Tutor Professional Development Handbook: B.Ed. in Initial Teacher Education - TVET
Year 2 Semester 1

HANDBOOK FOR **TUTORS**

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T-TEL
Transforming Teaching, Education & Learning

Foreword

I am grateful that you are reading and using this Professional Development Handbook for the Bachelor of Education (B.Ed.) in Initial Teacher Education Year 2 Semester 1 courses.

These Professional Development Handbooks are at the heart of Ghana's ambitious teacher education reforms and have played a key role in the successes achieved to date. The Handbooks aim to ensure that tutors in Colleges of Education are reflecting critically on their methods of teaching and learning and supporting each other to implement the B.Ed. in line with the National Teacher Education Curriculum Framework and National Teacher Education Assessment Policy.

Tutors act as role models for student teachers. If tutors use the 'lecture-method' then this is what student teachers will imitate when they enter basic school classrooms. If tutors use a wide variety of interactive approaches, aligned with the National Teachers' Standards, then these approaches will become standard behaviour for beginning teachers when they graduate.

This latest set of Professional Development Handbooks, developed by four mentoring universities (Kwame Nkrumah University of Science and Technology, University of Education, Winneba, University for Development Studies and University of Ghana) and tutors from their affiliated Colleges of Education, are the first set of Handbooks which include specific cross cutting sessions in Gender, Equality and Social Inclusion (GESI) and Information and Communications Technology (ICT).

The introduction of GESI in these Handbooks is an important step forward in ensuring that our teacher education system is responsive and genuinely promotes equality and inclusion whilst the inclusion of ICT represents Ghana's aim of ensuring that all teachers and learners are digitally literate.

As with previous Handbooks I would like to take this opportunity to thank both the Ghana Tertiary Education Commission and Mastercard Foundation for their assistance and support in making this work possible.

Robin Todd
Executive Director, T-TEL

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CROSS-CUTTING GENDER, EQUALITY AND SOCIAL INCLUSION (GESI)

Tutor PD Session for Lesson 001 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to GESI	1.1 Read and discuss the introduction to (to GESI) and the learning outcomes below and provide your opinion on same. **Introduction to GESI:** a. **Purpose of GESI in the specialisms** 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 teacher educator, it is important that you understand the uniqueness of the diverse groups in the classroom and ensure that every individual is supported to attain quality education. Towards promoting equal opportunity for females and males as well as all other disadvantaged groups in the classroom, GESI in schools is being championed. You 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 college life and to encourage student teacher to do same during STS.	**20 mins**

	b. **Overview of GESI and related concepts** This session seeks to expose you to the concept GESI and related issues such as Gender, Equality, Equity etc to enable you appreciate issues of stereotypes and work towards challenging traditional gender roles as well as dealing with your own unconscious biases so you can attend to the diverse needs of all learners in the classroom and in the College. c. **Session learning outcomes** By the end of this session, you will be able to 　i.　demonstrate understanding of the concept GESI and related issues. 　ii.　apply these concepts in your teaching and general practices. 　iii.　support student teachers to understand GESI issues and how to apply them during STS. 1.2 Identify what the acronym GESI stands for and explain what it means. 1.3 In your subject groups, explain any <u>two concepts</u> related to GESI. (you may use your phones/laptops to search for how each concept is related to education from <u>www.google.com</u> Adapt differentiated approaches to explain concepts (sketches, role play, story etc). 1.2 Reflect on your understanding of GESI and justify its importance in education.	
2. Identification and discussion of new learning ● Potential barriers to learning for student teachers	2.1 Identify and discuss how the new GESI concepts you have acquired could be useful in your teaching and general school life. 2.2 Reflect individually, share with a colleague and then the entire group possible barriers to learning GESI for student teachers and how to address them. **Examples may include:** *Misconceptions: those certain roles are for specific gender; boys are brave and can dissect a rabbit and girls are good cooks than boys. This*	**15 mins**

	can be addressed by citing instances where girls demonstrate bravery and boys have been better cooks. ***Negative attitudes****: the perception that persons with SEN are low achievers. Address this by giving examples of persons with SEN who have excelled in various aspects of life (Hellen Keller, Professor Danaah)* (Tutors may share their experience of unfair treatment/unconscious biases that constitute barriers to GESI).	
3. Planning for teaching, learning and assessment activities for the lesson/s • Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills • GESI responsive assessment • Resources: ○ 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	3.1 Identify and discuss GESI responsive practices that support in creating GESI friendly school and classroom environments. (Reference to college context). *Eg. a) Involving men and women equally in decision making* 3.2 Brainstorm aspects of the basic school curriculum that need improvement in the area of GESI. *E.g. a) Play activities: girls and boys could play soccer and ampe.* 3.3 Identify strategies on how GESI, ICT, and 21st Century skills can be integrated in their specific subject areas. 3.4 identify and discuss possible strategies to make subjects projects and subject portfolios GESI responsive. *Eg. a) Equitable distribution of relevant resources for the subject projects* **Note:** Make conscious efforts to ensure GESI responsiveness in conducting continuous assessment for student teachers (eg subject project) 3.5 Identify and discuss the links to existing GESI resources such as the Gender Handbook for CoEs,	**30 mins**

	3.6 Read GESI resources for new ideas to improve your lesson preparation and classroom practice.	
4. Evaluation and review of session: • Tutors 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	4.1 Invite critical friend (male/female) to observe a lesson using the observation checklist and give feedback on next PD session. *Example: equal involvement of both males, females and SEN learners* 4.2 Pick and explain GESI concepts learnt giving examples in classroom and out of class situations. **Advance Preparation for lessons** 4.3 Read GESI related resources for new ideas to improve their lesson preparation and classroom practices.	**15 mins**

GESI Appendix 1 – UNDERSTANDING GENDER - TERMS AND CONCEPTS

Sex is aspect of one's biological makeup that depends on whether one is born with distinct male or female genitals and a genetic programme that releases either male or female hormones to stimulate the development of one's reproductive system. Sex is biologically defined. It is determined by birth. It is universal and unchanging.

Gender is simply the relationship between men and women and the roles and responsibilities they have in the society in which they live. It refers to the socially constructed differentiated roles assigned to both sexes, whereby both men and women are expected to conform to and perpetuate the roles and behaviors that have been assigned to them. Gender is socially constructed and differs between and within cultures. It is about the differences in roles, responsibilities, opportunities, needs and constraints of men and women.

Some Distinctive Features of Gender:
- Deals with the relationship between men and women
- Deals with the roles and responsibilities men and women are assigned by their society
- Both men and women are expected to conform to and perpetuate the roles and behaviors that have been assigned them
- It involves the ranking of traits and activities so that those associated with men are normally given greater value
- It is historical
- It is learned, and therefore can be unlearned
- It takes place within different macro and micro spheres such as the state, the labour market,
- schools, the media, the law, the family, household and interpersonal relations
- It interacts with race/ethnicity, age, disability, status, economic factors, etc. Meaning these factors may present different gender dynamics and expectations.

Gender Roles define what is considered appropriate for men and women within a given society. It also means socially assigned roles of men and women and informs the division of labour. It involves the relation to power (how it is used, by whom and how it is shared). It varies greatly from one culture to another and change over time. Gender roles may vary from one social group to another within the same culture.

Gender Relation refers to how men and women relate to each other, resulting in manifestations of gender based power. This arises from the roles men and women are expected to play and the impact of their interactions. The family is a good example, as men assume the earner and leader roles, women assume the domestic and care giving roles. These power relations are uneven because the male has more power in making decisions than females. If we do not conform to roles prescribed to us by society, we are seen to be deviant by society. Power relations always result in one party being worse off than the other

and create social imbalances. This means inequality between men and women that is acquired in the process of socialisation.

