b) <i>Peer-assessment</i> c) <i>Jury</i> d) <i>Appreciation and Appraisal</i> e) <i>Portfolio, etc.</i> <p>3.7 Guide teachers to discuss how the lesson makes use of ICT resources to support relevant activities in the sample lesson (NTS 3g, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos</i> b) <i>Photographs,</i> c) <i>OERs/internet facilities</i> d) <i>Projectors</i> e) <i>Smart boards</i> f) <i>Internet learning, etc.</i> <p>3.8 Ask one teacher to model a teaching activity in the sample lesson in any of the TVET domains taking due cognizance of the concept of community of</p>	<p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Assessment for learning</i> b) <i>Assessment as learning</i> <p>3.6 In groups, suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Self-assessment</i> b) <i>Peer-assessment</i> c) <i>Jury, etc. (NTS 3k, 3p).</i> <p>3.7 Discuss how the lesson makes use of ICT resources to support relevant activities in the sample lesson (NTS 3g, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos</i> b) <i>Photographs</i> c) <i>OERs/internet facilities</i> d) <i>Projectors</i> <p>3.8 Model a teaching activity sample lesson in any of the TVET domains taking due cognizance of the concept of community of practice (NTS 1d).</p>	
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	practice (NTS 1d). (Extension Activity)	(Extension Activity)	
4. Evaluation and review of session: ➤ 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	4.1 Ask teachers to reflect and brain-write what they have learnt in the session (NTS 1a, 1b and 1f). 4.2 Ask them to share what they have learnt with the larger group (NTS 1e). 4.3 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 5 and provide feedback at the next PLC session (NTS 1a, 1e and 3l). 4.4 Remind teachers to read Session 6 from the PLC Handbook in preparation for the next session (NTS 3b).	4.1 Reflect and brain-write what you have learnt in the session (NTS 1a, 1b and 1f). 4.2 Share with the larger group (NTS 1e). 4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 5 and provide feedback at the next PLC session (NTS 1a, 1e and 3l). 4.4 Read Session 6 from the PLC Handbook in preparation for the next session (NTS 3b).	15 mins

TVET PLC Session 6: Knowledge of Educational Frameworks and Curriculum.

TVET Domains:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Either use the story of the 'Friendship of the Elephant and the mosquito' as an ice breaker or invite a teacher to give an ice breaker related to the topic.</p> <p>The friendship of the Elephant and the Mosquito</p> <p>Long ago, the elephant and the mosquito were very good friends. They went to every place together.</p> <p>One hot afternoon, they decided to go fishing to while away the time. After spending the whole afternoon without a catch, the elephant eventually had one.</p> <p>With great joy and excitement, he shouted out to his friend the mosquito, 'Ko Mosquito, I have caught a big fish'.</p> <p>The mosquito who was then busy chasing some humans for a bite, replied his friend the elephant, 'really?' 'Ko Elephant, is your catch as big as my leg'?</p> <p>The elephant was dumbfounded and angered at the mosquito's sense of size. 'How could I call a thing as small as your leg, which I</p>	<p>1.1 Either use the story of the 'Friendship of the Elephant and the mosquito' as an ice breaker or give an ice breaker related to the topic</p> <p>The friendship of the Elephant and the Mosquito</p> <p>Long ago, the elephant and the mosquito were very good friends. They went to every place together.</p> <p>One hot afternoon, they decided to go fishing to while away the time. After spending the whole afternoon without a catch, the elephant eventually had one.</p> <p>With great joy and excitement, he shouted out to his friend the mosquito, 'Ko Mosquito, I have caught a big fish'.</p> <p>The mosquito who was then busy chasing some humans for a bite, replied his friend the elephant, 'really?' 'Ko Elephant, is your catch as big as my leg'?</p> <p>The elephant was dumbfounded and angered at the mosquito's sense of size. 'How could I call a thing as small as your leg, which I can't even see, as big?' 'What a disgusting description', queried the Elephant. A hot argument then ensued between them which eventually broke their long-time friendship,</p>	25 mins

	<p>can't even see, as big?' 'What a disgusting description', queried the Elephant. A hot argument then ensued between them which eventually broke their long-time friendship.</p> <p>Ask teachers to:</p> <ul style="list-style-type: none"> a) <i>Identify the concept of 'big' and small' as was seen by the mosquito and the elephant</i> b) <i>Speak to the danger of limiting one's judgement to only one's horizon?</i> c) <i>Suggest how the two friends could have learnt from each other?</i> d) <i>Relate this story to the ideas behind the PLC concept (NTS 2c, 2d and 3c).</i> <p>1.2 Ask teachers to share some of the successes and challenges they had in their lesson last week (NTS 1a, 1e).</p> <p>1.3 Ask a teacher to read NTS 2a, 2b, 2c and 2d on the <i>Knowledge of Educational Frameworks and Curriculum</i> in the NTS and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare these with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate knowledge and understanding of the school curriculum and its learning outcomes.</p>	<p>Ask teachers to:</p> <ul style="list-style-type: none"> a) <i>Identify the concept of 'big' and small' as was seen by the mosquito and the elephant</i> b) <i>Speak to the danger of limiting one's judgement to only one's horizon?</i> c) <i>Suggest how the two friends could have learnt from each other?</i> <p>1.2 Share any successes and challenges you had in your last lesson last week (NTS 1a, 1e).</p> <p>1.3 Read NTS 2a, 2b, 2c and 2d on the Knowledge of Educational Frameworks and Curriculum and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare these with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate knowledge and understanding of the secondary school curriculum and its learning outcomes.</p>	
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	<p>LI 1.1 State the pedagogies prescribed for the delivery of the secondary school curriculum.</p> <p>LI 1.2 Discuss the implication(s) of the prescribed pedagogies in LI 2.2 on teaching and learning.</p> <p>LI 1.3 Give examples of learning outcomes in any subject area.</p> <p>LO 2: Exhibit content knowledge, pedagogical knowledge and pedagogical content knowledge for the grade taught.</p> <p>LI 2.1 Explain the concept of:</p> <ol style="list-style-type: none"> Content knowledge (CK) Pedagogical knowledge (PK) Pedagogical content knowledge (PCK) <p>LI 2.2 Explain the relationship between the three concepts as in a, b, and c.</p> <p>LI 2.3 Describe how pedagogical content knowledge will help in lesson preparation and delivery (NTS 2b, 2c)</p> <p>1.4 Ask teachers to identify and discuss how TVET knowledge and skills (as it relates to the various domains) are articulated within the Educational Frameworks and</p>	<p>LI 1.1 State the pedagogies prescribed for the delivery of the secondary school curriculum.</p> <p>LI 1.2 Discuss the implication(s) of the prescribed pedagogies in LI 2.2 on teaching and learning.</p> <p>LI 1.3 Give examples of learning outcomes in any subject area.</p> <p>LO 2: Exhibit content knowledge, pedagogical knowledge and pedagogical content knowledge for the school and grade taught</p> <p>LI 2.1 Explain the concept of:</p> <ol style="list-style-type: none"> Content knowledge (CK) Pedagogical knowledge (PK) Pedagogical content knowledge (PCK) <p>LI 2.2 Explain the relationship between the three concepts as in a, b, and c.</p> <p>LI 2.3 Describe how pedagogical content knowledge will help in lesson preparation and delivery (NTS 2b, 2c).</p> <p>1.4 Identify and discuss how TVET knowledge and skills (as it relates to the various domains) are articulated within the Educational Frameworks and Curriculum (NTS 1a, 2b and 2d).</p>	
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	<p>Curriculum (NTS 1a, 2b and 2d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>TVET domains concentrate on hands-on activities</i> b) <i>TVET curriculum promotes inter domain activities</i> c) <i>Assessment of TVET activities is based on competencies</i> d) <i>TVET curriculum promotes competency-based teaching</i> <p>1.5 Ask teachers to explain the concept of:</p> <ul style="list-style-type: none"> a) Content knowledge (CK) b) Pedagogical knowledge (PK) c) Pedagogical content knowledge (PCK) <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>CK describes knowledge of subject matter</i> b) <i>PK describes how the content can be taught</i> c) <i>PCK describes subject specific pedagogical knowledge</i> <p>1.6 Ask teachers to describe how pedagogical content knowledge will help in lesson preparation and delivery (NTS 2b, 2c).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>CK helps the teacher to present same aspects of the content in different ways to support differentiation</i> b) <i>CK allows the teacher to get learners to work on content before the lesson</i> c) <i>CK helps teachers to put learners in ability groups</i> 	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>TVET domains concentrate on hands-on activities</i> b) <i>TVET curriculum promotes inter domain activities</i> c) <i>Assessment of TVET activities is based on competencies</i> <p>1.5 Ask teachers to explain the concept of:</p> <ul style="list-style-type: none"> a) Content knowledge (CK) b) Pedagogical knowledge (PK) c) Pedagogical content knowledge (PCK) <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>CK describes knowledge of subject matter</i> b) <i>PK describes how the content can be taught</i> <p>1.6 Describe how pedagogical content knowledge will help in lesson preparation and delivery (NTS 2b, 2c).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> d) <i>CK helps the teacher to present same aspects of the content in different ways to support differentiation</i> e) <i>CK allows the teacher to get learners to work on content before the lesson</i> 	
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<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.7 Ask teachers to identify possible misconceptions and stereotypes in their various TVET lesson topics for the week (NTS 2f, 3f and 3m).</p> <p><i>E.g.</i> <i>Lesson Topic: Career Opportunities in:</i> <i>a) Agriculture</i> <i>b) Home Economics</i> <i>c) Technical Skills</i> <i>d) Visual art</i></p> <p><i>Possible misconceptions and stereotypes</i> <i>a) Agriculture careers are not a profession for learned people</i> <i>b) Home Economics: career opportunities are reserved for females</i> <i>c) Technical Skills: Persons with disability cannot go into Technical Skills careers</i> <i>d) Visual Art: some careers in Visual Arts are the preserve of males.</i></p> <p>1.8 Guide teachers to discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 1a, 2f, 3a, 3g, 2j and 3e).</p> <p><i>E.g.</i> <i>a) Invite role models or resource persons that have overcome these stereotypes and have achieved successes in the TVET domains in the community</i> <i>b) Prepare and use pre-recorded videos of persons who have defied</i></p>	<p>1.7 Identify possible misconceptions and stereotypes in the various TVET lesson topics for the week (NTS 2f, 3f and 3m).</p> <p><i>E.g.</i> <i>Lesson Topic: Career Opportunities in:</i> <i>a) Agriculture</i> <i>b) Home Economics</i> <i>c) Technical Skills</i> <i>d) Visual art</i></p> <p><i>Possible misconceptions and stereotypes</i> <i>a) Agriculture careers are not a profession for learned people.</i> <i>b) Home Economics: career opportunities are reserved for females</i> <i>c) Technical Skills: Persons with disability cannot go into Technical Skills careers.</i></p> <p>1.8 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 1a, 2f, 3a, 3g, 2j and 3e).</p> <p><i>E.g.</i> <i>a) Invite role models/resource persons that have overcome these stereotypes and have achieved successes in the TVET domains in the community</i> <i>b) Use a pre-recorded videos of persons who have defied these stereotypes and have</i></p>	
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	<p><i>these stereotypes and have achieved successes in the society</i></p> <p>c) <i>Do a community walk to expose learners to the contribution of TVET to the society</i></p> <p>d) <i>Organize field trip to institutions for learners to observe and interact with people in diversity of TVET professions.</i></p> <p>1.9 In mixed gender groupings (where possible) ask teachers to list some 21st century skills and share with the whole group (NTS 2c 3a).</p> <p>E.g. <i>communication skills, collaboration skills, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.10 Ask teachers to identify ways of incorporating ICT in their lesson (NTS 1a, 3j).</p> <p>E.g. a) <i>Surf Open Educational Resources (OERs) and other Internet sources for information on knowledge of educational frameworks and curriculum.</i> b) <i>Teach using PowerPoint presentations</i> c) <i>Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc.</i> d) <i>Teacher interacts and monitors learners' extended learning via electronic or social media</i></p>	<p><i>achieved successes in the society or</i></p> <p>c) <i>Do a community walk to expose learners to the contribution of TVET to the society</i></p> <p>1.9 In mixed gender groupings (if feasible) list some 21st century skills and share with the whole group (NTS 2c 3a).</p> <p>E.g. <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.10 Identify ways of incorporating ICT in your lesson (NTS 1a, 3j).</p> <p>E.g. a) <i>Surf Open Educational Resources (OERs) and other Internet sources for information on knowledge of educational frameworks and curriculum.</i> b) <i>Teach using PowerPoint presentations</i> c) <i>Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc.</i></p>	
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	<p><i>platforms, e.g., Zoom, etc.</i></p> <p>e) <i>Learners submit their assignments electronically through E-mails, telegram, WhatsApp, etc.)</i></p> <p>1.11 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners such as communication skills, collaboration skills, observation and enquiry skills, digital literacy, creativity and personal development skills (NTS 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Learners to do group PowerPoint presentations to facilitate digital literacy, collaborative skills, etc.</i></p> <p>b) <i>Project and research to encourage observation, enquiry skills, personal development skills, etc.</i></p> <p>c) <i>Role-play to develop leadership skills</i></p> <p>d) <i>Hands-on activities to facilitate creativity, etc.</i></p>	<p>1.11 Discuss possible activities you would adopt to develop the 21st century skills in their learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development skills (NTS 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Learners to do group PowerPoint presentations to facilitate digital literacy, collaborative skills, etc.</i></p> <p>b) <i>Project and research to encourage observation, inquiry skills, personal development skills, etc.</i></p> <p>c) <i>Role-play to develop leadership</i></p>	
<p>2 Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS syllabus and link them to the concept of Knowledge of Educational Frameworks and Curriculum*.</p> <p><i>Sample Lesson Topics in the TVET domain:</i> <i>Topic: Scope and importance of: Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	<p>2.1 Discuss samples of your lesson plans in your various TVET domains based on the 2010 SHS syllabus and link them to the concept of Knowledge of Educational Frameworks and Curriculum*.</p> <p><i>Sample Lesson Topics in the TVET domain:</i> <i>Topic: Scope and importance of: Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	20 mins

	<p><i>Sub-topic: Career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p>a) Objectives for the lesson: <i>By the end of the lesson, the learner will be able to:</i></p> <ol style="list-style-type: none"> <i>Mention at least five career opportunities in Agriculture, Technical skills, Home Economics, and Visual Art</i> <i>List the qualifications needed for entry into the career opportunities mentioned in i. above</i> <i>State their career preferences.</i> <p>b) Core Activities</p> <ol style="list-style-type: none"> <i>Surf OERs and other sources on the Internet to discover career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>Discuss qualifications needed for assessing career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>Invite a career expert in TVET to interact with learners</i> <i>Discuss the career preferences of learners in relation to their capabilities and desires.</i> <p>c) Evaluation: <i>Use question and answer method to evaluate the lesson</i></p>	<p><i>Sub-topic: Career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p>a) Objectives for the lesson: <i>By the end of the lesson, the learner will be able to:</i></p> <ol style="list-style-type: none"> <i>Mention at least five career opportunities in Agriculture, Technical skills, Home Economics, and Visual Art</i> <i>List the qualifications needed for entering into the career opportunities mentioned in i. above</i> <i>State their career preferences.</i> <p>b) Core Activities</p> <ol style="list-style-type: none"> <i>Surf OERs and other sources on the Internet to discover career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>Discuss qualifications needed for assessing career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>Invite a career expert in TVET to interact with learners</i> <i>Discuss the career preferences of learners in relation to their capabilities and desires.</i> <p>c) Evaluation: <i>Use question and answers to evaluate the lesson</i></p>	
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	<p><i>*Teachers would be guided to tease out the learning outcomes and learning indicators from sample lesson plan</i></p> <p>2.2 Ask teachers to tease out the LOs and the LIs from their sample lesson plans.</p> <p><i>E.g. LO: Demonstrate Knowledge and understanding of the different career opportunities in Agriculture, Technical skills, Home Economics, and Visual Art.</i></p> <p><i>LI 1.1 Mention at least five career opportunities in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p><i>LI 1.2 Discuss the requirements that are needed for the various career opportunities in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p><i>LI 1.3 State the benefit of the various career opportunities to the individual and the nation at large (NTS 3a).</i></p>	<p><i>*Teachers would be guided to tease out the learning outcomes and learning indicators from sample lesson plan</i></p> <p>2.8 Tease out the LOs and the LIs from your sample lesson plans.</p> <p><i>E.g. LO: Demonstrate Knowledge and understanding of the different career opportunities in Agriculture, Technical skills, Home Economics, and Visual Art.</i></p> <p><i>LI 1.1 Mention at least five career opportunities in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p><i>LI 1.2 Discuss the requirements that are needed for the various career opportunities in Agriculture, Home Economics, Technical skills and Visual Art.</i></p>	
<p>3 Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where</p>	<p>3.1 Guide teachers to identify gaps in their lesson plans (if any) and use their knowledge of the secondary school curriculum to resolve them (NTS 1a, 1c).</p> <p><i>E.g. Possible gaps: a) Unsuitable teaching methods.</i></p>	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of the secondary school curriculum to resolve them (NTS 1a, 1c).</p> <p><i>E.g. Possible gaps: a) Unsuitable teaching methods b) Inadequate teaching and learning resources, etc.</i></p>	30 mins

<p>teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <p>➤ Links to the existing PD Themes, for example, action research, questioning and to other external reference material:</p>	<p>b) <i>Inadequate teaching and learning resources, etc.</i></p> <p>Possible Solution:</p> <p>a) <i>Make efficient use of pedagogical content knowledge to select appropriate methods of teaching, e.g. Drama or role-play, video show to depict various career opportunities</i></p> <p>b) <i>Use field trips to relevant industries in town or beyond to observe the real application of the careers.</i></p> <p>c) <i>Use local experts in the community as resource persons,</i></p> <p>d) <i>Explore other domains of the educational framework and curriculum to adopt and adapt suitable alternatives to resolve the challenge of inadequate resources.</i></p> <p>3.2 Ask teachers to suggest alternative ways of delivering the sample lessons (NTS 3f, 3j).</p> <p>E.g. use of:</p> <p>a) <i>Pre-recorded video to show variety of career opportunities</i></p> <p>b) <i>Library or/and Internet research to read about career opportunities</i></p> <p>b) <i>Field trips to see at first hand career opportunities</i></p> <p>c) <i>Community walk to expose learners to career opportunities in their immediate community</i></p>	<p>Possible Solution:</p> <p>a) <i>Make efficient use of pedagogical content knowledge to select appropriate methods of teaching, e.g. Drama or role-play, video show to depict various career opportunities,</i></p> <p>b) <i>Use field trips to relevant industries in town or beyond to observe the real application of the careers.</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3f, 3j).</p> <p>E.g. use of:</p> <p>a) <i>Pre-recorded video to show variety of career opportunities</i></p> <p>b) <i>Library or/and Internet research to read about career opportunities</i></p> <p>b) <i>Field trips to see at first hand career opportunities</i></p> <p>c) <i>Community walk to expose learners to career opportunities in their immediate community</i></p>	
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<p>literature, on web, YouTube, physical resources, power point; how they should be used.</p> <p>➤ Consideration needs to be given to local availability guidance on any power point presentations , TLM or other resources which need to be developed to support learning</p>	<p>d) <i>Use of Career mentors to avail the learners’ opportunity to interact at first hand and to ask pertinent questions to remove doubt, fear, uncertainty, stereotypes and misconceptions</i></p> <p>e) <i>Use of Career assessment tests to provide scientific bases for the learners preferred careers, etc.</i></p> <p>3.3 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 2f, 3f, 3g and 3h).</p> <p>E.g.</p> <p>a) <i>Classroom arrangement to facilitate better learner to learner interaction as well as easy teacher assess to learners</i></p> <p>b) <i>Mixed ability and/or gender groupings to ensure GESI compliance</i></p> <p>c) <i>Non-stereotype role-plays to overcome limitations placed on learners due to misconceptions and stereotypes</i></p> <p>d) <i>Using positive feedback to learners especially female and SEN learners to encourage them to do their best in all circumstances</i></p> <p>e) <i>Use of local career mentors as resource persons who have defied stereotyping and stigma to succeed in TVET to instil the ‘I can do’ spirit among learners</i></p> <p>f) <i>Use of a variety of talk for learning techniques such as, think-pair-share,</i></p>	<p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 2f, 3f, 3g and 3h).</p> <p>E.g.</p> <p>a) <i>Classroom arrangement to facilitate better learner to learner interaction as well as easy teacher assess to learners</i></p> <p>b) <i>Mixed ability and/or gender groupings to ensure GESI compliance</i></p> <p>c) <i>Non-stereotype role-plays to overcome limitations placed on learners due to misconceptions and stereotypes</i></p> <p>d) <i>Using positive feedback to learners especially female and SEN learners to encourage them to do their best in all circumstances.</i></p>	
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	<p><i>brainstorming, reverse-brainstorming, brain-writing, discussions, etc. to facilitate healthy communication among all learners irrespective of gender or ability.</i></p> <p>3.4 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices.</p> <p>a) <i>Learners to self and peer review or assess their work</i></p> <p>b) <i>Seminar to solicit wider community views and appreciation of learners' concept of TVET career opportunities and their preferred choices</i></p> <p>c) <i>Portfolio and reflective journals for self-assessment to develop intrinsic motivation for self-improvement, etc.</i></p> <p>3.5 In groups, ask teachers to suggest authentic summative assessment methods that could be used in the sample lesson (NTS 2e, 3k, 3l and 3o).</p> <p>E.g.</p> <p>a) <i>Develop a check list indicating stages of the activity</i></p> <p>b) <i>Identify skill(s) that must be acquired</i></p> <p>c) <i>Determine scores for each stage depending on the complexity of the skill</i></p> <p>d) <i>Completed artefact must be scored on the following criteria:</i></p> <p>i. <i>Evidence of Preliminary/idea development process</i></p>	<p>3.4 Discuss how the session is linked to the use of formative assessment tools and practices.</p> <p>a) <i>Learners to self and peer review or assess their work</i></p> <p>b) <i>Seminar to solicit wider community views and appreciation of learners' concept of TVET career opportunities and their preferred choices.</i></p> <p>3.5 In groups, suggest authentic summative assessment methods that could be used in the sample lesson (NTS 2e, 3k, 3l and 3o).</p> <p>E.g.</p> <p>a) <i>Develop a check list indicating stages of the activity</i></p> <p>b) <i>Identify skill(s) that must be acquired</i></p> <p>c) <i>Determine scores for each stage depending on the complexity of the skill</i></p> <p>d) <i>Completed artefact must be scored on the following criteria:</i></p> <p>i. <i>Evidence of Preliminary/idea</i></p>	
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	<p>ii. <i>Appropriate use of tools/material</i></p> <p>iii. <i>Draft/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works)</i></p> <p>iv. <i>Originality</i></p> <p>3.6 Ask teachers to discuss how the use of ICT resources supports the delivery of the secondary school TVET curriculum (NTS 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Pre-recorded videos that bring near life experience of career opportunities to learners</i></p> <p>b) <i>Photographs of relevant scenes also provide quite vivid picture of what to expect in real life as far as TVET career opportunities are concerned</i></p> <p>c) <i>OERs/Internet facilities provide a wider range of possibilities for the learner</i></p> <p>d) <i>Projectors, computers and software facilitate effective and efficient illustrations making learning more meaningful.</i></p> <p>3.7 Ask one teacher to model a teaching activity in the sample lesson in any of the TVET domains (NTS 1c, 1f and 3a). (Extension Activity)</p>	<p><i>development process</i></p> <p>i. <i>Appropriate use of tools/material</i></p> <p>ii. <i>Draft/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works)</i></p> <p>iii. <i>Originality</i></p> <p>3.6 Discuss how the use of ICT resources to support the delivery of the TVET curriculum (NTS 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Pre-recorded videos that bring near life experience of career opportunities to learners</i></p> <p>b) <i>Photographs of relevant scenes also provide quite vivid picture of what to expect in real life as far as TVET career opportunities are concerned</i></p> <p>c) <i>OERs/Internet facilities provide a wider range of possibilities for the learner</i></p> <p>3.7 Model a teaching activity in the sample lesson in any of the TVET domains (NTS 1c, 1f and 3a). (Extension Activity)</p>	
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<p>4 Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Ask teachers to brain-write what they have learnt in the session (<i>NTS 1a, 1b, 1e and 1f</i>).</p> <p>4.2 Ask them to share what they have written with the larger group (<i>NTS 1e</i>).</p> <p>4.3 Ask teachers to ask any further questions for clarification.</p> <p>4.4 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 6 and provide feedback at the next PLC session (<i>NTS 1a, 1e and 3l</i>).</p> <p>4.5 Remind teachers to read Session 7 from the PLC Handbook in preparation for the next session (<i>NTS 3b</i>).</p>	<p>4.1 Brain-write what they have learnt in the session (<i>NTS 1a, 1b, 1e and 1f</i>).</p> <p>4.2 What they have written with the larger group (<i>NTS 1e</i>).</p> <p>4.3 Ask questions on any issue that need further clarification.</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC session 6 and provide feedback at the next PLC Session (<i>NTS 1a, 1e and 3l</i>).</p> <p>4.5 Read Session 7 from the PLC Handbook in preparation for the next session (<i>NTS 3b</i>).</p>	<p>15 mins</p>
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TVET PLC Session 7: Knowledge of Learners.

NB. TVET Domains:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Invite a teacher to share an ice breaker related to the topic.</p> <p>1.2. Ask teachers and critical friends to share their views on the usefulness of the previous PLC sessions in their lesson delivery.</p> <p>1.3 Ask a teacher to read NTS 2 (e and f) on the <i>Knowledge of Learners</i> of the NTS and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare them with the LOs and LIs listed below. (NTS 2d, 2f).</p> <p>LO 1: Demonstrate the understanding of how learners learn in diverse contexts and apply this in teaching.</p> <p>LI 1.1 Identify different contexts in which learners learn.</p> <p>LI 1.2 Identify and discuss the appropriate methods of teaching learners at different</p>	<p>1.1 Share an ice breaker related to the topic.</p> <p>1.2. Share your views on the usefulness of the previous PLC sessions in your lesson delivery.</p> <p>1.3 Read NTS 2 (e and f) on the <i>Knowledge of Learners</i> of the NTS teachers to Appendix E and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare them with the LOs and LIs listed below (NTS 2d, 2f).</p> <p>LO 1: Demonstrate the understanding of how learners learn in diverse contexts and apply this in teaching</p> <p>LI 1.1 Identify different contexts in which learners learn.</p> <p>LI 1.2 Identify and discuss the appropriate methods of teaching learners at</p>	25 mins

	<p>developmental stages.</p> <p>LO 2: Demonstrate knowledge and skills in harmonizing and directing learners varied cultural, linguistic, socio-economic and educational backgrounds in their planning and teaching.</p> <p>LI 2.1 Identify at least four possible cultural and linguistic backgrounds found in Ghanaian Senior High Schools.</p> <p>LI 2.2 Discuss at least three learning approaches/styles that facilitates learning among learners from varied cultural, linguistic, socio-economic and educational backgrounds.</p> <p>LO 3: Demonstrate knowledge and understanding of GESI issues.</p> <p>LI 3.1 Mention at least five GESI related issues in learning.</p> <p>LI 3.2 Outline the need for incorporating GESI issues in classroom.</p> <p>1.4 Ask teachers to discuss how they can help learners relate concepts from the varied cultural, linguistic, socio-economic and</p>	<p>different developmental stages.</p> <p>LO 2: Demonstrate knowledge and skills in harmonizing and directing learners varied cultural, linguistic, socio-economic and educational backgrounds in their planning and teaching.</p> <p>LI 2.1 Identify at least four possible cultural linguistic and backgrounds found in Ghanaian Senior High Schools,</p> <p>LI 2.2 Discuss at least three learning approaches/styles that facilitates learning among learners from varied cultural, linguistic, socio-economic and educational backgrounds.</p> <p>LO 3: Demonstrate knowledge and understanding of GESI issues.</p> <p>LI 3.1 Mention at least five GESI related issues in learning.</p> <p>LI 3.2 Outline the need for incorporating GESI issues in classroom.</p> <p>1.4 Show you can help learners relate concepts from the varied cultural, linguistic, socio-economic and educational backgrounds to</p>	
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	<p>educational backgrounds to the learning of TVET (NTS 2f).</p> <p><i>E.g.</i></p> <p><i>a) Incorporating traditional symbols into designs</i></p> <p><i>b) Identifying possible science behind some indigenous beliefs/taboo</i></p> <p><i>c) Incorporate some good indigenous practices into the formal sector.</i></p> <p>1.5 Ask teachers to identify different learning styles of learners that will enhance teaching in the TVET domains (NTS 2e, 2f, 3e and 3g).</p> <p><i>E.g.</i></p> <p><i>e) Auditory learning</i></p> <p><i>f) Kinesthetic learning</i></p> <p><i>g) Tactile learning</i></p> <p><i>h) Visual learning</i></p> <p>1.6 Ask teachers to identify other related areas on knowledge of learners that will enhance the delivery of the TVET curriculum (NTS 2e, 2f and 3m).</p> <p><i>E.g.</i></p> <p><i>a) Learner's cultural background</i></p> <p><i>b) Learner's educational background</i></p> <p><i>c) Learner's socio-economic background, etc.</i></p> <p>1.7 Identify at least four possible cultural and linguistic backgrounds found in Ghanaian Senior High Schools that</p>	<p>the learning of TVET (NTS 2f).</p> <p><i>E.g.</i></p> <p><i>Incorporating traditional symbols into designs</i></p> <p>1.5 Ask teachers to identify different learning styles of learners that will enhance teaching of their subjects (NTS 2e, 2f, 3e and 3g).</p> <p><i>E.g.</i></p> <p><i>a) Tactile learning</i></p> <p><i>b) Visual learning</i></p> <p>1.6 Identify other related areas on knowledge of learners that will enhance the delivery of the TVET curriculum (NTS 2e, 2f and 3m).</p> <p><i>E.g.</i></p> <p><i>Learner's educational background</i></p> <p>1.7 Identify at least four possible cultural and linguistic backgrounds found in Ghanaian Senior High Schools that can</p>	
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	<p>can influence the learning of TVET subject</p> <p><i>E.g.</i></p> <p>a) <i>Learners from different cultures are exposed to different artefacts such as those in urban areas using gas stoves for cooking while those in rural areas using wood for cooking</i></p> <p>b) <i>Learners from wealthy home are more fluent in English language than those from poor homes</i></p> <p>c) <i>Learners from farming communities are more likely to succeed in the study of agricultural science than those from urban areas</i></p>	<p>influence the learning of TVET subject</p> <p><i>E.g.</i></p> <p><i>Learners from different cultures are exposed to different artefacts such as those in urban areas use gas stoves for cooking while those in rural areas use wood for cooking</i></p>	
<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.8 Ask teachers to identify possible misconceptions and stereotypes in their various TVET lesson topics for the week (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>Lesson Topic: Work ethics in:</i></p> <p>a) <i>Agriculture</i></p> <p>b) <i>Home Economics</i></p> <p>c) <i>Technical Skills</i></p> <p>d) <i>Visual art</i></p> <p><i>Possible misconceptions and stereotypes</i></p> <p>a) <i>TVET is reserved for people with little intellectual endowment hence they can't set targets and attain them</i></p> <p>b) <i>TVET does not give learners good work opportunities and social status.</i></p> <p>c) <i>TVET is not important because</i></p>	<p>1.8 Identify possible misconceptions and stereotypes in your various TVET lesson topics for the week (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>Lesson Topic: Work ethics in:</i></p> <p>a) <i>Agriculture</i></p> <p>b) <i>Home Economics</i></p> <p><i>Possible misconceptions and stereotypes</i></p> <p>a) <i>TVET is reserved for people with little intellectual endowment hence they can't set targets and attain them.</i></p> <p>b) <i>TVET does not give learners good work opportunities and social status.</i></p>	