Gender Responsiveness refers to outcomes that reflect an understanding of gender roles and inequalities and which make an effort to encourage equal participation and equal and fair distribution of benefits.
Gender responsiveness is accomplished through gender analysis and gender inclusiveness. It means creating an environment that reflects an understanding of the realities of women and men's lives and address the issues accordingly. Being gender responsive means having the capacity to analyse a specific context from a gender perspective, to develop gender sensitive course outline, lesson notes, teaching learning materials and to allocate budgets in a gender-responsive way.

Gender Stereotyping refers to the practice of ascribing to an individual woman or man specific attributes, characteristics, or roles by reason only of her or his membership in the social group of women or men.

Gender Stereotype simply means the constant portrayal, such as in the media, conversation, jokes or books, of women and men occupying social roles according to a traditional gender role or division of labour. Gender stereotyping is wrongful when it results in a violation or violations of human rights and fundamental freedoms.

Equality refers to the equal rights, responsibilities and opportunities of men, women and persons with special education needs and disabilities. It pertains to equal distribution of resources and benefits and participation of women and men in all areas of society. It also means giving equal weight to the knowledge, experience and values of both women and men in society. Equality between men and women is a human rights issue and a pre-condition for sustainable development. It is based on the principle that, though men and women are not the same biologically, they are equal as human beings.

Equity is based on principle of fair share. It is a stage in the process of achieving equality. Equity refers to a fair sharing of resources, opportunities and benefits according to a given framework. It is one of the measures of equality, but not the only one. Equity is measurable and manifested in parity. Experience illustrates that equity is used instead of equality within institutions.

Equality vs Equity. Equality refers to similarity of treatment as it is legally, constitutionally and divinely given. It is a fundamental right. And it is often the goal. Equity is often viewed as a favour, whereas equality is a fundamental right.

Empowerment is a process through which women, men and persons with disability in disadvantaged positions increase their access to knowledge, resources, and decision-making power, and raise their awareness of participation in their communities, in order to reach a level of control over their own environment.

Gender Mainstreaming is the concept of bringing gender issues into the mainstream of society. It was established as a global strategy for promoting gender equality in the Platform

for Action adopted at the United Nations Fourth World Conference on Women held in Beijing in 1995. The conference highlighted the necessity to ensure that gender equality is a primary goal in all areas of societal development. In July 1997, the United Nations Economic and Social Council (ECOSOC) defined the concept of gender mainstreaming as follows: "Mainstreaming a gender perspective is the process of assessing the implications for women and men and persons with special education needs and disability of any planned action, including legislation, policies or programmes, in any area and at all levels. It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal of mainstreaming is to achieve gender equality".

Mainstreaming in education involves placing learners with special education needs and disability in a general education classroom with a special education teacher as a co-teacher giving them the same opportunities as other learners to access instruction, gain knowledge, and to participate in the academic and socializing environments that a school offer.

Inclusion is the process of valuing all individuals and leveraging their diverse talent, not despite their differences, but because of their differences. Inclusion requires a conscious effort to involve all human resources in the fabric and mission of the institution or school as a critical value addition.

Disempowerment is any action, policy development and/or relief program or process through which women's, men's and persons with disabilities priorities, needs and interests are further ignored, reducing their participation in decision- making and representing an obstacle to their economic, political and social improvement, or to their academic progress and growth attainment.

Patriarchy is an ideology and social system that propagates male supremacy or male power and superiority over women as natural. The operating premise is that men are biologically, intellectually and emotionally superior to women. Conversely, women are considered to be weak and dependent on men for protection, guidance, upkeep and general survival. The ideology is institutionalised through active formal and informal systems, backed up by ideas, beliefs, religion, practices and culture – and sometimes by force. A patriarchal ideology is the key factor in the structural gender inequality in most of our societies.

Gender Neutrality is the claim some people make when they want to present themselves as not practising gender-based discrimination. What it often masks, however, is the failure to take gender issues into consideration, and this can translate into discrimination against girls as it fails to pay attention to the distinct and special needs of girls and boys.

Gender blindness is the failure to recognise the differences between males and females and therefore leading to failure to provide for the differences.

Other concepts/ terminologies:
Marginalisation - exclusion in processes such as decision-making. This results in women's inability to articulate their needs and interests.

Discrimination - differential treatment based on factors over which an individual has no control, e.g. sex, disability, socio-economic status, tribe, nationality, race, etc.

Objectification - assignment of less than human status and treatment to women. Infantilisation - categorising women with children, i.e. having no legal decision making powers, voting rights or capacity to enter into contracts.

Dispossession - through patriarchal systems of property inheritance, where is some cultures women are not allowed to inherit wealth.
Segregation occurs when students with disabilities are educated in separate environments (classes or schools) designed for students with impairments or with a particular impairment.

Exclusion occurs when an individual or group is denied the right to access (facilities, education) or participate in educational or social activity on the bases of ability, gender, health or social status.

Value Assignment - determining a woman's value by the sex and number of children she bears.

Violence - physical, mental and emotional abuse, which is culturally accepted as correcting a wife or harmful practices such as female genital mutilation to subdue female sexual urge

Poor refers to households or persons who consume an average of less than 2,220 calories of food per person per day. (according to Nepal Living Standard Survey, 2010/11)

Vulnerable Groups refer to groups that experience a higher risk of poverty and social exclusion than the general population. Ethnic minorities, migrants, person with disabilities, the homeless, those struggling with substance abuse, isolated elderly people and children all often face difficulties that can lead to further social exclusion, such as low levels of education and unemployment or underemployment.

Gender Impact Analysis/Assessment examines policies and practices to ensure they have beneficial effects on women and men. It identifies the existence and extent of differences between women and men and the implications of these differences for specific policy areas.

Social Exclusion describes the experience of groups that are systematically and historically disadvantaged because of discrimination based on gender, ethnicity or religion.

Gender Responsive Budget refers to government planning, programming and budgeting that contributes to the advancement of gender equality and the fulfillment of women's rights. It entails identifying and reflecting interventions to address gender gaps in sector and local government policies, plans and budgets.

Disaggregated Data refers to distinguishing men and women, ethnic minorities, people with disability, people with HIV and other excluded people in the data to reveal quantitative differences between them.

Why the need for GESI in education?

The need to deliberately address gender and inclusion in the classroom arises because, over time, the classroom and school environment have been skewed in ways that condone gender bias and promote exclusion. Below are examples of practices in the classroom that reinforce traditional gender roles and stereotypes:
   a. Male characters are often represented than females in TLMs
   b. Textbooks have more males than females in illustrations
   c. Illustrations in TLMs often portray gender stereotypes (male CEO and decision makers, females in domestic roles etc.)
   d. Persons with disability are underrepresented
   e. When persons with disability are featured, they are portrayed with negative stereotypes
   f. (Cursed, beggars or burden on society)
   g. Use of male pronouns to represent everyone (ignoring the existence of females)
   h. Persons with disability are identified by their disability. Often their disability is put before them – for example, deaf man, "handicapped" child, blind girl etc

Some misconceptions of GESI in Schools and out of Schools and how to address them
   a. GESI seeks to favour women
   b. GESI affects the learning outcomes of the "normal" learner
   c. Society thinks education is for men
   d. Concerns only persons with disabilities
   e. Quality inclusion is expensive
   f. Only schools are responsible for the implementation of GESI
   g. Persons with disability cannot cope in mainstream school.
   h. Disability is contagious

Ways the misconceptions can be addressed
These can be addressed through:
   • Behavior change communication approaches
   • Continued sensitization and advocacy of GESI
   • Mainstreaming GESI responsiveness in school and community practices and activities

Barriers that hinder GESI and how to address them in and out of schools
   a. Infrastructural barriers such as inaccessible school facilities
   b. Curriculum barriers such as deficient resources and learning materials for learners
   c. attitudinal barriers such as insensitivity and discrimination by teachers, parents, peers and the society at large
   d. Pedagogical barriers such as teachers not having necessary knowledge and skills on GESI responsive pedagogy.
   e. Public misconception of what GESI seeks to achieve
   f. Large class size especially in the basic schools

g. Unavailability of relevant teaching and learning resources
h. Lack of expert support for the regular class teacher