	<p><i>its contribution to the economy of Ghana is insignificant.</i></p> <p><i>d) Persons with disability cannot perform well in TVET education.</i></p> <p>1.9 Guide teachers to discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Invite role models/resource persons that have overcome these stereotypes and have achieved successes in their respective TVET domains within the society.</i></p> <p>b) <i>Prepare/Use pre-recorded videos of persons who have defied these stereotypes and have achieve successes in the society</i></p> <p>c. <i>Do community walk to expose students to the contribution of TVET to society</i></p> <p>d. <i>Organize field trips to institutions for students to observe diversity in professions.</i></p> <p>e. <i>Launch awareness campaigns</i></p> <p>1.10 Ask teachers in mixed gender groupings (where possible) to list</p>	<p>1.9 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Invite role models/resource persons that have overcome these stereotypes and have achieved successes in their TVET domains within the society</i></p> <p>b) <i>Use a pre-recorded videos of persons who have defied these stereotypes and have achieve successes in the society</i></p> <p>c. <i>Do community walk to expose students to the contribution of TVET to society</i></p> <p>1.10 In mixed gender groupings (if feasible) list</p>	
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	<p>some 21st century skills (NTS 3j).</p> <p><i>E.g.</i> <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.11 Ask teachers to identify ways of incorporating ICT in their lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Surf open educational resources (OERs) and other internet sources for information.</i> <i>b) Teach using PowerPoint presentation.</i> <i>c) Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc. to teach.</i> <i>d) Teacher interacts and monitor students' extended learning via social media platforms</i> <i>e) Students submit their assignments through email, etc.</i> <p>1.12 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners such as communication skills, collaboration, observation and enquiry skills, digital literacy,</p>	<p>some 21st century skills (NTS 3j).</p> <p><i>E.g.</i> <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.11 Identify ways of incorporating ICT in your lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) surf open educational resources (OERs) and other internet sources for information.</i> <i>b) teach using PowerPoint presentation</i> <i>c) employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc. to teach.</i> <p>1.12 Discuss possible activities you would adopt to develop the 21st century skills in your learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development (NTS 3a, 3e, 3h and 3j).</p>	
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	<p>creativity and personal development (NTS 3a, 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Learners doing PowerPoint presentations in groups.</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities in TVET paying attention to work ethics</i> e) <i>Panel presentations</i> 	<p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Learners doing PowerPoint presentations in groups.</i> b) <i>Project/research</i> c) <i>Role-play</i> 	
<p>2 Planning for teaching, learning and assessment activities for the lesson/s with links to the TVET curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and LIs*</p> <p><i>Sample Lesson Topics in the TVET domain:</i> <i>Sub-topic: Work ethics in Agriculture Home Economics, Technical skills and Visual Art</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ul style="list-style-type: none"> i. <i>Explain the concept work ethics as it pertains to TVET.</i> ii. <i>State at least four work ethics in Agriculture Home Economics, Technical skills and Visual Art.</i> iii. <i>Discuss qualities that promote good work ethics in Agriculture Home Economics, Technical skills and Visual Art.</i> 	<p>2.1 Discuss samples of your lesson plans in your various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and LIs*</p> <p><i>Sample Lesson Topics in the TVET domain:</i> <i>Sub-topic: Work ethics in Agriculture Home Economics, Technical skills and Visual Art</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ul style="list-style-type: none"> i. <i>Explain the concept work ethics as it pertains to TVET.</i> ii. <i>State at least four work ethics in Agriculture Home Economics, Technical skills and Visual Art.</i> iii. <i>Discuss qualities that promote good work ethics in Agriculture Home Economics, Technical skills and Visual Art.</i> 	20 mins

	<p>b) Core activities</p> <ol style="list-style-type: none"> Guide learners in groups to explain the concept of work ethics. Guide learners to identify and discuss in mixed ability/gender groups, what constitutes bad work ethic in TVET. Guide learners to discuss the qualities that promote good work ethics in groups. <p>c) Evaluation</p> <ol style="list-style-type: none"> Evaluate the lesson by using question and answer method. In groups, assign learners to visit any local workshop in the community to observe their work ethics and report. <p><i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p><i>LO: Demonstrate Knowledge and understanding of work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p><i>LI 1.1 Explain work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p><i>E.g.</i></p> <p><i>Work ethics is a set of standards of behaviour and beliefs regarding what is and is not acceptable to do at</i></p>	<p>b) Core activities</p> <ol style="list-style-type: none"> Guide learners in groups to explain the concept of work ethics. Guide learners to identify and discuss in mixed ability/gender groups, what constitutes bad work ethic in TVET. Guide learners to discuss the qualities that promote good work ethics in groups. <p>c) Evaluation</p> <ol style="list-style-type: none"> Evaluate the lesson by using question and answer method. In groups, assign learners to visit any local workshop in the community to observe their work ethics and report. <p><i>* Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p><i>LO: Demonstrate Knowledge and understanding of work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p><i>LI 1.1 Explain work ethics in Visual Agriculture, Home Economics, Technical Skills and Visual Art</i></p> <p><i>LI 1.2 Identify and discuss qualities that promote good work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	
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	<p><i>work as it relates to the various TVET domains.</i></p> <p><i>Ref.</i> https://www.valamis.com</p> <p><i>LI 1.2 Identify and discuss qualities that promote good work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>		
<p>3 Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson</p>	<p>3.1 Guide teachers to identify gaps in their lesson plans (if any) and use their knowledge of learners' varied background to resolve them (NTS 1a, 2c, 2e and 2f).</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <p>a) <i>absence of differentiated teaching/learning methods</i></p> <p>b) <i>inadequate teaching and learning resources, etc.</i></p> <p><i>Possible Solution:</i></p> <p>a) <i>Teachers' lesson plan should show variety of teaching and learning strategies appropriate for learners with different abilities.</i></p> <p>b) <i>improvisation (use of available local tools and materials), etc.</i></p> <p>3.2 Ask teachers to suggest alternative ways of delivering the sample lessons. (NTS 3e, 3g and 3i)</p> <p><i>E.g.</i></p> <p>a) <i>Use extended learning</i></p> <p>b) <i>Work-based learning</i></p>	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of educational framework and curriculum to resolve them (NTS 1a, 2c, 2e and 2f).</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <p>a) <i>absence of differentiated teaching/learning methods</i></p> <p>b) <i>inadequate teaching and learning resources, etc.</i></p> <p><i>Possible Solution:</i></p> <p>a) <i>Teachers' lesson plan should show variety of teaching and learning strategies appropriate for learners with different abilities.</i></p> <p>b) <i>improvisation (use of available local tools and materials), etc.</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3e, 3g and 3i).</p> <p><i>E.g.</i></p> <p>a) <i>Use extended learning</i></p> <p>b) <i>Portfolio building, etc.</i></p>	30 mins

<p>should include at least two opportunities to use continuous assessment to support student teacher learning</p> <ul style="list-style-type: none"> • Resources: <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>c) Portfolio building, etc</i></p> <p>3.3 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Give opportunities for leadership roles to all learners irrespective of their gender, background or ability b) deliberately give attention and support to learners with learning difficulty c) Give positive feedback to all students especially those with learning difficulty <p>3.4 Ask teachers to discuss how the lesson is linked to the use of formative assessment tools and practices (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Observation b) Scrap book/albums, c) Reflective journals, d) Peer and Self-assessment, e) Portfolio** <p>**Note: Building a TVET subject based portfolio involves the following steps:</p> <ul style="list-style-type: none"> i. Identify the variety of items that can go into a TVET portfolio <ul style="list-style-type: none"> ➤ Sketches ➤ Finished 2D/3D works ➤ Scrap book 	<p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Give opportunities for leadership roles to all learners irrespective of their gender, background or ability b) deliberately giving attention and support to learners with learners' difficulty c) Give positive feedback to all students especially those with learning difficulty <p>3.4 Discuss how the unit is linked to the use of formative assessment tools and practices (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Observation b) Scrap book/albums, c) Reflective journal d) Portfolio** <p>**Note: Building a TVET subject based portfolio involves the following steps:</p> <ul style="list-style-type: none"> i. Identify the variety of items that can go into a TVET portfolio <ul style="list-style-type: none"> ➤ Sketches ➤ Finished 2D/3D works ➤ Scrap book ➤ Cut-out articles from 	
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	<ul style="list-style-type: none"> ➤ <i>Cut-out articles from magazines/newspapers, etc.</i> ➤ <i>Written projects/assignments</i> ➤ <i>Downloads from the internet</i> ➤ <i>Power point presentations</i> ➤ <i>Written Reports</i> ➤ <i>Photographs/videos, etc.</i> <p>ii. <i>Decide the appropriate form of the portfolio. Portfolios can be either soft as in e-portfolios or hard portfolios.</i></p> <p>iii. <i>Portfolios should not exist only for assessment. They constitute a private library for the learner, now and the future</i></p> <p>iv. <i>For Visual Art, it is a necessary requirement for the scoring of any practical project work</i></p> <p>3.5 In groups ask teachers to suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l, 3m and 3n).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Observation</i> b) <i>Question & Answer,</i> c) <i>Reflective journals,</i> d) <i>Portfolio</i> e) <i>Peer and Self-assessment, etc</i> <p>3.6 Guide teachers to discuss how the lesson can make use of ICT resources to support</p>	<p><i>magazines/newspapers, etc.</i></p> <ul style="list-style-type: none"> ➤ <i>Written projects/assignments</i> ➤ <i>Downloads from the internet</i> ➤ <i>Power point presentations</i> ➤ <i>Written Reports</i> ➤ <i>Photographs/videos, etc.</i> <p>ii. <i>Decide the appropriate form of the portfolio. Portfolios can be either soft as in e-portfolios or hard portfolios.</i></p> <p>iii. <i>Portfolios should not exist only for assessment. They constitute a private library for the learner, now and the future</i></p> <p>iv. <i>For Visual Art, it is a necessary requirement for the scoring of any practical project work</i></p> <p>3.5 Suggest other authentic assessment methods that could be used in the sample lesson. (NTS 3k, 3l, 3m and 3n).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Observation</i> b) <i>Question and Answer</i> c) <i>Reflective journals,</i> <p>3.6 Discuss how the lesson can make use of ICT resources to support relevant</p>	
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	<p>relevant activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos on work ethics</i> b) <i>Photographs of some professionals working</i> c) <i>OERs/Internet search on work ethics</i> d) <i>PowerPoint presentation on work ethics projectors, etc.</i> <p>3.7 Ask one teacher to model a teaching activity in the sample lesson in any of the TVET using ICT. (Extension Activity)</p>	<p>activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <p><i>pre-recorded videos, photographs of some professionals, OERs/internet facilities, projectors, etc.</i></p> <p>3.7 Model a teaching activity in the sample lesson in any of the TVET using ICT. (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Ask teachers to brain-write two key ideas they are taking away from the lesson.</p> <p>4.2 Ask them to share it with the larger group.</p> <p>4.3 Ask teachers if there are any unresolved issues for clarification.</p> <p>4.4 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 7 and provide feedback at the next PLC session.</p> <p>4.5 Remind teachers to read Session 8 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 Brain write two key ideas you are taking away from the lesson.</p> <p>4.2 Share with the larger group</p> <p>4.3 Raise any unresolved issues for clarification</p> <p>4.4 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>4.5 Read Session 8 from the PLC Handbook in preparation for the next session.</p>	15 mins

TVET PLC Session 8: Managing the Learning Environment

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Give an ice breaker to prepare the teachers for the session, e.g. read this: yy u are. yy u be. I ci, u are yy 4 me.</p> <p><i>Answer:</i> <i>Too wise you are. Too wise you be, I see, you are too wise for me.</i></p> <p>1.2. Ask teachers to reflect and share two successes and one challenge they had in their last week lesson delivery.</p> <p>1.3 Ask a teacher to read NTS 3a, 3b and 3c and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion of the relationship between the LOs and the LI with colleagues (NTS 3a, 3b and 3c).</p> <p>LO 1: Demonstrate the ability to plan and deliver (varied and challenging) lessons that achieved the intended learning outcomes.</p> <p>LI 1.1 Exhibit a sample plan or forecast that</p>	<p>1.1 Participate in the ice breaker activities by reading this: yy u are, yy u be. I ci, u are yy 4 me.</p> <p>1.2 Reflect and share your successes and challenge you had in your last week lesson delivery.</p> <p>1.3 Read NTS 3a, 3b and 3c of and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion of the relationship between the LOs and the LI with colleagues (NTS 3a, 3b and 3c).</p> <p>LO 1: Demonstrate the ability to plan and deliver (varied and challenging) lessons that achieved the intended learning outcomes.</p>	25 mins

	<p>indicate a long-term and short-term (termly, weekly and daily) plans showing clearly how learners are to progress within the context of the prescribed Senior High School curriculum and its expected learning outcomes.</p> <p>LI 1.2 Describe how varied teaching and assessment strategies as well as ICT and GESI issues can be integrated in the teaching and learning process in the Senior High Schools.</p> <p>LO 2: Demonstrate use of reflective practice and small-scale action research findings to improve teaching and learning.</p> <p>LI 2.1 Identify at least one area to improve on each term.</p> <p>LI 2.2 Provide a gender responsive action plan to guide practice.</p> <p>LI 2.3 Exhibit reflective journal showing the benefits of conducting lesson evaluation by teachers and learners.</p> <p>LO 3: Exhibit the ability to create a safe, encouraging learning environment.</p>	<p>LI 1.1 Exhibit a sample plan or forecast that indicate a long-term and short-term (termly, weekly and daily) plans showing clearly how learners are to progress within the context of the prescribed Senior High School curriculum and its expected learning outcomes.</p> <p>LI 1.2 Describe how varied teaching and assessment strategies as well as ICT and GESI issues can be integrated in the teaching and learning process in the Senior High Schools.</p> <p>LO 2: Demonstrate use of reflective practice and small-scale action research findings to improve teaching and learning.</p> <p>LI 2.1 Identify at least one area to improve on each term.</p> <p>LI 2.2 Provide a gender responsive action plan to guide practice,</p> <p>LI 2.3 Exhibit of a reflective journal showing the benefits of conducting lesson evaluation by teachers and learners.</p> <p>LO 3: Exhibit the ability to create a safe, encouraging learning environment.</p>	
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	<p>LI 3.1 Identify the elements of a safe and encouraging learning environment.</p> <p>LI 3.2 Establish clear classroom rules and routine to promote positive behaviour among learners,</p> <p>1.4 Lead teachers to discuss how TVET concepts can be employed in managing the learning environment.</p> <p><i>E.g.</i> <i>Adaptation of safety rules as in the studios, workshops, farms and in the laboratories into all learning environment</i></p> <p>1.5 Ask teachers to identify other related areas of managing the learning environment that will enhance the teaching and learning of TVET.</p> <p><i>E.g.</i> <i>Organizing:</i> <i>a. jury sessions to encourage peer assessment</i> <i>b. exhibition to promote self-assessment among learners</i> <i>c. work-based learning to enhance skills training</i></p>	<p>LI 3.1 Identify the elements of a safe and encouraging learning environment.</p> <p>LI 3.2 Establish clear classroom rules and routine to promote positive behaviour among learners.</p> <p>1.4 Discuss how TVET concepts can be employed in managing the learning environment.</p> <p><i>E.g.</i> <i>Adaptation of safety rules as in the studios, workshops, farms and in the laboratories into all learning environment</i></p> <p>1.5 identify other related areas of managing the learning environment that will enhance the teaching and learning of TVET.</p> <p><i>E.g.</i> <i>Organizing:</i> <i>a. jury sessions to encourage peer assessment</i> <i>b. exhibition to promote self-assessment among learners</i></p>	
Give regard for misconceptions, stereotypes, GESI,	1.6 In the TVET domain groups ask teachers to identify possible misconceptions and	1.6 In your TVET domain groups identify possible misconceptions and	

<p>ICT, 21st century skills, etc.</p>	<p>stereotypes in their various lesson topics for the week.</p> <p><i>E.g.</i> <i>Lesson Topic:</i> <i>a) Agriculture: (General Management Practices of a Farm (Plant/animal), Machinery and Implements)</i> <i>b) Home Economics: Kitchen Safety and Sanitation</i> <i>c) Technical Skills: Health Safety and Protection</i> <i>d) Visual art: Studio Maintenance</i></p> <p><i>Possible misconceptions and stereotypes</i></p> <ul style="list-style-type: none"> <i>i. Agriculture: care for agricultural tools, implements, animals and plants are for males and difficult for females.</i> <i>ii. Home Economics: cleaning and care for the Kitchen is for females and not males</i> <i>iii. Technical skills: wearing of boots and other protective gears are for able bodied persons and not suitable and appropriate for learners with SEN.</i> <i>iv. Visual Art: Visual art learners are dirty, etc.</i> <p>1.7 Guide teachers to discuss possible ways to mitigate these</p>	<p>stereotypes in your various lesson topics for the week.</p> <p><i>E.g.</i> <i>Lesson Topic:</i> <i>a) Agriculture: (General Management Practices of a Farm (Plant/animal), Machinery and Implements)</i> <i>b) Home Economics: Kitchen Safety and Sanitation</i> <i>c) Technical Skills: Health Safety and Protection</i> <i>d) Visual art: Studio Maintenance</i></p> <p><i>Possible misconceptions and stereotypes</i></p> <ul style="list-style-type: none"> <i>i. Agriculture: care for agricultural tools, implements, animals and plants are for males and difficult for females.</i> <i>ii. Home Economics: cleaning and care for the Kitchen is for females not males</i> <i>iii. Technical skills: wearing of boots and other protective gears are for males and not suitable and appropriate for learners with SEN.</i> <i>iv. Visual Art: Visual art learners are dirty, etc.</i> <p>1.7 Discuss possible ways to mitigate these</p>	
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	<p>misconceptions and stereotypes in TVET.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Invite a role model who has achieved success in their respective fields of TVET (either female, male or/and person with SEN) as resource persons to interact with learners as a way of helping learners to overcome these stereotypes in Agriculture, Home Economics, and Visual Art</i> b. <i>Prepare and use pre-recorded videos of persons who have defied these stereotypes and have achieve successes in various TVET production activities within the local community and beyond</i> c. <i>Do community walk or undertake a field trip to expose learners to clean studios, kitchens and workshops in TVET.</i> <p>1.8 Ask teachers to sit in mixed ability/gender groups (where possible) and discuss the 21st century skills that could be developed</p>	<p>misconceptions and stereotypes in TVET.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Invite a role model who has achieved success in their respective fields of TVET (either female, male or/and person with SEN) as resource persons to interact with learners as a way of helping learners to overcome these stereotypes in Agriculture, Home Economics, and Visual Art</i> b. <i>Prepare and use pre-recorded videos of persons who have defied these stereotypes and have achieve successes in various TVET production activities within the local community and beyond</i> <p>1.8 In mixed ability/gender groups (where possible) discuss the 21st century skills that could be developed among learners in relation to their lessons for the week.</p>	
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	<p>among learners in relation to their lessons for the week.</p> <p><i>E.g. communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.9 Ask teachers to brainstorm ways of incorporating ICT into their lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a. Video show of some workshops/studios/kitchens and farms</i> <i>b. Surf open educational resources (OERs) and other internet sources for information on safety rules in workshops, studios, kitchens and farms</i> <i>c. Use of PowerPoint presentation to facilitate the teaching and lessons of the topic.</i> <i>d. Employ electronic gadgets such as CCTV cameras to monitor and review learners' safety behaviour in the workshops, studios, kitchens and farms for reflection.</i> <p>1.10 Ask teachers to discuss possible</p>	<p><i>E.g. communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.9 Brainstorm ways of incorporating ICT into your lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a. Video show of some workshops/studios/kitchens and farms</i> <i>b. Surf open educational resources (OERs) and other internet sources for information on safety rules in workshops, studios, kitchens and farms</i> <i>c. Use of PowerPoint presentation to facilitate the teaching and lessons of the topic.</i> <p>.</p> <p>1.10 Discuss possible activities you would adopt to develop</p>	
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	<p>activities they would adopt to develop 21st century skills in their learners such as creativity, communication skills, collaboration, observation and enquiry skills, digital literacy and personal development skills.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Group learners into mixed ability groups to clean workshops, studios, kitchens and farms</i> b) <i>engage technology to monitor learners' behaviour in the workshops, studios, kitchens and farms</i> c) <i>give equal opportunity to all learners to play leadership roles, etc.</i> d) <i>give opportunity to learners to innovate new ways of keeping workshops, studios, kitchens and farms safe and clean.</i> 	<p>21st century skills in their learners such as creativity, communication skills, collaboration, observation and enquiry skills, digital literacy and personal development skills.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Group learners into mixed ability groups to clean workshops, studios, kitchens and farms</i> b) <i>engage technology to monitor learners' behaviour in the workshops, studios, kitchens and farms, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum</p>	<p>2.1 In their TVET domain groups ask teachers to discuss their sample lesson plans based on the 2010 SHS Syllabus and link them to any of the LOs and LIs of the PLC session*</p> <p><i>Sample Lesson Topics in the TVET domains for the week:</i></p>	<p>2.1 In your TVET domain groups discuss your sample lesson plans based on the 2010 SHS Syllabus and link them to the concepts of LOs and Lis*</p> <p><i>Sample Lesson Topics in the TVET domains for the week:</i></p>	20 mins

	<p>Lesson Topic:</p> <p>a) Agriculture: (General Management Practices of a Farm (Plant/animal/Machinery and Implements).</p> <p>b) Home Economics: Kitchen Safety and Sanitation.</p> <p>c) Technical Skills: Health Safety and Protection.</p> <p>d) Visual art: Studio Maintenance</p> <p>a) Objectives:</p> <p>By the end of the lesson, learners will be able to:</p> <p>i. State how to ensure safety and protection practices on the farm (as regards plant and animal machinery and implements), kitchen, laboratories, workshops and studios before, during and after work,</p> <p>E.g.</p> <p>Before work:</p> <p>Clean workshops, laboratories. Studios, etc. before the start of work making sure the environment is free of accident causing items such as water, oil, cutting and piecing object on the floor etc.</p> <p>During Work:</p> <p>Use appropriate tools in the right way(s)</p> <p>After work:</p> <p>i. Clean floors and tools, pack and cover equipment, tools and materials at their appropriate places, switch off machines and electrical</p>	<p>Lesson Topic:</p> <p>a) Agriculture: (General Management Practices of a Farm (Plant/animal/Machinery and Implements)</p> <p>b) Home Economics: Kitchen Safety and Sanitation)</p> <p>c) Technical Skills: Health Safety and Protection</p> <p>d) Visual art: Studio Maintenance</p> <p>d) Objectives:</p> <p>By the end of the lesson, learners will be able to:</p> <p>i. State how to ensure safety and protection practices on the farm (as regards plant and animal machinery and implements), kitchen, laboratories, workshops and studios before, during and after work,</p> <p>E.g.</p> <p>Before work:</p> <p>Clean workshops, laboratories. Studios, etc. before the start of work making sure the environment is free of accident causing items such as water, oil, cutting and piecing object on the floor etc.</p> <p>During Work:</p> <p>Use appropriate tools in the right way(s)</p> <p>After work:</p> <p>i. Clean floors and tools, pack and cover equipment, tools and materials at their appropriate places, switch off machines and electrical gadgets, close windows, doors and cabinets, etc.</p>	
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	<p><i>gadgets, close windows, doors and cabinets, etc.</i></p> <p>ii. <i>Demonstrate through hands-on activity safety and protection practices on the farms, kitchens, laboratories, workshops and studios,</i></p> <p>iii. <i>Develop at least five safety rules on the farms, kitchens, laboratories, workshops and studios, etc.</i></p> <p>b) Core activities:</p> <p>i. <i>Guide learners to state five safety rules on the farm, kitchen, laboratories, workshops and studios,</i></p> <p>ii. <i>Demonstrate through simulation/demonstration basic safety and protection practices on the farms kitchens, laboratories, workshops and studios for learners to observe.</i></p> <p>iii. <i>Guide learners to surf OERs and other sources on the Internet to discover other safety and protection practices elsewhere.</i></p> <p>iv. <i>Guide learners to try their hands on basic safety and protection</i></p>	<p>ii. <i>Demonstrate through hands-on activity safety and protection practices on the farms, kitchens, laboratories, workshops and studios,</i></p> <p>iii. <i>Develop at least five safety rules on the farms, kitchens, laboratories, workshops and studios, etc.</i></p> <p>b) Core activities:</p> <p>I. <i>Guide learners to state five safety rules on the farm, kitchen, laboratories, workshops and studios,</i></p> <p>II. <i>Demonstrate through simulation/demonstration basic safety and protection practices on the farms kitchens, laboratories, workshops and studios for learners to observe.</i></p> <p>III. <i>Guide learners to surf OERs and other sources on the Internet to discover other safety and protection practices elsewhere.</i></p> <p>IV. <i>Guide learners to try their hands on basic safety and protection practices on the farms, kitchens,</i></p>	
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	<p><i>practices on the farms, kitchens, laboratories, workshops and studios</i></p> <p>v. <i>Put learners in mixed ability/gender groups (where possible) to formulate simple safety and protection rules for the farms, kitchens, laboratories, workshops and studios.</i></p> <p>c) Evaluation:</p> <p>i. <i>Evaluate learners progress by providing check lists for learners to use to re-enact basic safety and protection practices on farms, kitchens, laboratories, workshops and studios, etc.</i></p> <p>ii. <i>Organise a jury session for learners to assess themselves and their peers' work.</i></p> <p><i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Ask teachers to tease out the LOs and Lis from the sample lesson.</p> <p><i>LO: Demonstrate Knowledge and</i></p>	<p><i>laboratories, workshops and studios</i></p> <p>V. <i>Put learners in mixed ability/gender groups (where possible) to formulate simple safety and protection rules for the farms, kitchens, laboratories, workshops and studios.</i></p> <p>Evaluation:</p> <p>I. <i>Evaluate learners progress by providing check lists for learners to use to re-enact basic safety and protection practices on farms, kitchens, laboratories, workshops and studios, etc.</i></p> <p>II. <i>Organise a jury session for learners to assess themselves and their peers' work.</i></p> <p><i>* Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Tease out the Los and Lis from the sample lesson.</p> <p><i>LO: Demonstrate Knowledge and understanding of the</i></p>	
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	<p><i>understanding of the different learning environments in the respective TVET domains.</i></p> <p><i>LI 1.1 State at least 2 learning environments in your TVET domain,</i></p> <p><i>LI 1.2: Discuss how to enforce safety rules in the different learning environments.</i></p> <p><i>LI 1.3 Discuss at least 5 ways of ensuring safety precautions before, during and after production in Visual Art, Technical Skills, Home Economics, and Agriculture,</i></p>	<p><i>different learning environments in the respective TVET domains</i></p> <p><i>LI 1.1 State at least 2 learning environments in your TVET domain,</i></p> <p><i>LI 1.2: Discuss how to enforce safety rules in the different learning environments.</i></p>	
<p>3. Teaching, learning and assessment</p> <p>Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p>	<p>3.1 Ask teachers to discuss how the NTS 3a, 3b and 3c) i.e. Managing the Learning Environment will help to promote teaching and learning of TVET in the Senior High Schools.</p> <p><i>E.g.</i></p> <p><i>a) ensure safety of all learners</i></p> <p><i>b) promote responsible behaviour among teachers and learners in the learning environment</i></p> <p><i>c) facilitate inclusivity and tolerance of all learners and their peculiarities during the learning process, etc.</i></p> <p>3.2 Guide teachers to identify gaps in their</p>	<p>3.1 Discuss how the NTS 3a, 3b and 3c) i.e. Managing the Learning Environment will help to promote teaching and learning of TVET in the Senior High Schools.</p> <p><i>E.g.</i></p> <p><i>a) ensure safety of all learners</i></p> <p><i>b) promote responsible behaviour among teachers and learners in the learning environment</i></p> <p><i>c) facilitate inclusivity and tolerance of all learners and their peculiarities during the learning process, etc.</i></p> <p>3.2 Identify gaps in your lesson plans (if any) and use their</p>	30 mins

<p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>lesson plans (if any) and use their knowledge of managing the learning environment to resolve them.</p> <p><i>E.g.</i> Possible gaps: a) <i>Lack of regulations to guide learners and teachers' activities in the studios, kitchens, workshops or in the farms</i></p> <p>b) <i>Absence of attendants at the studios, kitchens, workshops and in the farms to assist the teacher</i></p> <p>c) <i>Inadequate studios, kitchens, workshops and model farms</i></p> <p>Possible Solution: a) <i>Develop safety rules in the studios, kitchens, workshops or in the farms together with learners</i></p> <p>b) <i>Train learners to assist you in the studios, kitchens, workshops or in the farms where it will be feasible</i></p> <p>c) <i>Make good use of available spaces in the school and keep them clean</i></p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lessons.</p> <p><i>E.g. use of:</i> a) <i>work-based learning to provides opportunity for</i></p>	<p>knowledge of educational framework and curriculum to resolve them.</p> <p><i>E.g.</i> Possible gaps: a) <i>Lack of regulations to guide learners and teachers' activities in the studios, kitchens, workshops or in the farms</i></p> <p>b) <i>Absence of attendants at the studios, kitchens, workshops and in the farms to assist the teacher</i></p> <p>Possible Solution: a) <i>Develop safety rules in the studios, kitchens, workshops or in the farms together with learners</i></p> <p>b) <i>Train learners to assist you in the studios, kitchens, workshops or in the farms where it will be feasible</i></p> <p>3.3 Suggest alternative ways of delivering the sample lessons.</p> <p><i>E.g. use of:</i> a) <i>work-based learning to provides opportunity for learners to engage in Hands-on-activities in</i></p>
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	<p><i>learners to engage in Hands-on-activities in maintain and cleaning the studios, kitchens, workshops or the farms</i></p> <p><i>b) pre-recorded video to show how variety of TVET studios, kitchens, workshops or farms safety rules apply</i></p> <p><i>c) library/internet resources and mass media discussions on safety practices in the studios, kitchens, workshops and the farms</i></p> <p><i>d) field trip/ community walks to observe best practices in studios, kitchens, workshops or in the farms elsewhere.</i></p> <p><i>e) use of resource persons to organize demonstration lessons</i></p>	<p><i>maintain and cleaning the studios, kitchens, workshops or in the farms</i></p> <p><i>b) pre-recorded video to show how variety of TVET studios, kitchens, workshops or farms safety rules apply</i></p> <p><i>c) library/internet resources and mass media discussions on safety practices in the studios, kitchens, workshops and the farms</i></p>	
	<p>3.4 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <p><i>a) classroom arrangement to promote group and teamwork among learners of different socio-</i></p>	<p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness,</p> <p><i>E.g.</i></p> <p><i>a) classroom arrangement to promote group and teamwork among learners of different socio-economic and religious background.</i></p>	