Ways the barriers can be addressed
These can be addressed through:
- GESI responsive infrastructure
- GESI responsive teacher education curriculum (include basic braille and sign language)
- Continuous advocacy
- Training teachers on GESI responsive pedagogies
- Train and deploy more special education teachers to the regular schools
- Provide relevant TLR for use in schools

Appendix 2 – GESI Observation Tool
A. Silent Tears
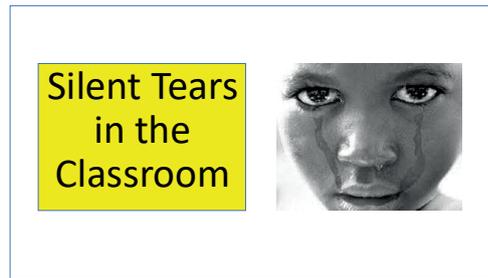
- Tears always fill me, but I can't pour them because no one understands me
- My parents can't even understand me because my teachers make them believe I am good for nothing
- I thought my parents will tell them that I repair all the electrical appliances in the house without any training
- Who will hear me now because myself and many who are like me are being destroyed?
- Who will help tell them that even though we might not be able to get the certificate we have great talents?
- Who will help tell teachers that they should not force their dreams on us but guide us nurture our God given talents?
- Who will hear our cry? I am one of the voices of the many silent voices in the class
- I wish I can be bold to tell my teachers that I must be understood and not compared
- My maths teachers say I'm good for nothing because I'm not good in calculations
- My science teachers say am useless because I can't express myself fluently in the white man's language
- They seem to have forgotten that I'm the one who led the school soccer team to win that trophy
- I am the same person who plays the drums to the admiration of all
- Sometimes when I ask why they consider what I do as important, they tell me WAEC doesn't ask those in examinations
- My teachers always say I don't do well even though they teach me well but how can I tell them that the teaching method doesn't favour me even though it favours the majority
- How can I tell my teacher that I just need motivation not condemnation?

B. Integrating GESI in Teaching and Learning
Introduction: The need to deliberately address gender and inclusion in the classroom arises because, overtime, the classroom and school environment have been made to overlook gender biases and continue to promote exclusion. GESI responsive pedagogy involve teaching and learning processes that pay attention to the specific learning needs of girls, boys and members of marginalised groups.
Overview of GESI Responsive Pedagogy:
Classroom practices often reinforce traditional gender roles, gender and inclusion stereotypes that may disadvantage some learners resulting in poor quality learning outcomes. There is therefore the need to challenge these practices to ensure equal learning

outcomes of all learners. This require teachers to be GESI responsive in lesson planning, selection and use of teaching and learning materials, methodologies, learning activities, classroom setup and interaction, management of gender stereotypes in the classroom and feedback and assessment.

Components of a GESI Responsive Lesson

1. **GESI Responsive Lesson Planning**
   – Lesson planning involves a wide range of decisions:
   – Content
   – Choice of learning materials to use
   – Methodologies
   – Learning activities
   – Language use
   – Classroom setup
   – Classroom interaction
   – Assessment of the learning/ learner
   – Fair knowledge of the background of learners to inform all the above
   – For a lesson plan to take into account gender and inclusion considerations, the lesson planning process should involve the following:

2. **Choice of Learning Materials**
   – Review the TLMs and identify if the material contains stereotypes?
   – If so, what strategies can be used to address such stereotypes?
   – If faced with a history textbook that portrays only heroes, it will be vital to draw up a list of "sheroes" (female heroes).
   – If a chemistry textbook portrays only male scientists as inventors or abled bodied scientists, include discussing female scientists and scientists with disability.
   – Carefully review the language used in the TLMs for gender responsiveness and inclusion.

3. **Teaching Methodologies**
   – Select teaching methodologies that will ensure equal participation of girls, boys and students with special needs.
   – Ensure that dominant individuals do not sideline less assertive ones. – Employ differentiated teaching approaches suitable for all learners.
   – Protect students with disability from abuse or bully by other students.

4. **Learning Activities**

The lesson plan should make allowance for all students to participate in the learning activity.
   – When doing science experiments, ensure that girls, boys and students with disability have a chance to use the equipment and chemicals.
   – There should also be equal participation in such activities as making presentations.
   – When assigning projects, ensure that both females and males are given leadership positions and roles.
   – Take into account how the learning materials will be distributed equally to both girls and boys, especially in case of shortage or limited supply.

5. **Classroom Setup and Interaction**

The lesson plan should consider the classroom setup.
- Consider how to arrange the classroom and interact with the students to promote equal participation of all students.
- Plan in advance to ask substantive questions to all students.
- Where do you stand or sit during the lesson? Ensure that your position or posture does not exclude or intimidate students.

Management of other gender and inclusive constraints to learning inside the classroom
- In the planning process, make provision for time to deal with gender-specific problems, if any, such as girls who have missed class due to menstruation, household chores or family responsibilities. Or support to students with learning disabilities.
- Watch for indications of bullying, sexual harassment, adolescent hormonal upheavals, the impact of HIV/ AIDS, Pregnancy, Peer pressure, among others.

Feedback and Assessment

Make time for adequate feedback from girls, boys and students with special needs to ensure that lesson is well understood. Ensure that assessment methods do not disadvantage any marginalised group or individual in the class.

GESI Responsive Teaching & Learning Resources (TLRs)

TLRs are fundamental to the pedagogical process and are critical for shaping young minds. However, TLRs and textbooks often communicate traditional and limited gender roles. They also reinforce stereotypes about disabilities. Usually, the message in some materials is that women and girls are weak and passive and that persons with disabilities are a burden or are cursed. Consequently, male and female students continue to follow the status quo and reinforce negative stereotypes about women. In effect, men are challenged to take up leadership roles, whereas women continue to occupy the backbench. To ensure equality and inclusion, TLRs and other learning resources must empower both female and male students and students with disabilities.

Choose materials that depict persons of minority groups in a positive light. For example, a child with a physical disability playing with other children; an albino student in class with other children, a female statistician etc

GESI Responsive TLRs:

GESI Responsive Language Use in the Classroom

Language is a tool of communication. Inappropriate language use can transmit negative messages and inhibit learning. A boy or girl whose teacher constantly tells them "you are stupid" may believe this to be true. A teacher's constant use of harsh, abusive and threatening language may instil fear in the students. Language can also reinforce gender differences and inequalities
- Gender biases are expressed through language that reveals the belief that girls cannot perform as well as boys or that boys should not allow themselves to be outperformed by girls academically – or in any other way.
- Teachers sometimes discourage girls from taking science-based subjects or courses by telling them that such subjects are for boys or are too difficult for girls.
- When a girl is assertive, she is told to stop behaving like a boy, and when a boy cries, he is cautioned to stop acting like a girl.

- Spoken language is only part of the equation. Much offensive communication is not verbal. – An indifferent shrug of the shoulders or rolling of the eyes suggests that the student is too foolish or bothersome to warrant attention.
- Other gestures and body language, such as winking, touching, brushing, grabbing, and other moves, may be overtly sexual.
- It is also difficult for the victim to take steps to stop the abuse because there is often no tangible evidence. Most sexual harassment occurs and escalates in this way.

GESI Responsive Classroom Setup

How the classroom is arranged can contribute positively or negatively to teaching and learning processes. This includes the layout of the furniture in the classroom or laboratory, the quality of chairs and desks, and the overall physical infrastructure of the school. The height of shelves in the classroom can contribute to an interactive classroom setup or exclude student of a certain height.