	<p><i>economic and religious background.</i></p> <p>b) <i>mixed ability/gender groupings to facilitate the development of collaborative skills</i></p> <p>c) <i>non-stereotype role-play to dispel social stereotyping among learning</i></p> <p>d) <i>using positive language to give feedback to encourage active involvement of learners especially female and SEN learners.</i></p> <p>e) <i>engage learners to set up classroom rules and routine to prevent unwanted behaviour among learners during practical activities</i></p> <p>3.5 Ask teachers (in their domain groups where possible) to suggest authentic assessment methods that could be used in the sample lesson.</p> <p>E.g.</p> <p>a) <i>Jury to promote self-appraisal among learners.</i></p> <p>b) <i>Peer assessment</i></p> <p>c) <i>Observation and hands-on-activity in safety, protection and cleaning of studios, kitchens, workshops and farms, etc.</i></p> <p>d) <i>Portfolio</i></p>	<p>b) <i>mixed ability/gender groupings to facilitate the development of collaborative skills.</i></p> <p>c) <i>non-stereotype role-play to dispel social stereotyping among learning</i></p> <p>3.5 In your domain groups (where possible) to suggest authentic assessment methods that could be used in the sample lesson.</p> <p>E.g.</p> <p>a) <i>jury to promote self-appraisal among learners.</i></p> <p>b) <i>observation and hands-on-activity in safety, protection and cleaning of studios, kitchens, workshops and farms, etc.</i></p>	
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	<p>3.6 Ask teachers to discuss how the session topic makes use of resources to support relevant activities in the NTS.</p> <p><i>E.g.</i></p> <p>a) <i>Adaptation of empty/available spaces for model farms, kitchens, workshops and studios.</i></p> <p>b) <i>Pre-recorded videos, photographs of some professionals, smart boards, OERs/Internet facilities, projectors, etc.</i></p> <p>3.7 Invite one teacher to model a sample lesson in any of the TVET domains taking due cognizance of the learning environment. (Extension Activity)</p>	<p>3.6 Discuss how the session makes use of resources to support relevant activities in the NTS.</p> <p><i>E.g.</i></p> <p><i>Adaptation of empty/available spaces for model farms, kitchens, workshops and studios.</i></p> <p>3.7 Model a sample lesson in any of the TVET domains taking due cognizance of the learning environment. (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Ask teachers in their TVET domain to write and share what they have learnt in the session on a flip chat.</p> <p>4.2 Ask if teachers they need any further clarification</p> <p>4.3 Remind teachers to invite a critical friend to observe them in teaching their lessons in relation to PLC Session 8 and provide feedback at the next PLC session.</p> <p>4.4 Remind teachers to read Session 9 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 In your TVET domain, write and share what you have learnt in the session on a flip chat</p> <p>4.2 Ask questions on any issue that need further clarification.</p> <p>4.3 Invite a critical friend to observe you in teaching your lessons in relation to PLC Session 8 and provide feedback at the next PLC session.</p> <p>4.4 Read Session 9 from the PLC Handbook in preparation for the next session.</p>	15 mins

TVET PLC Session 9: Teaching and Learning

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Invite a teacher to give an ice breaker related to the topic.</p> <p>1.2. Ask teachers to share some of the discoveries in their last week's lesson delivery.</p> <p>1.3 Ask a teacher to read NTS 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l of the NTS under the sub-domain <i>Teaching and Learning</i>, tease out possible learning outcomes (LOs) and learning indicators (LIs) for the session and compare them with the LOs and Lis listed below.</p> <p>LO 1: Demonstrate understanding and skill in using variety of teaching strategies that encourages learner participation and critical thinking.</p> <p>LI 1.1 identify at least four teaching strategies in teaching and learning.</p>	<p>1.1 Give an ice breaker related to the topic.</p> <p>1.2 Share some of the discoveries in you last week's lesson delivery.</p> <p>1.3 Read NTS 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l of the NTS under the sub-domain <i>Teaching and Learning</i>, tease out possible learning outcomes (LOs) and learning indicators (LIs) for the session and compare them with the LOs and Lis listed below.</p> <p>LO 1: Demonstrate understanding and skill in using variety of teaching strategies that encourages learner participation and critical thinking.</p> <p>LI 1.1 identify at least four teaching strategies in teaching and learning.</p>	25 mins

	<p>LI 1.2 Explain how teaching strategies will help learner participation and critical thinking. ref. https://flippedlearning.org</p> <p>LO 2: Demonstrate the skill of involving all learners including girls and SEN learners.</p> <p>LI 2.1 Explain how all learners especially girls and learners with SEN can be involved in teaching and learning process.</p> <p>LI 2.2 Identify at least five teaching and learning resources that could help learners especially girls and SEN to ensure their progression.</p> <p>LO 3: Demonstrate knowledge and skill of using a variety of teaching and learning resources including ICT that enhance learning</p> <p>LI 3.1 Identify at least five teaching and learning resources.</p> <p>LI 3.2 Examine how the teaching and learning resources including ICT will enhance learning.</p> <p>1.4 Guide teachers to identify and discuss how TVET knowledge (as it</p>	<p>LI 1.2 Explain how teaching strategies will help learner participation and critical thinking. ref. https://flippedlearning.org</p> <p>LO 2: Demonstrate the skill of involving all learners including girls and SEN learners.</p> <p>LI 2.1 Explain how learners especially girls and SEN can be involved in teaching and learning.</p> <p>LI 2.2 Identify at least five teaching and learning resources that could help learners especially girls and SEN to ensure their progression.</p> <p>LO 3: Demonstrate knowledge and skill of using a variety of teaching and learning resources including ICT that enhance learning.</p> <p>LI 3.1 Identify at least five teaching and learning resources.</p> <p>LI 3.2 Examine how the teaching and learning resources including ICT will enhance learning.</p> <p>1.4 Identify and discuss how TVET knowledge (as it relates the</p>	
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	<p>relates the various domains) is articulated within teaching and learning activities in the SHS syllabus (NTS 2a, 2e and 3h).</p> <p><i>E.g.</i></p> <p><i>The 2010 SHS Syllabus in the various TVET domains is designed to equip learners with scientific knowledge and practical skills to make them ready for higher education and the job market.</i></p> <p>1.5 Ask teachers to identify specific teaching and learning strategies that enhance the delivery of TVET lessons (NTS 2c, 2d, 2e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Competency Based Training (CBT)</i> <i>b) Experiments</i> <i>c) educational field trip</i> <i>d) Simulated games</i> <i>e) Project based learning</i> <i>f) Flipped classrooms</i> <i>g) Design thinking,</i> <i>h) Reverse brainstorming etc.</i> 	<p>various domains) is articulated within teaching and learning activities in the SHS syllabus (NTS 2a, 2e and 3h).</p> <p><i>E.g.</i></p> <p><i>The 2010 SHS Syllabus in the various TVET domains is designed to equip learners with scientific knowledge and practical skills to make them ready for higher education and the job market.</i></p> <p>1.5 Identify specific teaching and learning strategies that enhance the delivery of TVET lessons (NTS 2c, 2d, 2e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Competency Based Training (CBT)</i> <i>b) Experiments</i> <i>c) educational field trip</i> <i>d) Simulated games, etc.</i> 	
Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.	<p>1.6 Ask teachers to identify possible misconceptions and stereotypes in their various TVET lesson topics for the week (NTS 3m).</p>	<p>1.6 Identify possible misconceptions and stereotypes in your TVET lesson topics for the week (NTS 3m).</p>	

	<p><i>E.g.</i> <i>Lesson Topic: Enterprise Management in:</i> <i>a) Agriculture</i> <i>b) Home Economics</i> <i>c) Technical Skills</i> <i>d) Visual art</i></p> <p><i>Possible misconceptions and stereotypes</i> <i>a) Home Economics: One requires a lot of money to start up a business.</i> <i>b) Visual Art: it is difficult to break into the existing business environment.</i> <i>c) Agriculture: You have to start with mechanized farming to be able to make profit.</i> <i>d) You need sophisticated machinery in Technical skills careers.</i></p> <p>1.7 Guide teachers to discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p> <p><i>E.g.</i> <i>a) Invite someone who has nurtured and grown a business to share his experience with students.</i> <i>b) Educate students on business incubation.</i> <i>c) Do community walk to expose students to the</i></p>	<p><i>E.g.</i> <i>Lesson Topic: Enterprise Management in:</i> <i>a) Agriculture</i> <i>b) Home Economics</i> <i>c) Technical Skills</i> <i>d) Visual art</i></p> <p><i>Possible misconceptions and stereotypes</i> <i>a) Home Economics: One requires a lot of money to start up a business.</i> <i>b) Visual Art: it is difficult to break into the existing business environment.</i> <i>c) Agriculture: You have to start with mechanized farming to be able to make profit.</i> <i>d) You need sophisticated machinery in Technical skills careers.</i></p> <p>1.7 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p> <p><i>E.g.</i> <i>a) Invite someone who has nurtured and grown a business to share his experience with students.</i> <i>b) Educate students on business incubation.</i> <i>c) c. Do community walk to expose</i></p>	
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	<p><i>contribution of TVET to society</i></p> <p>d) <i>Organize field trips for students to visit the business incubation centers.</i></p> <p>1.8 Ask teachers in their TVET domains to list some 21st century skills.</p> <p><i>E.g.</i> <i>communication skills, taking calculated risk, selling, observation and enquiry skills, creativity, strategies, personal development and leadership skills (NTS 3j).</i></p> <p>1.9. Ask teachers to identify ways of incorporating ICT in their lesson (NTS 3j).</p> <p><i>E.g.</i> a) <i>Analyze labels to get business ideas.</i> b) <i>Surf open educational resources (OERs) and other internet sources for information.</i> c) <i>Teach using power Point presentation.</i> d) <i>employ computer software such AutoCAD, Photoshop, Coral Draw, Paint,</i> e) <i>Teacher, interact and monitor with students' extended learning via social media platforms</i></p>	<p><i>students to the contribution of TVET to society</i></p> <p>d) <i>Organize field trips for students to visit the business incubation centers.</i></p> <p>1.8 In your TVET domains list some 21st century skills.</p> <p><i>E.g.</i> <i>communication skills, taking calculated risk, selling, observation and enquiry skills, creativity, strategies, personal development and leadership skills (NTS 3j).</i></p> <p>1.9. Identify ways of incorporating ICT in your lesson (NTS 3j).</p> <p><i>E.g.</i> a) <i>Analyze labels to get business ideas.</i> b) <i>Surf open educational resources (OERs) and other internet sources for information.</i> c) <i>Teach using power Point presentation.</i> d) <i>Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc.</i></p>	
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	<p><i>f) Students to submit their assignments through email etc.</i></p> <p>1.10 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners such as <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development</i> (NTS 3a, 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Group students to do PowerPoint presentation.</i> <i>b) project/research</i> <i>c) Role-play</i> <i>d) Fieldtrip</i> <i>e) Panel presentation</i> 	<p>1.10 Discuss possible activities you would adopt to develop the 21st century skills in your learners such as <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development</i> (NTS 3a, 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Group students to do PowerPoint presentation.</i> <i>b) Project/research</i> <i>c) Role-play</i> <i>d) Fieldtrip</i> <i>e) panel presentation</i> 	
<p>2 Planning for teaching, learning and assessment activities for the lesson/s with links to the TVET curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains and use their knowledge in teaching and learning to deliver the lessons*</p> <p><i>Sample Lesson Topics in the TVET domain:</i></p> <p><i>Topic: Entrepreneurial skills</i> <i>Sub-topic: Enterprise Management in visual Art, Home Economics, Agriculture and Technical skills.</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p>	<p>2.1 Discuss samples of their lesson plans in their various TVET domains and use their knowledge in teaching and learning to deliver the lessons</p> <p><i>Sample Lesson Topics in the TVET domain:</i></p> <p><i>Topic: Entrepreneurial skills</i> <i>Sub-topic: Enterprise Management in visual Art, Home Economics, Agriculture and Technical skills.</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p>	<p>20 mins</p>

	<p>i. <i>Mention at least four business enterprises.</i></p> <p>ii. <i>State at least three factors to consider when setting up business enterprise.</i></p> <p>iii. <i>Identify the elements of the business plan.</i></p> <p>b) Core activities</p> <p>i. <i>Guide learners in their groups to surf and discuss business enterprises they identified.</i></p> <p>ii. <i>Guide learners to state and discuss factors to consider when setting up a business enterprise in their various groups.</i></p> <p>iii. <i>In groups, guide learners to surf and discuss elements of business plans for presentation.</i></p> <p>c) Evaluation <i>Evaluate the lesson by using question and answer method.</i></p> <p><i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Ask teachers to tease LOs and LIs from sample lessons.</p>	<p>i. <i>Mention at least four business enterprises.</i></p> <p>ii. <i>State at least three factors to consider when setting up business enterprise.</i></p> <p>iii. <i>Identify the elements of the business plan.</i></p> <p>b) Core activities</p> <p>i. <i>Guide learners in their groups to surf and discuss business enterprises they identified.</i></p> <p>ii. <i>Guide learners to state and discuss factors to consider when setting up a business enterprise in their various groups.</i></p> <p>iii. <i>In groups, guide learners to surf and discuss elements of business plans for presentation.</i></p> <p>c) Evaluation <i>Evaluate the lesson by using question and answer method.</i></p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Ask teachers to tease LOs and LIs from sample lessons</p>	
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	<p><i>E.g.</i> <i>LO: Exhibit the essential skills of managing Enterprise in TVET.</i></p> <p><i>LI 1.1 Mention at least four TVET based business enterprises.</i></p> <p><i>LI 1.2 State at least three factors to consider when setting up a TVET based business enterprise.</i></p> <p><i>LI 1.3 Identify the elements of the business plan.</i></p>	<p><i>E.g.</i> <i>LO: Exhibit the essential skills of managing Enterprise in TVET.</i></p> <p><i>LI 1.1 Mention at least four TVET based business enterprises.</i></p> <p><i>LI 1.2 State at least three factors to consider when setting up a TVET based business enterprise.</i></p> <p><i>LI 1.3 Identify the elements of the business plan</i></p>	
<p>3 Teaching, learning and assessment</p> <p>Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making explicit links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and</p>	<p>3.1 Guide teachers to identify gaps in their lesson plans (if any) and use their knowledge of teaching and learning to resolve them (NTS 2e, 2f and 2j).</p> <p><i>E.g.</i> <i>Possible gaps:</i></p> <ul style="list-style-type: none"> <i>a) Lack of well-established TVET enterprises in the local community.</i> <i>b) Inadequate resource persons in the field of TVET business to speak on entrepreneur issues.</i> <i>c) Inadequate ICT tools to promote teaching and learning of TVET related business skills.</i> <p><i>Possible Solution:</i></p> <ul style="list-style-type: none"> <i>a) Teachers should make creative use of available resources</i> 	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of teaching and learning to resolve them (NTS 2e, 2f and 2j)..</p> <p><i>E.g.</i> <i>Possible gaps:</i></p> <ul style="list-style-type: none"> <i>a) Lack of well-established TVET enterprises in the local community.</i> <i>b) Inadequate resource persons in the field of TVET business to speak on entrepreneur issues.</i> <i>c) Inadequate ICT tools to promote teaching and learning of TVET related business skills.</i> <p><i>Possible Solution:</i></p> <ul style="list-style-type: none"> <i>a) Teachers should make creative use of available</i> 	30 mins

<p>identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed 	<p><i>within the environment.</i></p> <p>b) <i>Teachers should make use of basic gadgets like mobile phones and laptops to promote ICT in the absence of sophisticated equipment.</i></p> <p>3.2 Ask teachers to suggest alternative ways of delivering the sample lessons (NTS 2h, 2i and 2j).</p> <p><i>E.g. use of:</i></p> <ul style="list-style-type: none"> a) <i>pre-recorded video to show variety of enterprise management</i> b) <i>library/internet resources and discussions</i> b) <i>field trip</i> c) <i>community walk</i> d) <i>use of local or indigenous entrepreneur mentors</i> e) <i>use of enterprise management test.</i> f) <i>use of experiential learning etc.</i> <p>3.3 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>classroom arrangement</i> b) <i>mixed ability/gender groupings</i> c) <i>non-stereotype role play</i> 	<p><i>resources within the environment.</i></p> <p>b) <i>Teachers should make use of basic gadgets like mobile phones and laptops to promote ICT in the absence of sophisticated equipment.</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 2h, 2i and 2j).</p> <p><i>E.g. use of:</i></p> <ul style="list-style-type: none"> a) <i>pre-recorded video to show variety of enterprise management</i> b) <i>library/internet resources and discussions</i> b) <i>field trip</i> c) <i>community walk</i> d) <i>use of local or indigenous entrepreneur mentors, etc.</i> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>classroom arrangement</i> b) <i>mixed ability/gender groupings</i> c) <i>non-stereotype role</i> 	
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<p>to support learning</p>	<p><i>d) using positive feedback to students especially female and SEN students.</i></p> <p><i>e) use of local entrepreneurs who have defied stereotyping/ stigma to succeed in TVET business as mentors and resource persons to inspire learners</i></p> <p>3.4 Ask teachers to discuss resources that can be used to support teaching and learning in the sample lesson NTS (NTS 3j).</p> <p><i>E.g.</i> <i>Pre-recorded videos, photographs of some entrepreneurs, OERs/internet facilities, projectors, etc.</i></p> <p>3.5 Ask a teacher to model a teaching activity in the sample lesson in any of the TVET domain taking due cognizance of any of the LO and LIs of the PLC session. (Extension Activity)</p>	<p><i>play</i></p> <p><i>d) using positive feedback to students especially female and SEN students.</i></p> <p>3.4 Discuss resources that can be used to support teaching and learning in the sample lesson NTS (NTS 3j).</p> <p><i>E.g.</i> <i>Pre-recorded videos, photographs of some entrepreneurs, OERs/internet facilities, projectors, etc.</i></p> <p>3.5 Model a teaching activity in the sample lesson in any of the TVET domain taking due cognizance of any of the LO and LIs of the PLC session. (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Ask teachers in pairs to share what they have learnt in the session</p> <p>4.2 Invite the pair to share it with the larger group.</p> <p>4.3 Ask teachers if there are any further questions for clarification.</p>	<p>4.1 In pairs, share what you have learnt in this session.</p> <p>4.2 Share with the larger group</p> <p>4.3 Ask questions on any issue that need further clarification.</p>	<p>15 mins</p>

<p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.4 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 9 and provide feedback at the next PLC session.</p> <p>4.5 Remind teachers to read Session 10 from the PLC Handbook in preparation for the next session.</p>	<p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 9 and provide feedback at the next PLC session.</p> <p>4.5 Read Session 10 from the PLC Handbook in preparation for the next session.</p>	
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TVET PLC Session for Topic 10: Assessment

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1. Invite a teacher to give an ice breaker related to the topic.</p> <p>1.2. Ask teachers to share some of the discoveries in their previous week's lesson delivery.</p> <p>1.3 Ask a teacher to read NTS 3k, 3l, 3m, 3n, 3o and 3p and tease out possible learning outcomes (LOs) and learning indicators and compare them with the LOs and Lis listed below (LIs) of the session for a.</p> <p>LO 1: Demonstrate knowledge and skill in identifying through assessment and addressing learners' learning difficulties and misconceptions.</p> <p>LI1.1 Identify at least four learning difficulties among learners of TVET.</p> <p>LI1.2 State and discuss ways of helping learners of TVET to overcome learning difficulties and misconceptions.</p> <p>LI 1.3 Make appropriate referral of learners with</p>	<p>1.1 Give an ice breaker related to the topic.</p> <p>2.1 Share some of the discoveries in your previous week's lesson delivery.</p> <p>1.3 Read NTS 3k, 3l, 3m, 3n, 3o and 3p and tease out possible learning outcomes (LOs) and learning indicators and compare them with the LOs and Lis listed below (LIs) of the session for a.</p> <p>LO 1: Demonstrate knowledge and skill in identifying through assessment and addressing learners' learning difficulties and misconceptions.</p> <p>LI1. 1 Identify at least four learning difficulties among learners of TVET.</p> <p>LI1.2 State and discuss ways of helping learners of TVET to overcome learning difficulties and misconceptions.</p> <p>LI 1.3 Make appropriate referral of learners with</p>	25 mins

	<p>learning difficulties to expertise attention.</p> <p>LO 2: Demonstrate skill in building meaningful records of learners using assessment and communicating same to the learners.</p> <p>LI 2.1 State the different types of assessment records of learners.</p> <p>LI 2.2 Keep a portfolio of students' works and progress report.</p> <p>LO 3: Demonstrate awareness of national and school level of assessment of learners.</p> <p>LI 3.1 Develop assessment plan to guide assessment activities.</p> <p>LI 3.2 Apply national and school based assessments tools at the appropriate time to enhance students' performance and progress.</p> <p>LO 4: Demonstrate skill in using objective and predetermined criteria to assess TVET learners without comparing learner with learner.</p> <p>LI 4.1 Identify the different tools/instruments to use in assessing and analyzing TVET students' results.</p> <p>LI 4.2 Analyze students results objectively without comparing learner with</p>	<p>learning difficulties to expertise attention.</p> <p>LO 2: Demonstrate skill in building meaningful records of learners using assessment and communicating same to the learners.</p> <p>LI 2.1 State the different types of assessment records of learners.</p> <p>LI 2.2 Keep a portfolio of students' works and progress report.</p> <p>LO 3: Demonstrate awareness of national and school level of assessment of learners</p> <p>LI 3.1 Develop assessment plan to guide assessment activities.</p> <p>LI 3.2 Apply national and school based assessments tools at the appropriate time to enhance students' performance and progress.</p> <p>LO 4: Demonstrate skill in using objective and predetermined criteria to assess TVET learners without comparing learner with learner.</p> <p>LI 4.1 Identify the different tools/instruments to use in assessing and analyzing TVET students' results.</p> <p>LI 4.2 Analyze students results objectively without comparing learner with</p>	
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	<p>learner to enhance learners' progress.</p> <p>1.5 Ask teachers to identify areas of assessment that will enhance their teaching (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p>a) Assessment as learning – self assessment, self-reflection, observing others and providing feedback, etc.</p> <p>b) Assessment for learning – Portfolio, library research.</p> <p>c) Assessment of learning – End of course project work and exhibition, etc.</p> <p>1.6 Ask teachers to identify other related areas of assessment that will enhance the delivery of the TVET curriculum (3i, 3n).</p> <p><i>E.g.</i></p> <p>a) observation b) jury c) peer-review d) self-assessment, e) peer-assessment, f) Exhibition, g) Appreciation, etc.</p>	<p>learner to enhance learners' progress.</p> <p>1.5 identify further areas of assessment that will enhance your teaching (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p>a) Assessment as learning – self assessment, self-reflection etc.</p> <p>b) Assessment for learning –Portfolio, library research</p> <p>c) Assessment of learning – End of course project work and exhibition, etc.</p> <p>1.6 Identify other related areas of assessment that will enhance the delivery of the TVET curriculum (3i, 3n).</p> <p><i>E.g.</i></p> <p>a) observation b) jury c) peer review, etc.</p>	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.7 Ask teachers to identify possible misconceptions and stereotypes in their various TVET lesson topics for the week (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>Lesson Topic: Project (end of course project work) in:</i></p> <p>a) Agriculture b) Home Economics c) Technical Skills d) Visual Art</p>	<p>1.7 Identify possible misconceptions and stereotypes in your various TVET lesson topics for the week (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>Lesson Topic: Project (end of course project work) in:</i></p> <p>a) Agriculture b) Home Economics c) Technical Skills d) Visual Art</p>	

	<p><i>Possible misconceptions and stereotypes</i></p> <ul style="list-style-type: none"> a) <i>perception from learners that project works are difficult to execute.</i> b) <i>Teachers' perception that project works are difficult to assess.</i> c) <i>some learners may find it difficult to undertake projects because of financial challenges.</i> <p>1.8 Guide teachers to discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Simplify the process by dividing the project execution plan into phases and provide a step-by-step approach to each phase.</i> b) <i>Provide project marking procedures and schemes to teachers</i> c) <i>Encourage learners to use local and zero cost materials for their projects.</i> d) <i>Encourage learners to work in mixed ability groups so that the haves can assist the have nots.</i> <p>1.9 Ask teachers in their TVET domains to list some 21st century skills (NTS 3j).</p> <p>E.g.</p> <p><i>communication skills, taking calculated risk, advertising, observation and enquiry skills, creativity, strategic planning, personal development and leadership skills</i></p>	<p><i>Possible misconceptions and stereotypes</i></p> <ul style="list-style-type: none"> a) <i>perception from learners that project works are difficult to execute.</i> b) <i>Teachers' perception that project works are difficult to assess.</i> <p>1.8 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Simplify the process by dividing the project execution plan into phases and provide a step-by-step approach to each phase.</i> b) <i>Provide project marking procedures and schemes to teachers</i> c) <i>Encourage learners to use local and zero cost materials for their projects.</i> <p>1.9 In your TVET domains to list some 21st century skills (NTS 3j).</p> <p>E.g.</p> <p><i>communication skills, taking calculated risk, advertising, observation and enquiry skills, creativity, strategic planning, personal development and leadership skills</i></p>	
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	<p>1.10. Ask teachers to identify ways of incorporating ICT in their lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Take pictures of learners' works for reflective assessment after onsite assessment.</i> <i>b) Surf open educational resources (OERs) and other internet sources for information on how to execute and assess project works.</i> <i>c) Teach using power Point presentation.</i> <i>d) Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint and other relevant tools ICT in teaching, executing and assessing project.</i> <i>e) Teacher interact and monitor learners' progress of work via social media platforms.</i> <i>f) Learners submit progress of their project work through electronic media, etc.</i> <p>1.11 Ask teachers to discuss possible activities they would adopt to develop the 21st century skills in their learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development (NTS 3a, 3e, 3h and 3j).</p>	<p>1.10. Identify ways of incorporating ICT in your lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Take pictures of learners' works for reflective assessment after onsite assessment.</i> <i>b) Surf open educational resources (OERs) and other internet sources for information on how to execute and assess project works.</i> <i>c) Teach using power Point presentation.</i> <i>d) Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint and other relevant tools ICT in teaching, executing and assessing project.</i> <p>1.11 Discuss possible activities you would adopt to develop the 21st century skills in your learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development (NTS 3a, 3e, 3h and 3j).</p>	
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	<p>E.g.</p> <ul style="list-style-type: none"> a) <i>Encourage learners to work in mixed ability/gender groups.</i> b) <i>Encourage creativity and innovation through research and thinking outside the box activities.</i> c) <i>Organize jury sessions to facilitate appreciation and criticism of one's own and peer's works</i> 	<p>E.g.</p> <ul style="list-style-type: none"> a) <i>Encourage learners to work in mixed ability/gender groups.</i> b) <i>Encourage creativity and innovation through research and thinking outside the box activities.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s with links to the TVET curriculum</p>	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains and link them to assessment *</p> <p><i>Sample Lesson Topics in the TVET domain:</i></p> <p><i>Topic: Project work in Visual Art, Home Economics, Agriculture and Technical skills.</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ul style="list-style-type: none"> i. <i>Identification of a challenge that require solution.</i> ii. <i>Design and produce artifact/a model farm in the various TVET domains.</i> iii. <i>Write a comprehensive project report including an appreciation of artifacts/model farms stating and explain any symbolisms used.</i> 	<p>2.1 Discuss Ask teachers to discuss samples of their lesson plans in their various TVET domains and link them to assessment *</p> <p><i>Sample Lesson Topics in the TVET domain:</i></p> <p><i>Topic: Project work in visual Art, Home Economics, Agriculture and Technical skills.</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ul style="list-style-type: none"> i. <i>Identification of a challenge that require solution.</i> ii. <i>Design and produce artifact/a model farm in the various TVET domains.</i> iii. <i>Write a comprehensive project report including an appreciation of artifacts/model farms stating and explain any symbolisms used.</i> 	<p>20 mins</p>

	<p>b) Core activities:</p> <ul style="list-style-type: none"> i. Guide learners to identify challenges that require solution in the community ii. Guide learners to design a solution using the ideation process. iii. Guide learners to execute the artifact/model farm, in the various TVET domains using a phase to phase and a step-by-step approach at each stage. iv. Guide learners in groups to write a project report including an appreciation of their artifact/farm. <p>c) Evaluation: Evaluate the lesson by organizing jury session, and an exhibition to help each learner to improve upon their own abilities.</p> <p><i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Ask teachers to tease out LOs and LIs from the sample lesson</p> <p><i>LO: Design and execute projects in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	<p>b) Core activities</p> <ul style="list-style-type: none"> i. Guide learners to identify challenges that require solution in the community ii. Guide learners to design a solution using the ideation process. iii. Guide learners to execute the artifact/model farm, in the various TVET domains using a phase to phase and a step-by-step approach at each stage. iv. Guide learners in groups to write a project report including an appreciation of their artifact/farm. <p>c) Evaluation: Evaluate the lesson by organizing jury session, and an exhibition to help each learner to improve upon their own abilities.</p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Tease out LOs and LIs from the sample lesson</p> <p><i>LO: Design and execute projects in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	
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	<p><i>LI 1.1 Design and produce:</i></p> <ul style="list-style-type: none"> <i>a. Agriculture - Model farm</i> <i>b. Home Economics – Garment design.</i> <i>c. Technical Skill – Design of a circuit with a light bulb.</i> <i>d. Visual Art - Collage</i> <p><i>LI 1.2 State the step-by-step procedure of executing the project.</i></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) identification of the problem</i> <i>b) undertake preliminary designs using the ideation process</i> <i>c) gathering of appropriate tools and materials</i> <i>d) Produce using the appropriate production processes and procedures</i> <i>e) complete the work taking note of finishing procedures and finishes</i> <i>f) exhibit the work</i> <p><i>LI 1.3 Write a project report including an appreciation of the artifact/farm</i></p>	<p><i>LI 1.1 Design and produce:</i></p> <ul style="list-style-type: none"> <i>i. Agriculture - Model farm</i> <i>ii. Home Economics – Garment design.</i> <i>iii. Technical Skill – Design of a circuit with a light bulb.</i> <i>iv. Visual Art – Collage</i> <p><i>LI 1.2 State the step-by-step procedure of executing the project.</i></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) identification of the problem</i> <i>b) undertake preliminary designs using the ideation process</i> <i>c) gathering of appropriate tools and materials</i> <p><i>LI 1.3 Write a project report including an appreciation of the artifact/farm.</i></p>	
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<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>3.2 Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>3.3 Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>3.4 Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support</p>	<p>3.1 Guide teachers to identify gaps in their lesson plans (if any) and use their knowledge of Assessment to resolve them (3k, 3o).</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <ul style="list-style-type: none"> <i>a) lack of well-established TVET workshops/kitchen and model farms in the school</i> <i>b) Inadequate time allocation on the school time table for elaborate project work</i> <i>c) Inadequate tools to promote teaching and learning.</i> <p><i>Possible Solution:</i></p> <ul style="list-style-type: none"> <i>a) Teachers should make creative use of available resources within the environment.</i> <i>b) Teachers may adopt after official class lessons and weekends where feasible to accomplish projects</i> <p>3.2 Ask teachers to suggest alternative ways of delivering the sample lessons (NTS 3e, 3g and 3i).</p> <p><i>E.g. use of:</i></p> <ul style="list-style-type: none"> <i>a) Pre-recorded video to show variety of enterprise management</i> <i>b) library/internet resources and discussions,</i> <i>c) field trip</i> 	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of Teaching of Assessment to resolve them (3k, 3o).</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <ul style="list-style-type: none"> <i>a) lack of well-established TVET workshops/kitchen and model farms in the school</i> <i>b) Inadequate time allocation on the school time table for elaborate project work</i> <i>c) Inadequate tools to promote teaching and learning.</i> <p><i>Possible Solution:</i></p> <ul style="list-style-type: none"> <i>a) Teachers should make creative use of available resources within the environment.</i> <i>b) Teachers may adopt after official class lessons and weekends where feasible to accomplish projects</i> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3e, 3g and 3i).</p> <p><i>E.g. use of:</i></p> <ul style="list-style-type: none"> <i>a) Pre-recorded video to show variety of enterprise management</i> <i>b) library/internet resources and discussions,</i> 	<p>30 mins</p>
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<p>student teacher learning</p> <p>3.5 Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>d) <i>community walk</i> e) <i>use of entrepreneur mentors</i> f) <i>use of enterprise management test,</i> g) <i>use of experiential learning etc.</i></p> <p>3.3 Ask teachers to review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p>E.g.</p> <p>a) <i>Duty roster for laboratory, studio, workshop and farm management.</i> b) <i>Mixed ability/gender groupings during project execution.</i> c) <i>Using positive feedback to learners especially female and SEN students.</i></p> <p>3.4 Ask teachers to discuss how the lesson is linked to the use of assessment tools and practices as assessment <i>for, as and of</i> learning (NTS 3k, 3l, 3m and 3n).</p> <p>E.g.</p> <p><i>How to score practical lessons</i></p> <p>a) <i>Develop a check list indicating stages of the process.</i> b) <i>Identify skill(s) that must be acquired.</i> c) <i>Determine scores for each stage depending on the</i></p>	<p>c) <i>field trip</i> d) <i>community walk</i> e) <i>use of entrepreneur mentors</i> f) <i>use of enterprise management test,</i> g) <i>use of experiential learning etc.</i></p> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p>E.g.</p> <p>a) <i>Duty roster for laboratory, studio, workshop and farm management.</i> b) <i>Mixed ability/gender groupings during project execution.</i></p> <p>3.4 Discuss how the lesson is linked to the use of assessment tools and practices as assessment <i>for, as and of</i> learning (NTS 3k, 3l, 3m and 3n).</p> <p>E.g.</p> <p><i>How to score practical lessons</i></p> <p>a) <i>Develop a check list indicating stages of the process.</i> b) <i>Identify skill(s) that must be acquired..</i> c) <i>Completed artefact must be scored on</i></p>	
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	<p><i>complexity of the skill.</i></p> <p><i>d) Completed artefact must be scored on the following criteria</i></p> <ul style="list-style-type: none"> ➤ <i>Evidence of Preliminary/idea development process</i> ➤ <i>Appropriate use of tools/material</i> ➤ <i>Draft/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works as in Visual Art, right and timely application of chemicals as in Agriculture, etc.)</i> ➤ <i>Originality/creativity</i> ➤ <i>Suitability (NB if the work is not suitable it means all other areas of evaluation may be faulty).</i> <p>3.5 In groups ask teachers to suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Portfolio</i> <i>b) Self-assessment</i> <i>c) Peer-assessment</i> <i>d) Exhibition</i> <p>3.6 Guide teachers to discuss how the session topic makes use of resources</p>	<p><i>the following criteria</i></p> <ul style="list-style-type: none"> ➤ <i>Evidence of Preliminary/idea development process</i> ➤ <i>Appropriate use of tools/material</i> ➤ <i>Draft/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works as in Visual Art, right and timely application of chemicals as in Agriculture, etc.)</i> ➤ <i>Originality/creativity</i> ➤ <i>Suitability (NB if the work is not suitable it means all other areas of evaluation may be faulty).</i> <p>3.5 Suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Portfolio</i> <i>b) Self-assessment</i> <i>c) Peer-assessment</i> <p>3.6 Discuss how the session makes use of resources to support</p>	
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	<p>to support relevant activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>surfing OERs/internet facilities, to assess ideas for designs as well as procedures and processes</i> b) <i>using Power Point to present reports,</i> c) <i>publishing finished works via social media, etc.</i> <p>3.7 Ask one teacher to model a teaching activity in the sample lesson in any of the TVET domains taking due cognizance of any of the LOs and LIs of the PLC session. (Extension Activity)</p>	<p>relevant activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>surfing OERs/internet facilities, to assess ideas for designs as well as procedures and processes</i> b) <i>using Power Point to present reports,</i> c) <i>publishing finished works via social media, etc.</i> <p>3.7 Model a teaching activity in the sample lesson in any of the TVET domains taking due cognizance of any of the LOs and LIs of the PLC session. (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Ask teachers in pairs to share what they have learnt in the session</p> <p>4.2 Invite the pair to share it with the larger group.</p> <p>4.3 Ask teachers if there are any further questions for clarification.</p> <p>4.4 Remind teachers to identify a critical friend to observe them in teaching their lessons in relation to PLC Session 10 and provide feedback at the next PLC session.</p> <p>4.5 Remind teachers to read Session 11 from the PLC Handbook in preparation for the next session.</p>	<p>4.1 In pairs, share what you have learnt in this session.</p> <p>4.2 Share with the larger group</p> <p>4.3 Ask questions on any issue that need further clarification.</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 10 and provide feedback at the next PLC session.</p> <p>4.5 Read Session 11 from the PLC Handbook in preparation for the next session.</p>	15 mins