To ensure GESI responsiveness in the way a classroom is set up, the following needs to be considered:
- A classroom setup that mixes girls and boys and also considers disabilities – Classroom setup that enhances the participation of all students
- Arrangement of the desks that allow students with disabilities to be comfortable – Appropriate shelf heights in the libraries and laboratories.
- Stools in laboratories that are appropriate in size and shape thus enabling effective participation of both girls and boys.
- Fixtures and visual aids on the walls that send gender-responsive messages
- Appropriate size, shape and weight of desks and chairs.

GESI Responsive Classroom Interaction: Students are boys and girls with gender-specific needs. Especially as they mature, their gender roles can have an increasing impact on classroom interactions. An existing disability introduces different classroom dynamics. Sexual experimentation, sexual harassment, male domination, female passivity, and bullying come into play in the classroom. The following are essential steps towards building good classroom rapport:

Look for characteristics such as shyness, arrogance, distraction and low confidence.
- Take into account that some students are slow learners, some are gifted, and most are better in some areas than others.
- It is important to go beyond academic ability. Bear in mind that some learners come from disadvantaged situations.
- Orphans, displaced, the very poor or may have hidden disabilities
- Watch out for the gender-specific needs of students: girls who are having problems because they are going through their menstrual cycle.

Appendix 3 – GESI Observation Tool

Name of Tutor		Sex					
Course Title		Level					
Subject/Topic							

Gender and Inclusion Responsive competency	Some Strategies and Actions to observe:	Not achieved	Partially achieved	Half achieved	Fully achieved
		0	1	2	3
1. The Tutor uses Gender and Inclusion responsive pedagogy in class (aim for a score of 19-21)	**The Tutor:** 1) gives equal chance to females and males to ask and answer questions in class (and provides extra encouragement to girls who may lack confidence)				
	2) uses participatory methods such as group work, debates and role play; and ensures equal participation of females & males (giving extra encouragement where needed)				
	3) pays attention to the composition of females and males during group work and assigns females leadership roles				
	4) ensures that females have equal access to teaching and learning resources (TLMs, books, desks, etc.), particularly if males are more assertive and take resources first				
	5) is patient with females and males who may be shy or afraid to speak				
	6) checks to see if both females and males understand the lesson				
	7) provides constructive/positive verbal feedback to both females and males in class				
Total score					
2. The Tutor uses Gender and Inclusion responsive language and interaction	**The Tutor:** 1) does not use negative expressions or language that demeans, excludes, or gives females the impression that are not as intelligent or do not need to perform as well as males				
	2) does not use harsh/threatening language or actions that instil fear in both females and males				

(aim for a score of 19-21)	3) does not say things that reinforce false assumptions about females and males (e.g., girls are bad at maths/science, girls are always shy, boys are the first to answer)				
	4) does not use body language that excludes girls or shows preferential treatment to boys (such as speaking mostly to boys or turning your back to girls)				
	5) sets ground rules that prohibit teasing or bullying, particularly from males towards females				
	6) builds students' (especially females') skills for self-confidence, speaking out and leadership				
	7) knows the difference between 'being friendly' with girls and being flirtatious. Jokes and conversations should not have sexual undertones, and Tutors should not use terms like 'girlfriend' or 'sweetie'.				
Total score					
3. The Tutor uses Gender and Inclusion responsive TLMs (aim for a score of 10-12)	**The Tutor:** 1) reviews all textbooks, pictures, posters, and materials before using them to see if they reinforce traditional Gender and Inclusion roles (e.g., women cooking/cleaning, men in professional roles)				
	2) identifies traditional Gender and Inclusion roles that appear in books/materials and makes a point to alert students to these portrayals when using the materials in class				
	3) discusses with students how portrayals of traditional Gender and Inclusion roles limit what female students think they can do and achieve				
	4) ensures that books, materials, or equipment are equally distributed amongst females/males				
Total score					
4. The Tutor challenges	**The Tutor:** 1) empowers males to be critical of and challenge traditional views of masculinity				

traditional Gender and Inclusion roles (aim for a score of 10-12)	(e.g. men should be 'powerful', should not be 'weak', should never cook/clean)				
	2) empowers females to be critical of and challenge traditional views of femininity (e.g., women should be dependent on men, should only be mothers/carers, should not be assertive)				
	3) actively uses examples (e.g., exercises, activities, role play, pictures) that *challenge or reverse* traditional Gender and Inclusion roles (such as having men cook)				
	4) supports and encourages females to achieve in maths and science and aspire to professions traditionally taken by men (such as engineering, police, medicine)				
Total score					
5. The Tutor uses Gender and Inclusion responsive planning (aim for a score of 15-18)	**The Tutor:** 1) plans classroom seating so that males and females are mixed, and so that pupils who need more support sit at the front				
	2) reviews student attendance every 2-3 months (particularly for females) - if there are problems with attendance, the Tutor should follow up with the head Tutor and parents				
	3) reviews student assessments every 2-3 months - if there are large gaps between females and males, the Tutor should develop strategies to close the gaps				
	4) plans to use teaching strategies that ensure equal participation of both females and males				
	5) reviews TLMs for traditional Gender and Inclusion roles and ensures that materials are distributed and used equally between female and males				
	6) plans to use exercises/activities that do not reinforce traditional Gender and Inclusion roles and in some cases, actively *challenges* or *reverses* traditional Gender and Inclusion roles				
Total score					
Overall score					

Class size	
Number of Females	
Number of Males	

Name of Peer Tutor (Observer)

…….

Signature

…….

Thank you for completing this observation tool.

ICT AS CROSS-CUTTING TOOL FOR TEACHING AND LEARNING

Purpose
This manual is prepared to
1. help tutors plan and teach learner-centred lessons using ICT
2. provide tutors access to and use of ICT tools for assessment *of, for* and *as* learning
3. introduce tutors to the use ICT for the development of 21st century skills
4. guide tutor in their use of ICT software and hardware for teaching and learning.

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. Research works have shown the potential of Tutor Professional Development (TPD) that is tailored to local conditions as well as global components and takes advantage of mutual support among tutors, as well as modelling of effective practices.

Welliver's Instructional Transformation Model sets goals and expectations for all teachers at whatever stage they are starting at. The five hierarchical stages start with familiarization, then utilization, integration, reorientation, and finally revolution.

1. **Familiarization:** is when teachers become aware of technology and its potential uses.
2. **Utilization:** teachers use technology, but minor problems will cause them to discontinue its use.
3. **Integration:** technology becomes essential for the educational process and teachers are constantly thinking of new ways to use technology in their classrooms
4. **Reorientation:** teachers begin to rethink the educational goals of the classroom with the use of technology.
5. **Revolution:** is the evolving classroom that becomes completely integrated with technology in all subject areas. Technology becomes an invisible tool that is seamlessly woven into the teaching and learning process.

ICTs have the capabilities to bring several benefits to teachers and students such as shared learning resources, shared learning spaces and promotion of cooperative and collaborative learning they also provide a base for autonomous learning. ICTs have enabled us to communicate one to one, one to many and many to many through communication channels and networking. They provide a means to organize institutions differently and lead to new ways of working together with virtualization. With implementation and integration of ICTs in teacher education, the society has been transformed into a knowledge society. During the International Conference on ICT and Post-2015 Education, the 2015 Qingdao Declaration stated the importance of the professional development of teachers to effectively integrate ICT into their work.

Successful integration of ICT into teaching and learning requires rethinking the role of teachers and reforming their preparation and professional development. It calls for promoting a culture of quality in all its aspects: staff support, student support, curricula design, course design, course delivery, strategic planning, and development. We will therefore ensure that teacher-training institutions are equipped and prepared to use ICT adequately to expand the benefits of

training and professional development programmes to all teachers, and to act as the vanguard for technology-supported innovations in education. We also commit to providing teachers with system-wide support for the pedagogical use of ICT, to incentivize teacher innovation, and to develop networks and platforms that allow teachers to share experiences and approaches that may be of use to peers and other stakeholders. (UNESCO, 2015)

Mishra and Koehler (2006) expressed the fact that technology has changed the way we teach (pedagogy), what we teach (content), and the context in which teaching/learning happens. Thus, to say that technology gives us new opportunities to connect with the content and use new pedagogical strategies to pass the content to our students.