TVET PLC Session 11: Training Needs

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i>	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>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Invite a teacher to give an ice breaker related to the topic.</p> <p>1.2 Ask teachers to share some of the discoveries in their last week's lesson delivery.</p> <p>1.3 Ask a teacher to read the background of the topic 'Training Needs of Teachers'.</p> <p>Note: <u>Background</u> <i>There are a number of skills and attributes a teacher needs to be effective in the classroom. These include:</i></p> <p>a) Discipline Skills: <i>Discipline helps the teacher to be effective. It is a vital component of an effective classroom management. The teacher's discipline ensures that positive behaviour is encouraged in classrooms.</i></p> <p>b) Classroom Management Skills: <i>By ensuring good behaviour of learners, half of the teacher's battle is won. To be an effective teacher, you should also be able to help</i></p>	<p>1.1 Give an ice breaker related to the topic.</p> <p>1.2 Share some of the discoveries in you last week's lesson delivery.</p> <p>1.3 Read the write-up about the background of the topic 'Training Needs of Teachers'.</p> <p>Note: <u>Background</u> <i>There are a number of skills and attributes a teacher need to be effective in the classroom. These include:</i></p> <p>a) Discipline Skills: <i>Discipline helps the teacher to be effective. It is a vital component of an effective classroom management. The teacher's discipline ensures that positive behaviour is encouraged in classrooms.</i></p> <p>b) Classroom Management Skills: <i>By ensuring good behaviour of learners, half of the teacher's battle is won. To be an effective teacher, you</i></p>	25 mins

	<p><i>learners develop good study and work habits. Good classroom management skills start with setting ground rules to stress the importance of classroom dignity.</i></p> <p>c) Observation Skills: <i>It is the prime responsibility of teachers to have a thorough understanding of the cognitive, emotional and social development of learners. Since a classroom is filled with learners coming from different parental backgrounds, it is beneficial for a teacher to be aware of the learning capabilities of different learners.</i></p> <p>d) Learner Engagement Skills: <i>Teachers handle a lot of learners with different mentalities towards learning. While some learners demonstrate keen interest in learning, others are distracted at the smallest provocation. Hence, to be called an effective teacher, you should develop learner engagement skills so that you can motivate your learners.</i></p> <p>e) Strong Communication Skills: <i>Teaching is all about communication. The ability of the teacher to</i></p>	<p><i>should also be able to help learners develop good study and work habits. Good classroom management skills start with setting ground rules to stress the importance of classroom dignity.</i></p> <p>c) Observation Skills: <i>It is the prime responsibility of teachers to have a thorough understanding of the cognitive, emotional and social development of learners. Since a classroom is filled with learners coming from different parental backgrounds, it is beneficial for a teacher to be aware of the learning capabilities of different learners.</i></p> <p>d) Learner Engagement Skills: <i>Teachers handle a lot of learners with different mentalities towards learning. While some learners demonstrate keen interest in learning, others are distracted at the smallest provocation. Hence, to be called an effective teacher, you should develop learner engagement skills so that you can motivate your learners.</i></p> <p>e) Strong Communication Skills: <i>Teaching is all about communication. The ability of the teacher to</i></p>	
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	<p><i>transmit information to the learner in a manner acceptable to each learner is key in the teaching and learning process. The teacher must take note of the fact that different learners process information differently. Hence, it is very important for a teacher to possess effective communication skills to be able to address the needs of the variety of learners under their care.</i></p> <p>f) Teaching Skills: <i>Teaching is described as a noble profession, it has the capacity to change the lives of learners for the better. Every effective teacher requires good inter-personal skills along with effective speaking and strong presentation skills. A teacher needs the following teaching skills to be effective in the classroom:</i></p> <ul style="list-style-type: none"> <i>i. deep content knowledge</i> <i>ii. different models of instructional strategies and assessment practices</i> <i>iii. knowledge of the learning and development of children and adults</i> <i>iv. clinical supervision skills</i> <i>v. the ability to model effective instructional and assessment practices</i> 	<p><i>transmit information to the learner in a manner acceptable to each learner is key in the teaching and learning process. The teacher must take note of the fact that different learners process information differently. Hence, it is very important for a teacher to possess effective communication skills to be able to address the needs of the variety of learners under their care.</i></p> <p>f) Teaching Skills: <i>Teaching is described as a noble profession, it has the capacity to change the lives of learners for the better. Every effective teacher requires good inter-personal skills along with effective speaking and strong presentation skills. A teacher needs the following teaching skills to be effective in the classroom:</i></p> <ul style="list-style-type: none"> <i>i. deep content knowledge</i> <i>ii. different models of instructional strategies and assessment practices</i> <i>iii. knowledge of the learning and development of children and adults</i> <i>iv. clinical supervision skills</i> <i>v. the ability to model effective instructional and assessment practices</i> 	
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	<p>g) Subject Matter Expertise: Every teacher has a specific area of specialization. Putting in years of teaching experience with the appropriate knowledge, skills and continuous professional development will enable teachers to be abreast of changes to the curriculum in their subject areas.</p> <p>h) Time Management Skills: It is easy to get carried away by different aspects of teaching, but it is important for teachers to ensure that the curriculum is completed within the pre-defined time frame. Teachers should therefore attach importance to the time taken by learners to complete their assignments. Teachers should also follow strategies to organize their working day around educational and other priorities.</p> <p>i) Planning Skills: A teacher should be able to clearly plan what the objectives for each lesson are. Planning ahead of time allows a teacher to be more confident about what he/she is going to teach.</p> <p>j) Passion and Positivity: Being passionate about teaching is a pre-requisite</p>	<p>g) Subject Matter Expertise: Every teacher has a specific area of specialization. Putting in years of teaching experience with the appropriate knowledge, skills and continuous professional development will enable teachers to be abreast of changes to the curriculum in their subject areas.</p> <p>h) Time Management Skills: It is easy to get carried away by different aspects of teaching, but it is important for teachers to ensure that the curriculum is completed within the pre-defined time frame. Teachers should therefore attach importance to the time taken by learners to complete their assignments. Teachers should also follow strategies to organize their working day around educational and other priorities.</p> <p>i) Planning Skills: A teacher should be able to clearly plan what the objectives for each lesson are. Planning ahead of time allows a teacher to be more confident about what he/she is going to teach.</p> <p>j) Passion and Positivity: Being passionate about teaching is a pre-</p>	
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	<p><i>for becoming an effective teacher. When you are passionate, you can learn from experience and there would be a constant search for methods to improve yourself as a teacher.</i></p> <p>k) Be a Team Player: <i>Every teacher should be an active member of a community of practice where they can draw on the expertise of others for the benefit of their learners. Learners on the other hand, would love to have teachers who are friendly and understand them rather than forcing them to learn. Working with learners as members of a team with a common goal and in a non-threatening manner would help them to contribute to the lesson while having fun.</i></p> <p>l) Patience: <i>Managing a classroom full of learners is not the easiest of jobs. There may be some learners who would test teachers' patience. Teachers should not lose their temper during such testing time in order to produce positive outcomes.</i></p> <p>Refer. https://www.edsys.in/8-skills-teachers-require-effective-teaching/ Retrieved 5/04/2022</p>	<p><i>requisite for becoming an effective teacher. When you are passionate, you can learn from experience and there would be a constant search for methods to improve yourself as a teacher.</i></p> <p>k) Be a Team Player: <i>Every teacher should be an active member of a community of practice where they can draw on the expertise of others for the benefit of their learners. Learners on the other hand, would love to have teachers who are friendly and understand them rather than forcing them to learn. Working with learners as members of a team with a common goal and in a non-threatening manner would help them to contribute to the lesson while having fun.</i></p> <p>l) Patience: <i>Managing a classroom full of learners is not the easiest of jobs. There may be some learners who would test teachers' patience. Teachers should not lose their temper during such testing time in order to produce positive outcomes.</i></p> <p>Refer. https://www.edsys.in/8-skills-teachers-require-effective-teaching/ Retrieved 5/04/2022</p>	
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	<p>1.4 Ask a teacher to read the appendix to the NTS which highlights the training needs of teachers, tease out possible learning outcomes (LOs) and learning indicators (LIs) and compare them with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate knowledge and understanding of the training needs of teachers under the various Ranks (1 to 6).</p> <p>LI 1.1 Identify the training needs of teachers under the various Ranks (1, 2, 3, 4, 5 and 6). Refer to the appendix to the NTS.</p> <p>LI 1.2 Identify ways of meeting the training needs at each of the Ranks, i.e. (1, 2, 3, 4, 5 and 6). Refer to the appendix to the NTS.</p> <p>LI 1.3 List the resources needed to achieve the training needs at each of the Ranks for TVET (NTS 1b, 1c and 3j).</p> <p>LO 2: Demonstrate understanding of the rationale for the needs at the various levels. Refer to the appendix to the NTS.</p> <p>LI 2.1 Identify the professional roles the teacher will be expected to play at the various levels (NTS 1g).</p> <p>LI 2.2 Discuss the interrelatedness of the</p>	<p>1.4 Read the appendix to the NTS which highlights the training needs of teachers, tease out possible learning outcomes (LOs) and learning indicators (LIs) and compare them with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate knowledge and understanding of the training needs of teachers under the various Ranks (1 to 6).</p> <p>LI 1.1 Identify the training needs of teachers under the various Ranks (1, 2, 3, 4, 5 and 6). Refer to the appendix to the NTS.</p> <p>LI 1.2 Identify ways of meeting the training needs at each of the Ranks, i.e. (1, 2, 3, 4, 5 and 6).</p> <p>LI 1.3 List the resources needed to achieve the training needs at each of the Ranks for TVET (NTS 1b, 1c and 3j).</p> <p>LO 2: Demonstrate understanding of the rationale for the needs at the various levels. Refer to the appendix to the NTS.</p> <p>LI 2.1 Identify the professional roles the teacher will be expected to play at the various levels (NTS 1g).</p> <p>LI 2.2 Discuss the interrelatedness of the</p>	
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	<p>roles teachers play at the various levels (Ranks 1, 2, 3, 4, 5 and 6).</p> <p>LI 2.3 Discuss how the roles played by teachers at the various ranks promote teaching and learning (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p>LO 3: Demonstrate the skill of identifying possible training avenues and how to avail oneself for capacity building (NTS 1a, 1e and 3a).</p> <p>LI 3.1 List possible training avenues that a TVET teacher can access for capacity building (NTS 1b).</p> <p>LI 3.2 Discuss how the avenues listed in LI 3.1 will facilitate training for TVET teachers (NTS 1b).</p> <p>1.5 Ask teachers to identify and list their own training needs in relation to the three main domains of the NTS (NTS 1a, 1b).</p> <p>a) <i>Professional values and attitudes.</i> E.g. i) <i>Comply with Ministry of Education and GES ethical codes</i> ii) <i>Compliance with national education policies and framework (NTS 1a, 1b, 1c, 1d, 1e, 1f and 1g).</i></p> <p>b) <i>Professional knowledge.</i> E.g.</p>	<p>roles teachers play at the various levels (Ranks 1, 2, 3, 4, 5 and 6).</p> <p>LI 2.3. Discuss how the roles played by teachers at the various levels to promote teaching and learning (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p>LO 3: Demonstrate the skill of identifying possible training avenues and how to avail oneself for capacity building (NTS 1a, 1e and 3a).</p> <p>LI 3.1 List possible training avenues that a TVET teacher can access for capacity building (NTS 1b).</p> <p>LI 3.2 Discuss how the avenues listed in LI 3.1 will facilitate training for TVET teachers (NTS 1b).</p> <p>1.5 Identify and list your own training needs in relation to the three main domains of the NTS (NTS 1a, 1b).</p> <p>a) <i>Professional values and attitude.</i> E.g. i) <i>Comply with Ministry of Education and GES ethical codes</i> ii) <i>Compliance to national education policies and framework (NTS 1a, 1b, 1c, 1d, 1e, 1f and 1g).</i></p> <p>b) <i>Professional knowledge.</i> E.g.</p>	
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	<p><i>Models of learning and development of children (NTS 2a, 2b, 2c, 2d, 2e and 2f).</i></p> <p><i>c) Professional practice.</i> <i>E.g.</i></p> <ul style="list-style-type: none"> <i>i. Different models of instructional strategies and assessment practices</i> <i>ii. Clinical supervision skills</i> <i>iii. Ability to model effective instructional and assessment practices</i> <i>iv. Model GESI compliance qualities in the classroom and beyond (NTS 1a, 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, 1m, 1n, 1o and 1p).</i> 	<p><i>Models of learning and development of children (NTS 2a, 2b, 2c, 2d, 2e and 2f).</i></p> <p><i>c) Professional practice.</i> <i>E.g.</i></p> <ul style="list-style-type: none"> <i>i. Different models of instructional strategies and assessment practices</i> <i>ii. Clinical supervision skills</i> <i>iii. Ability to model effective instructional and assessment practices</i> <i>iv. Model GESI compliance qualities in the classroom and beyond (NTS 1a, 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, 1m, 1n, 1o and 1p).</i> 	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.6 Ask teachers to identify possible misconceptions and stereotypes that affect training needs of the various TVET teachers (NTS 3m).</p> <p>Possible misconceptions and stereotypes</p> <ul style="list-style-type: none"> <i>a) The perception that many in-service training programmes are usually geared towards preparing the generalized teacher and not well suited for the TVET teacher</i> <i>b) The perception that pursuing further studies is expensive and must be borne by the employer</i> <i>c) Teachers think that going for in-service training and short courses is a waste of time and resources since it will not bring any</i> 	<p>1.6 Identify possible misconceptions and stereotypes that affect training needs of the various TVET teachers (NTS 3m).</p> <p>Possible misconceptions and stereotypes</p> <ul style="list-style-type: none"> <i>a) The perception that many in-service training programmes are usually geared towards the generalized teacher and not well suited for the TVET teacher</i> <i>b) The perception that pursuing further studies is expensive and must be borne by the employer</i> 	