In the field of teacher education ICT-based applications and their integration with content, method and pedagogy are potential catalysts for meaningful learning of students. Professionals associated with teacher education institutions should equip them to design their educational system and prepare teachers for the future of the society (Singh, 2014).

With implementation of ICTs and its effective integration with teaching and learning process, the approaches to learning and teaching has changed to reflect global competencies of the 21st century teacher. The basic approaches are as follows:

- Learner Centric: Explore the best in every student.
- Learning Centric: Learner learn by designing and preparing meaningful learning experience with the help of a teacher.
- Promoting Inquisitiveness: Develop questioning ability in learner. Teacher encourages learner to ask questions. It leads to critical thinking.
- Innovation Centric: Teacher promotes innovation, creativity, and team spirit in learner.
- Develop cooperative and collaborative learning environment: Learning occurs through discussion, interaction and debate called learning for development.

Teacher is expected to perform the role of a facilitator and moderator with different responsibilities in different situations in a technology-mediated learning environment, called networked society. There is the need for specialized training and orientation of teachers to enable the teacher to develop the classroom, school and society with new skills and competencies. For this reason, the expectation of the National Teacher Curriculum Framework (NTECF) is that student teachers should be equipped a set of competencies and skills so that they can in turn inculcate in their learners the competencies and skills. The set of skills and competencies provided by the NTECF, subsequently captured by the Pre-Tertiary Education Curriculum Framework are:

- critical thinking and problem-solving skills,
- creative and innovative skills,
- life-long learning/personal Life skills,
- collaborative/social skills,
- communication skills,
- literacy and numeracy skills,
- leadership skills,
- entrepreneurial skills,
- digital literacy/information, communication & technology (ICT) skills and,
- civic literacy.

ICT can be used to leverage the development of these skills and competencies if teachers are intentional about the ICTs use for skills and competencies development.

Learning Outcomes	Indicators
1. Demonstrate knowledge and understanding of the basic ICT tools and their impact on 21st century skills	1.1 Mention and describe some basic ICT tools and how to use them, including: Computers, and other hardware, software. 1.2 21st century skills and ICT tools that can be used to integrate them in lessons. 1.3 Analyse and evaluate the changes brought about by the introduction of ICT.
2. Demonstrate use of basic ICT tools for planning lessons	2.1 Perform basic lesson planning tasks using an ICT tool, e.g., using Google calendar. 2.2 Create, edit, format, save and print documents using various productivity tools. 2.3 Use the internet to search for information
3. Demonstrate use of basic ICT tools for teaching, learning and assessment	3.1 Perform basic teaching tasks using an ICT tool, e.g., using PowerPoint, Google classroom, zoom, Google meet. 3.2 Perform basic lesson assessment tasks using an ICT tool, e.g., using Google forms. 3.3 Use the internet to search for activities for teaching, learning and assessment
4.Demonstrate use of basic ICT tools for research	4.1 Perform basic research tasks using an ICT tool, e.g., using survey monkey, Google forms. 4.2 Use the internet for literature search including theoretical and conceptual frameworks

ICT TOOLS

ICT tools ─ both software and hardware ─ can be used for planning, teaching, learning, assessment, data management and for research, with some of them able to perform multiple functions. Some of these tools are stated below with a brief note on their usage.

ICT TOOLS FOR PLANNING LESSONS

AnswerGarden is a tool for online brainstorming and collaboration.

BrainPOP Lets you use pre-recorded videos on countless topics to shape your lesson plan, then use quizzes to see what stuck.

Buncee Helps students and teachers visualize, communicate, and engage with classroom concepts.

Class Dojo: This is a fun tool to gamify the classroom. Students make their own avatars, gain and lose points based on classroom behavior, discussion approaches, and other soft skills agreed upon by the teacher and the class. Teachers can also use Class Dojo to take attendance and create graphs that breakdown the information for teachers. Not only will this tool encourage students to uphold class values, but it will also provide key metrics to help teachers adjust their teaching tactics accordingly.

Coggle A mind-mapping tool designed to help you understand student thinking.

Conceptboard is a software that facilitates team collaboration in a visual format, similar to mind mapping but using visual and text inputs.

Dotstorming A whiteboard app that allows digital sticky notes to be posted and voted on. This tool is best for generating class discussion and brainstorming on different topics and questions.

Flipgrid: Flipgrid is the video discussion tool from Microsoft that opens-up the classroom. It is designed to allow students to speak to the group but without the same fear that might constrict responses in a real-world situation. Students can re-record responses, removing the pressure of answering in class, on the spot. Of course, it's also a great tool for use when learning remotely.

Google Calendar: With Google Calendar, you can quickly schedule meetings and events and get reminders about upcoming activities, so you always know what's next. Calendar is designed for teams, so it's easy to share your schedule with others — students and colleagues for example — and create multiple calendars that you and your team can use together.

Google Classroom: Google Classroom is a free web service, developed by Google for schools, that aims to simplify creating, distributing, and grading assignments in a paperless way. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Google Classroom combines *Google Drive* for assignment creation, storage and distribution, Google Docs (equivalent of Microsoft Word), Sheets (equivalent of Microsoft Excel) and Slides (equivalent of Microsoft PowerPoint) for writing/word processing, calculation and graphing, and presentation respectively Gmail for communication, and Google Calendar for scheduling.

Google Meet: Google Meet is a google enterprise-grade video conferencing app. Now, anyone with a Google Account can create an online meeting with up to 100 participants and meet for up to 60 minutes per meeting.

PowerPoint Presentation: PowerPoint is a presentation programme developed by Microsoft. PowerPoint is often used to create business presentations but can also be used for educational or informal purposes. The presentations are comprised of slides, which may contain text, images, and other media, such as audio clips and movies. A good PowerPoint presentation enables teachers to make their lessons engaging, interactive and real.

Voov Meeting: VooV Meeting allows attendees to join meetings quickly on mobile phones, PCs, tablets, and webpages for a seamless conferencing experience across platforms

Zoom: Zoom Cloud Meetings is a proprietary video teleconferencing software program developed by Zoom Video Communications. It enables you to virtually interact with your students when in-person meetings are not possible, and it has been hugely successful for teaching and learning.

(Zoom, VooV Meeting and Google Meet are good for collaborative lesson planning with colleagues).

ICT TOOLS/APPS FOR TEACHING

AudioNote A combination of a voice recorder and notepad, it captures both audio and notes for student collaboration.

Edmodo is a free learning management platform that merges classroom content, safe communication, and assessment with social media savvy. Students and parents can get quick answers to questions as well as stay current on class assignments and happenings via the student planner and discussion threads. It provides a simple way for teachers to create and manage an online classroom community as well as enables students to connect and work with their classmates and teachers anywhere and anytime. The Ghana Library Authority as subscribed to this platform and available for teachers, students, and their parents to use. **Edpuzzle** helps you use video (your own, or one from Khan Academy, YouTube, and more) to track student understanding.

GeoGebra for Teaching and Learning Math. It is a free digital tool for class activities, graphing, geometry, collaborative whiteboard and more

Google Classroom: Google Classroom is a free web service, developed by Google for schools, that aims to simplify creating, distributing, and grading assignments in a paperless way. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Google Classroom combines Google Drive for assignment creation and distribution, Google Docs, Sheets and Slides for writing, Gmail for communication, and Google Calendar for scheduling.

Jamboard is a digital interactive whiteboard in a collaborative whiteboard space with options to draw, add pictures, shapes, sticky notes, and text boxes. Jamboard is one smart display. Quickly pull in images from a Google search, save work to the cloud automatically, use the easy-to-read handwriting and shape recognition tool, and draw with a stylus but erase with your finger – just like a whiteboard.

Kasahorow is a vocabulary-enriching platform that helps to learn the English language and modernize African languages like a child. Kasahorow Keyboards for Android lets you type in Akan, English, Gbe, Ga-Dangme, Hausa and Yoruba conveniently. It is used as a normal keyboard by simply installing and selecting when you want to type an African language on any Android devices you have.

Kahoot is an online game-based learning platform. It allows teachers, organizations, and parents to set up fun web-based learning for others. Kahoot can be used as a fun trivia activity to do with students or teachers to have a series of fun questions at the same time learn.

Math Kids is a free learning game designed to teach young children numbers and mathematics. It features several mini games that toddlers and pre-K kids will love to play, and

the more they do the better their math skills will become. Adding Quiz will put your child's math and addition skills to the test.
Other mathematics applications are, inMaths, Geomaths

Moodle: Moodle stands for Modular Object-Oriented Dynamic Learning Environment. Moodle was designed to provide educators, administrators, and learners with an open, robust, secure, and free platform to create and deliver personalised learning environments. Moodle is a user-friendly Learning Management System (LMS) that supports learning and training needs for a wide range of institutions and organisations across the globe.

Photomath is a mobile application that utilizes a smartphone's camera to scan and recognize mathematical equations; the app then displays step-by-step explanations onscreen. It is available for free on both Android and iOS. It uses the camera on a user's smartphone or tablet to scan and recognize a math problem. Once the problem is recognized, the app will display solving steps, sometimes in a variety of methods or multiple approaches, to explain the scanned problem step-by-step and teach users the correct process.

Piazza Lets you upload lectures, assignments, and homework; pose and respond to student questions; and poll students about class content. This tool is better suited for older students as it mimics post-secondary class instructional formats.

QuickVoice Recorder Allows you to record classes, discussions, or audio for projects. Sync your recordings to your computer easily for use in presentations.

StudyGe: This is a geography for children. This learning game will help you to remember location of countries, their capitals and flags. You can train your memory and memorize information about countries. This offline platform will allow students to improve your knowledge of geography. Other geography platforms are LearnGeography, AP Human Geography

Telegram is a mobile application that allows users to communicate with them using mobile gadget and computer. Telegram can be used for teaching and learning for the following reasons:
Multiple platforms: smartphones (Operating system, Android), PC, Laptop, iPad, Tab, and Web., Compatible file format, large files transfer, Grouping facilities, better storage capacity and management, better memory system and management, better security with the encryption. Telegram can be used for teaching and learning in the following ways: announcement, forum i.e., whole class discussion, Quizzes, open ended question, group project report, listening practice, pronunciation practice, speaking practice, writing practice, problem solving, Content/materials sharing, PowerPoint presentation.

Vocaroo Is a quick and easy way to record and share voice massages over the interwebs. Vocaroo creates audio recordings without the need for additional software. The recordings are easy to be embedded into PowerPoint presentations and websites.

Whiteboard is an instant formative assessment tool for your classroom, providing you with live feedback and immediate overview over your students. Engage your whole class, include every student and let everybody answer - including the shy students or students who normally wouldn't bother to answer.

DIGITAL ASSESSMENT TOOLS FOR TEACHERS

Classmarker: Classmarker is an online testing software that offers a free version that is very complete providing teachers with interesting possibilities for formative and summative evaluations. A professional web-based Quiz maker is an easy-to-use, customizable online testing solution for business, training & educational assessments with Tests & Quizzes graded instantly, saving hours of paperwork

Edulastic Allows you to make standards-aligned assessments and get instant feedback.

Gimkit Lets you write real-time quizzes.

Google Forms: Google Forms is a tool that allows collecting information from users through a personalized survey or exam. Google Forms is a free tool from Google that allows you to do the following: Create forms, surveys, quizzes, and such. Share the forms with others. Allow others to complete the forms online.

Kahoot - game-based assessment tool.

Mentimeter - pre-built education templates.

Naiku Lets you write quizzes students can answer using their mobile devices.

Poll Everywhere - used by 300,000 teachers.

Quiz Bot - Create a quiz with several multiple-choice questions and test on telegram

Socrative - quizzes and questions with real-time grading.

World Geography – Quiz Games for Geography

World Map Quiz – quizzes and questions for Geography

ICT TOOLS/APPS FOR RESEARCH

Academia.edu: is a platform for academics to share research papers. The company's mission is to accelerate the world's research.

ai.google: Google periodically releases data of interest to researchers in a wide range of computer science disciplines.

Biohunter: A Portal with literature search, data statistics, reading, sorting, storing, field expert identification and journal finder.

Code Ocean is a Cloud-based computational platform which provides a way to share, discover and run published code.

DataBank: Is an analysis and visualization tool that contains collections of time series data on a variety of topics.

Datacatalogs.org offers open government data from US, EU, Canada, CKAN, and more.

Data.gov: The USA government's official data portal offers access to tens of thousands of data sets

Data.gov.in: An Open Government Data (OGD) Platform India - is a platform for supporting Open Data initiative of Government of India. The portal is intended to be used by Government of India Ministries/ Departments their organizations to publish datasets, documents, services, tools and applications collected by them for public use. It intends to increase transparency in the functioning of Government and also open avenues for many more innovative uses of Government Data to give different perspective.

Data.gov.uk: The British government's official data portal offers access to tens of thousands of data sets on topics such as crime, education, transportation, and health

DeepDyve: provides simple and affordable access to millions of articles across thousands of peer-reviewed journals. Content from the world's leading publishers including Reed Elsevier, Springer, Wiley-Blackwell, and more.

GitHub: An Online software project hosting using the Git revision control system.
Open Science Framework: This gathers a network of research documents, a version control system, and a collaboration software.

Google Finance: it provides stock market data and give updates in real time.

Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines.

Microsoft Academic Search: Find information about academic papers, authors, conferences, journals, and organizations from multiple sources.

Peer Evaluation: is an Open repository for data, papers, media coupled with an open review and discussion platform.

QuillBot is a paraphrasing and summarizing tool that helps millions of students and professionals cut their writing time by more than half using state-of-the-art AI to rewrite any sentence, paragraph, or article.

ResearchGate is the professional network for scientists and researchers. Over 15 million members from all over the world use it to share, discover, and discuss research.

Sciencescape: An Innovation in the exploration of papers and authors.

SlideShare: Community for sharing presentations and other professional content

SSRN: Is Multi-disciplinary online repository of scholarly research and related materials in social sciences.

Turnitin is an originality checking and plagiarism prevention service that checks your writing for citation mistakes or inappropriate copying.   When you submit your paper, Turnitin compares it to text in its massive database of student work, websites, books, articles, etc.

Age Levels/s: EG,UP,JHS   Name of Subject/s: ICT Integration

Tutor PD Session on ICT Integration & 21st Century Skills

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. **Introduction to the session**	1.1 Kindly introduce yourself to the group. 1.2 Tutors share any successes and issues they had when using ICT tools in a previous semester *employing talk for learning strategies.* 1.3 Tutors who are conversant with and have utilized ICT tool(s) in Lessons in the previous semester(s) to share their practices and how these ICT tools and its integration has impacted on their teaching in any of the semester(s). It is important to identify the topic as well as the ICT tool(s) used in the discussion. 1.4 Read the purpose, the learning outcomes and learning indicators of the manual and use the think-pair-share approach to share your views about how the manual can help you to integrate ICT into their lessons. **Distinctive aspects** Tutors to discuss ICT tool(s) they are familiar with and any unique qualities of these ICT tool(s) as learning tools that they can identify.	**20 mins**

	Note: The following are the distinctive aspects that this manual has considered: Reading literacy, writing literacy, numeracy, information literacy, ICT [information and communications technologies] digital literacy, communication and can be described broadly as learning domains.
	