	<p><i>immediate financial benefits (NTS 3h, 3l and 3j).</i></p> <p>1.7 Ask teachers to discuss possible ways to mitigate these misconceptions and stereotypes.</p> <p><i>E.g.</i></p> <p>a) <i>Encourage the formation of subject based associations to facilitate specialized in-service training for its members</i></p> <p>b) <i>Sensitize teachers on the values of self-development as a way of positioning oneself for better opportunities in the future (NTS 3m).</i></p> <p>1.8 Ask teachers to identify ICT skills training that would be useful for the TVET teacher (NTS 3j).</p> <p><i>E.g.</i></p> <p>q) <i>PowerPoint presentation skills</i></p> <p>b) <i>Skills in the use of software like AutoCAD, Paint, Photo Shop, Coral Draw, goggle classroom, zoom, Microsoft teams, smart board, web conferencing, webinars, etc.</i></p> <p>1.9 Ask teachers to list possible 21st century skills that could be acquired during in-service training/short courses (NTS 3c, 3e).</p> <p><i>E.g.</i></p> <p><i>communication skills, observation and enquiry</i></p>	<p>1.7 Discuss possible ways to mitigate these misconceptions and stereotypes.</p> <p><i>E.g.</i></p> <p>a) <i>Encourage the formation of subject based associations to facilitate specialized in-service training for its members</i></p> <p>b) <i>Sensitize teachers on the values of self-development as a way of positioning oneself for better opportunities in the future (NTS 3m).</i></p> <p>1.8 Identify ICT skills training that would be useful for the TVET teacher (NTS 3j).</p> <p><i>E.g.</i></p> <p>a) <i>PowerPoint presentation skills</i></p> <p>b) <i>Skills in the use of software like AutoCAD, Paint, Photo Shop, Coral Draw, goggle classroom, zoom, Microsoft teams, smart board, web conferencing, webinars, etc.</i></p> <p>1.9 List possible 21st century skills that could be acquired during in-service training/short courses (NTS 3c, 3e).</p> <p><i>E.g.</i></p> <p><i>communication skills, observation and enquiry</i></p>	
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	<i>skills, creativity, personal development and leadership skills, collaborative skills, digital literacy, life-long learning, critical thinking skills, etc.</i>	<i>skills, creativity, personal development and leadership skills, collaborative skills, digital literacy, life-long learning, critical thinking skills, etc.</i>	
2 Planning for teaching, learning and assessment activities for the lesson/s	<p>2.1 Ask teachers to discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS syllabus and linked to any of the LOs and LIs for the PLC session *.</p> <p>Sample Lesson Topics in the TVET domain:</p> <p><i>Topic: Project work in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p>Sub-Topic:</p> <ul style="list-style-type: none"> a) Agriculture - Model farms b) Home Economics – Garment design. c) Technical Skills – Design circuit with a light bulb d) Visual Art – Collage <p>a) Objectives: By the end of the lesson learners will be able to:</p> <ul style="list-style-type: none"> i. Identify at least four challenges to be addressed ii. Design suitable solutions following the ideation process iii. Execute the project using the appropriate tools, materials, procedures and processes iv. Exhibit finished products for a jury session 	<p>2.1 Discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS syllabus and linked to any of the LOs and LIs for the PLC session *.</p> <p>Sample Lesson Topics in the TVET domain:</p> <p><i>Topic: Project work in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p>Sub-Topic:</p> <ul style="list-style-type: none"> a. Agriculture - Model farms b. Home Economics – Garment design. c. Technical Skills – Design circuit with a light bulb d. Visual Art – Collage <p>a) Objectives: By the end of the lesson learners will be able to:</p> <ul style="list-style-type: none"> i. Identify at least four challenges to be addressed ii. Design suitable solutions following the ideation process iii. Execute the project using the appropriate tools, materials, procedures and processes iv. Exhibit finished products for a jury session 	20 mins

	<p><i>b) Core Activities</i></p> <ul style="list-style-type: none"> <i>i. In groups, guide learners to research and come out with challenges in their immediate environment</i> <i>ii. Guide learners through the ideation process to design appropriate solution(s) to resolve the challenges identified in (i) above</i> <i>iii. Guide learners to assemble appropriate tools and materials needed to execute the project</i> <i>iv. Guide learners with concept maps/flow chat/work plan/check list to execute the project paying attention to appropriate use of tools and materials</i> <i>v. Guide learners to write their project report/appreciation explaining any symbolisms used and their relevance to the work</i> <i>vi. Guide learners to exhibit the finished products for a jury session.</i> <p><i>c) Use jury session to evaluate the final project work.</i></p> <p><i>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p>	<p><i>b) Core Activities</i></p> <ul style="list-style-type: none"> <i>i. In groups, guide learners to research and come out with challenges in their immediate environment</i> <i>ii. Guide learners through the ideation process to design appropriate solution(s) to resolve the challenges identified in (i) above</i> <i>iii. Guide learners to assemble appropriate tools and materials needed to execute the project</i> <i>iv. Guide learners with concept maps/flow chat/work plan/check list to execute the project paying attention to appropriate use of tools and materials</i> <i>v. Guide learners to write their project report/appreciation explaining any symbolisms used and their relevance to the work</i> <i>vi. Guide learners to exhibit the finished products for a jury session.</i> <p><i>c) Use jury session to evaluate the final project work.</i></p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p>	
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	<p><i>Note: Refer to PLC Session 6 for assessment procedures for practical works</i></p> <p>2.2 Ask teachers to tease out the LOs and the LIs from their sample lesson plans as in (2.1).</p> <p><i>LO: Design and execute projects in Agriculture, Home Economics, Technical Skills and Visual Art (NTS 2b).</i></p> <p><i>LI 1.1 Identify a challenge in your immediate environment.</i></p> <p><i>LI 1.2 Design a suitable solution for the challenge identified in (1.1) above using the ideation process.</i></p> <p><i>LI 1.3 Exhibit artefacts /completed projects and portfolios in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p><i>LI 1.4 Organise a jury session to evaluate finished products</i></p> <p>2.3 List possible training needs that should be acquired to help deliver the sample lesson successfully, Refer to the appendix to the NTS (Rank 1, 2, 3, 4, 5 and 6)</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Portfolio development</i> <i>b) Project facilitation and supervision skills</i> <i>c) Project assessment techniques</i> <i>d) GESI implementation skills</i> 	<p><i>Note: Refer to PLC Session 6 for assessment procedures for practical works</i></p> <p>2.2 Tease out the LOs and the LIs from your sample lesson plans as in (2.1).</p> <p><i>LO: Design and execute projects in Agriculture, Home Economics, Technical Skills and Visual Art (NTS 2b)</i></p> <p><i>LI 1.1 Identify a challenge in your immediate environment.</i></p> <p><i>LI 1.2 Design a suitable solution for the challenge identified in (1.1) above using the ideation process.</i></p> <p><i>LI 1.3 Exhibit artefacts /completed projects and portfolios in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p>2.3 List possible training needs that should be acquired to help deliver the sample lesson successfully, Refer to the appendix to the NTS (Rank 1, 2, 3, 4, 5 and 6)</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Portfolio development</i> <i>b) Project facilitation and supervision skills</i> <i>c) Project assessment techniques</i> 	
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	<p>e) <i>Techniques in applying ICT in project execution, supervision and assessment</i></p> <p>f) <i>Organization of exhibition</i></p> <p>g) <i>Organization of a jury session, etc.</i></p>	d) <i>GESI implementation skills</i>	
<p>3 Teaching, learning and assessment</p> <p>Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>4.1 Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>4.2 Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>4.3 Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>4.4 Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PLC 	<p>3.1 Guide teachers to identify gaps in their lesson planning and delivery skills (if any) and use their knowledge of training needs to resolve them (NTS 1a, 2c).</p> <p><i>E.g.</i></p> <p>Possible gaps:</p> <ul style="list-style-type: none"> i. <i>Deficiency in portfolio development skills</i> ii. <i>Inadequate project facilitation and supervision skills</i> iii. <i>Unsuitable project assessment techniques</i> iv. <i>Poor GESI implementation</i> v. <i>Deficiency in ICT skills application to project execution, supervision and assessment, etc.</i> <p>Possible Solution:</p> <p>a) Educate teachers on how to build portfolios either in hard copy or in soft copy and identify the variety of items that can go into a portfolio in TVET such as:</p> <ul style="list-style-type: none"> i. <i>Sketches</i> ii. <i>Finished 2D/3D works</i> iii. <i>Scrap book</i> iv. <i>Cut out articles from magazines/newspapers, etc.</i> v. <i>Written projects/assignments</i> vi. <i>Downloads from the internet</i> vii. <i>PowerPoint presentations</i> viii. <i>Photographs/ videos, etc.</i> 	<p>3.1 identify gaps in your lesson planning and delivery skills (if any) and use your knowledge of training needs to resolve them (NTS 1a, 2c).</p> <p><i>E.g.</i></p> <p>Possible gaps:</p> <ul style="list-style-type: none"> i. <i>Deficiency in portfolio writing skills</i> ii. <i>Inadequate project facilitation and supervision skills</i> iii. <i>Unsuitable project assessment techniques</i> <p>Possible Solution:</p> <p>a) Educate teachers on how to build portfolios either in hard copy or in soft copy and identify the variety of items that can go into a portfolio in TVET such as:</p> <ul style="list-style-type: none"> i. <i>Sketches</i> ii. <i>Finished 2D/3D works</i> iii. <i>Scrap book</i> iv. <i>Cut out articles from magazines/newspapers, etc.</i> v. <i>Written projects/assignments</i> vi. <i>Downloads from the internet</i> vii. <i>PowerPoint presentations</i> 	30 mins

<p>Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used.</p> <p>○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning</p>	<p><i>Note: Portfolios should not exist only for assessment. They also constitute a private library for the learners' current and future use. Note also that portfolios are a necessary requirement for the scoring of any practical project work.</i></p> <p>b) Educate teachers on how to assess practical works. E.g.</p> <ol style="list-style-type: none"> <i>Develop a check list indicating stages of the process</i> <i>Identify skill(s) that must be acquired</i> <i>Determine scores for each stage depending on the complexity of the skill</i> <i>Completed artefact must be scored on the following criteria:</i> <ol style="list-style-type: none"> <i>Evidence of Preliminary/idea development processes</i> <i>Appropriate use of tools/material</i> <i>Draftmanship/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works)</i> <i>Originality</i> <i>Suitability</i> <p>3.2 Ask teachers to review their sample lesson plans to identify skills they will need to promote GESI</p>	<p>viii. <i>Photographs/ videos, etc.</i></p> <p><i>Note: Portfolios should not exist only for assessment. They also constitute a private library for the learners' current and future use. Note also that portfolios are a necessary requirement for the scoring of any practical project work.</i></p> <p>b) Educate teachers on how to assess practical works E.g.</p> <ol style="list-style-type: none"> <i>Develop a check list indicating stages of the process</i> <i>Identify skill(s) that must be acquired</i> <i>Determine scores for each stage depending on the complexity of the skill</i> <i>Completed artefact must be scored on the following criteria:</i> <ol style="list-style-type: none"> <i>Evidence of Preliminary/idea development processes</i> <i>Appropriate use of tools/material</i> <i>Draftmanship/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works)</i> <i>Originality</i> <i>Suitability</i> <p>3.2 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3m).</p>	
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The writing team was made up of the following contributors:

T-TEL TEAM	
Professor Jonathan Fletcher	T-TEL – Key Advisor, Teaching & Learning Partnerships
Dinah Adiko	T-TEL – Key Advisor, Gender Equality and Social Inclusion
Beryl Opong-Agyei	T-TEL – National Teacher Education Coordinator
Alberta Djaaba Tackie	T-TEL – Curriculum Development, Teaching and Learning Coordinator
Marjorie Tackie	T-TEL – Gender Equality and Social Inclusion Coordinator
Peter Chammik Jayom	T-TEL – University Coordinator
Lila Adom Yamuah	T-TEL – Education Advisor
Issahaku Fatawu Gbambegu	T-TEL – Secondary Education Transformation Programme (SETP) Coordinator
Roger Kwamina Aikins	GM – Commercial (Oversees design, print and distribution)
Rev Dr Nyuieko Avotri	Former Principal, Mampong Technical College of Education

WRITERS	INSTITUTIONS	WRITERS	INSTITUTIONS
Kobinah Sah Eghan	Bosome Senior High Technical School, Bosome	Suutor Helen	Lambussie Senior High School, Lambussie
Fredrick Affram	Ogyeedom Senior High Technical School, Gomoa Afransi	Sampson Dedey Baidoo	Benso Senior High Technical School, Benso
Atugiba John Aloba	Nabango Senior High Technical School, Nabango	Avole Baba Ansbert	Bolgatanga Senior High School, Bolgatanga
Mohammed Habibulai Alhassan	Walewale Vocational Technical Institute, Walewale	Miftaw Imoro	Gambaga Girls Senior High School, Gambaga
Patrick Gakpey	Ziavi Senior High Technical School, Ziavi	Benjamin Agyekum	Mangoase Senior High School, Mangoase
Jacob Moisob Gundow	Zabzugu Senior High School, Zabzugu	N-yalamba Jerry Njomoun	E.P Agric Senior High School, Tatale
Atubga Agamba	National Teaching Council, Accra	Bernard Kuug	National Teaching Council, Accra

Damah Robert Bagah	Upper West Regional Education Office – Wa	Robert N Basumah	Upper East Regional Education Office – Bolgatanga
Patricia Nyampong	District Education Office - Akuapem North	Isaac Yeboah	Ghana Education Service Headquarters
Hussein Mohammed	District Education Office - Tatale	Sayibu Mahamoud Sule	Northern Regional Education Office -Tamale
James K. Sampana	North East Regional Education Office – Walewale	Richard Ayithey	District Education Office - Gomoa Central
Kwame Kusi Agyekum	District Education Office - Bosome Freho	Mary Adjo Mawufemo. Dzansi	Municipal Education Office – Ho
Dr. Stephen Bani	Accra Technical University, Accra	Dr Ann Dodor	Takoradi Technical University, Takoradi
Kwaku Addo-Kissiedu	University for Development Studies, Tamale	Isaac Nkrumah	St. Vincent College of Education, Yendi
Joseph Aboyinga	Gambaga College of Education, Gambaga	Lovedele Adzo Tsotovor	SDA College of Education, Asokore Koforidua
Victor Alebna	St. John Bosco College of Education, Navrongo	Christopher Addo	Peki College of Education, Peki
Kafui Danku Diaba	Holy Child College of Education, Takoradi	Grace Annagmeng Mwini, Tumu	Tumu College of Education, Tumu
Samuel Takyi	Foso College of Education, Assin Fosu	Rev. Godwin Gbadagba	Dambai College of Education, Dambai
Edmond Dakora	McCoy College of Education, Nadowli		