	1.5 Pair with a colleague and share your views about the ICT tools that you have used in your everyday life and how the unique qualities of these tool(s) can be incorporated into your classroom teaching.
	
	1.6 In groups, write on a flip chart using Concept Cartoons:
	
	   a. The distinctive features of ICT tool(s) you are familiar with
	
	   b. CT tools you use and integrate in your teaching at the College of Education.
	
	1.7 Present your findings via *radio reporting.*	

2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	**Concept Development** 2.1 Discuss the sub-topic, assigned to you with your partner and share your views with the larger group 2.2 In pairs, discuss misconceptions in teaching and learning with ICT tool (s) and share possible ways of addressing them. E.g. computers can do everything a teacher can do 2.3 Outline possible challenging areas in teaching with ICT tool(s) taking into consideration GESI (e. g. identifying areas in the curriculum where stereotypes are reinforced and addressing these).	**25 mins**

3. Planning for teaching, learning and assessment activities for the lesson/s	Teaching and learning activities:	40 mins

• Reading and discussion of the teaching and learning activities
• Noting and addressing areas where tutors may require clarification
• Noting opportunities for making links to the Basic School Curriculum
• Noting opportunities for integrating: GESI 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 student teacher learning
• Resources:
  o 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
	3.1 Discuss general ICT tools for teaching and learning
	
	Desktop and laptops computers, Projector, Digital cameras, Printer, Photocopier, tablets, Popplet, Pen Drive, Ipods, Ipads, Webboards, Scanners, Microphones, interactive white board, DVDs and CDs Flash discs, video Games
	
	E.g.,
	Geomaths
	Maths kits
	Microsoft maths solver
	Photomaths
	Scratch
	kasahorow
	
	• **Software**
	• **Office Professional** – E.g. XP.
	• **Good photo software** e.g. Microsoft Digital Photo Suite
	• **"Photostory 2** -- comes with service pack 2.
	• **Inspiration**
	• **Smart Notebook**
	  o **United Streaming** subscription -
	• **Hardware**
	• **Flat Screen monitor** Good quality printer preferably a laser black and color photo. E.g. HP
	• **CD/DVD RW drive(s)**
	• **USB ports**
	• **Scanner** – e.g. Epson brand
	• **Digital camera – e.g.** of Canon
	• **External storage** - an external hard drive to back up data
	• **Portable storage** - USB flash drive, 2 GB minimum.
	• Palm or other **handheld device** to keep schedules, dates, reminders, and store pictures and music. E.g. Tungsten Palm
	• **Smart board** or **Smart Airliner**, with projection unit for classroom use.
	• **CPS** (classroom performance system) also for classroom use.	

○ guidance on any power point presentations, TLM or other resources which need to be developed to support learning • Tutors should be expected to have a plan for the next lesson for student teachers	**Teaching 21st Century Skills with ICT** **Collaborative Problem Solving** https://youtu.be/cnkKHL_dyGE **Creativity** https://www.youtube.com/watch?v=qV7DiTFdtvw **Hands-On Learning** https://youtu.be/vYUNfJ9lKzs **Effective Written and Oral Communication** https://www.youtube.com/watch?v=D5hMN_XkPQA **Ethical Decision Making** https://youtu.be/Iwk8dGFn1tY **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/nRE131ErclM 3.2 Discuss Special Education Needs (SEN) ICT tools for teaching, learning and assessment. **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. 3.3 Discuss some useful Education Technology Resources for teaching, learning and assessment. **E.g.** Office 365 vs G-Suite for Education Google Meet for Online Teaching Google Classroom for Online Assignment submissions Plagiarism checking Softwares. Tools for Checking Grammar errors Online	

	Assessment tools include: grading rubrics, Canvas Assignments, plagiarism detection, self-assessment, and peer assessment, surveys, and classroom polling. Quiz bot Digital Assessment Tools for Teachers: Socrative - quizzes and questions with real-time grading. Classmarker- quizzes and questions with real-time grading Google Forms - easy to use. Mentimeter - pre-built education templates. Poll Everywhere - used by 300,000 teachers. Kahoot - game-based assessment tool. • Further links to videos for further application of ICT tools in the teaching and learning process https://www.youtube.com/watch?v=k8nMh71ky4Y 3.4 Suggest ICT-mediated teaching, learning and assessment activities in your respective subjects. Taking into account GESI. E.g., Making reasonable adjustments for physically challenged learners. Both male and female learners playing leading roles in a group task. 3.5 Present your findings to the larger group	
4. Evaluation and review of session: • Tutors 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	4.1 Identifying any outstanding issues relating to the lesson/s for clarification. 4.2 Identify a critical friend who will observe your first lesson and give you feedback on how you integrated ICT in the lesson.	**5 mins**

TVET

TECHNICAL & VOCATIONAL EDUCATION & TRAINING (TVET)

**Age Levels/s: COMMON
CORE PROGRAMME
CURRICULUM (JHS)
Specialism**

Name of Subject(s)/Course(s): TVET

Introduction
TVET in the new B.Ed. curriculum include Agriculture, Home Economics, Technical and Visual Art. The idea that informed the amalgamating all the TVET Courses into one PD manual is the common base that has been established in the new B. Ed curriculum. The B. Ed TVET curriculum has established six (6) key content areas common to all. These include:

Classification	Content
General TVET Knowledge	Terminologies, concepts, theories, historical, philosophical, and sociological foundations, movements, associations and related organizations, policies, misconceptions about TVET
Operating and processing Tools, equipment and machines	Nature (identification), proper uses, care/maintenance of tools, equipment and machines
Skills Training Materials and Resources	Sources, characteristics/properties, uses and health, safety and environment (HSE)
Learning Environments: Workshops, studios, and laboratories	types and uses, management practices, safety rules and practices, HSE including Water, Health and sanitation (WASH) related issues
Operations, processes, procedures, and products	Design and realisation/composition, laying out, manufacturing processes and their related HSE, adherence to specifications (to ensure safety of consumers/clients)
Entrepreneurship	key concepts, principles, relevance, business creation, business ethics and social responsibility

What this means is that the component domains (Agriculture, Home Economics, Technical and Visual Art) understand a common language hence can work together. It is important to note that the TVET version of Agriculture is different from the traditional Agricultural Science. It is vocational Agriculture which is expected to be delivered in the Competency Based Training (CBT) mode like all the others.

In this manual, each domain finds expression in the same questions and processes as it relates to their peculiarities. SLs/HoDs should therefore give reasonable room for each domain to find expression most suitable to their peculiar need and expression. **SLs/HoDs must draw attention to course combinations as it relates to each domain. Details are provided in the table below.**

In Year 2 Semester 1, student teachers are facing the TVET specialism for the first time.

Course combinations are as follows

1. **Agriculture** Student teachers are to select all the two (2) courses mounted in Agriculture and in addition select all the two (2) courses mounted in Home Economics making a total of four courses for 3 credit hours each.

2. **Home Economics** Student teachers are to select all the two (2) courses mounted in Home Economics and in addition select all the two (2) courses mounted in Agriculture making a total of four courses for 3 credit hours each.

3. Technical student teachers are to select all the four (4) courses mounted in Technical for 3 credit hours each

4. Visual Arts student teachers are to select all the four (4) courses mounted for 3 credit hours each

Tutor PD Session for Lesson 1 in the Course Manual

Agriculture:
1. Environmental Effects of Agriculture and Entrepreneurship
2. Historical Development, Tools and Materials in Agriculture ministry of Agriculture

Home Economics:
1. Manipulative Processes and Skills in Home Economics
2. The Four Models for Home Economics

Technical:
1. Design and Realisation I
2. Introduction to Graphic Communication
3. Metal and Automotive Technology I
4. Wood Technology I

Visual Arts:
1. Concepts and Foundational Skills in Drawing
2. History and Philosophical Foundation of Visual arts
3. Introduction to 2-Dimensiona Arts
4. Introduction to 3-Dimensional Arts

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1(a) Introduction to the semester – in session one • Introduction to the purpose of the specialisms: EG, UP and COMMON CORE PROGRAMME CURRICULUM (JHS) • Overview of subject/s age level/s to be covered in the PD sessions and guidance on grouping tutors	1.1 Listen to and participate/react to the ice breaker to open the session 1.2 Share your general impression on Year 1 Semester 2 PD sessions and how it helped you to deliver your respective Courses. 1.3 List the TVET courses for Year 2 Semester 1 in your respective 1.4 In your buzz (subject) domain groupings read the introductory sections to identify and brainstorm on the purpose, focus, scope,	**20 mins**

according to the subject/s, age levels/s. • Introduction to the course manual/s • Overview of course learning outcomes • Introduction to the two continuous assessment components to be undertaken in each subject during the semester (See Course Assessment Components at a Glance Appendix 2) NB in subjects where there are no assessment components in the course manuals examples will need to be provided for SL/HoD. **1(b) Introduction to the session** • Review prior learning • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask	alignment, interrelatedness, relevance, achievability, etc. of your respective courses, e.g. *Goal for the Subject or learning Area*, *Key contextual factors, Course Description, Core and transferable skills. Cross-cutting issues, CLO and Indicators* ***Refer to the Course Manuals*** 1.5 Read through the assessment components suggested in your respective manuals and discuss their alignment with the NTEAP within the context of *'Developing Teaching'*. Refer Appendix 1 and 2 below. 1.6 Identify possible challenges you would face in delivering your course and use *reverse brainstorming* approach to discuss how you intend resolving them 1.7 Generate possible relevant subject base projects for your Courses **1(b) PD Session 1** 1.8 Review the course, *Foundations of Social Studies and Technical Vocational Education and Training (FSSTVET)* 1.9 Read and discuss the introductory sections of lesson 1 in your respective subject domain groups up to and including learning outcomes and indicators 1.10 Discuss within their respective subject domains the general overview of the content and identify any distinctive aspects of their lessons	

tutors to plan for their teaching as they go through the PD session		
2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	2.1 Brain-write on sticky paper and use think-pair-share approach to discuss the concept(s) and teaching learning activities suggested in Lesson 1 within their respective domains, ***Refer to your respective manuals*** 2.2 Identify any potential barriers to the teaching and learning of the course and suggest ways to resolve them. e.g. ***some student teachers may not have any foundational background in TVET domains*** ***ii. some student teachers may be apprehensive about practical activities required in TVET*** ***iii. some student teachers may be holding cultural/religious and other biases*** 2.3 Surf OERs and other internet sources to find and ***think-pair-and –Share*** possible new approaches to the teaching within your subject domain to resolve challenges raised in 2.2 above. E.g. i. ***use pre-recorded video of Females, people with SEN, etc. performing) practical TVET activities (visit Visual Art Colleges WhatsApp Platform)*** https://www.youtube.com/watch?v=RrS5Uo66St0*(retrieved* https://www.bbc.co.uk/ideas/videos/where-did-all. https://www.prod.facebook.com/NotableTechnicalWomen/videos ii. ***undertake a minor community work to enable student teachers see at first hand TVET related activities in the community*** iii. ***invite a TVET resource person who has defied and risen above social, cultural, religious, etc. stereotype in the community to interact with student teachers for this first lesson.***	**15 mins**

3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and discussion of the teaching and learning activities • Noting and addressing areas where tutors may require clarification • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI 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 student teacher learning • Resources: ○ 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	3.1 Read and discuss the teaching and learning activities suggested in your respective manuals 3.2 List and discuss how you would facilitate the transfer of ICT and 21st C. related skills to your student teachers during the teaching and learning of Lesson 1 3.3 Within your respective domains identify possible areas of difficulty envisaged in delivering lesson your 1 effectively 3.4 Use **reverse brainstorming** or any relevant method within their subject domain groups to clarify difficulties identified in 3.2 above. **(Refer Notes to SLs/HoD below)** *e.g. take student teachers on a mini-community walk and guide them to locate some materials from the community. This will boost their moral and encourage them. Tutor can also guide students to fabricate simple tools from scrap materials in the community, etc.* 3.5 share a pre-recorded video(s) with tutors on females (GESI) and people of SEN performing practical TVET activities as way of counteracting possible barriers in the learning of TVET 3.6 *Brain-write*, using sticky paper, flip charts, etc., identifiable linkages if any, between lesson 1 and the COMMON CORE PROGRAMME CURRICULUM (JHS) Curriculum. 3.7 In your buzz groups discuss how the teaching/learning activities in this lesson will enhance student teachers' STS. 3.8 Identify continuous assessment opportunities *(assessment as* and **for learning)** in lesson 1 and how you will apply the assessment Strategies in Appendix 1 and 2 above to resolve them. 3.9 Identify tools and material needed for lesson, e.g. **Model farm, manual for training Agricultural Equipment Ministry of Agriculture, cookers, gas cylinders, practice house, drawing**	

	tools *(pen, pencils, brushes, colours, drawing boards, drawing pins, computers, seawares, etc.*	
needs to be given to local availability ○ guidance on any power point presentation, **TLR** or other resources which need to be developed to support learning • Tutors should be expected to have a plan for the next lesson for student teachers	3.10 Share your lists in 3.9 above to provide opportunities for possible adaptation in other domains. *(Emphasis should be given to local tools and materials where possible)* 3.11 Share draft/plan for lesson 1 with your buzz group *(can be verbal/written on sticky note)*	
4. Evaluation and review of session: • Tutors 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	4.1 Sum-up what you learnt in the PD session 1 4.2 Identify a critical friend to observe your lessons and report at next session. 4.3 Refer any outstanding issues relating to the lesson/s to the SLs/HoDs for clarification.	**15 mins**

Tutor PD Session for Lesson 2 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s,	1.1. Share how useful PD session 1 was and how it influenced your teaching over the week. 1.2. Listen and report on your observations of the teaching of Lesson 1. 1.3. Read the introductory sections of Lesson 2 (up to learning outcomes) and discuss in pairs the important or distinctive aspects of Lesson 2. ***Refer to your respective TVET manuals.*** 1.4. Read the Overview of the lesson content and identify of any distinctive aspects of the lesson/s,	**20 mins**
2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts	2.1. Read and discuss lesson 2. 2.2. Discuss potential barriers to the learning of lesson 2 for student teachers.	**15 mins**

or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors		
3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and discussion of the teaching and learning activities. • Noting and addressing areas where tutors may require clarification. • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI 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 student teacher learning	3.1. Read and discus the teaching and learning activities in lesson 2. 3.2. Identify and address areas that require clarification. 3.3. Look out for links between lesson 2 and the Basic School Curriculum and how the delivery methods will enhance student teachers. E.g., ***lettering and drawing as in Basic Design and technology, Health and safety as WASH, basic tools for sewing, etc.*** 3.4. Identify opportunities for integrating: GESI, ICT and 21st C skills. 3.5. Read and discus the continuous assessment opportunities in lesson 2. 3.6. Identify TLRs or other resources need to be developed to support learning. 3.7. Individually, articulate how you will use knowledge and understanding gained to prepare for lessons 2.	**40 mins**

4. **Evaluation and review of session:** • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1. Invite a critical friend from the same or related discipline to observe you as teach lesson 2 in class and provide feedback. 4.2. Individually, identify any outstanding issues relating to lesson 2 for clarification.	**15 mins**

Tutor PD Session for Lesson 3 in the Course Manual

Agriculture:
1. Environmental Effects of Agriculture and Entrepreneurship
2. Historical Development, Tools and Materials in Agriculture

Home Economics:
1. Manipulative Processes and Skills in Home Economics
2. The Four Models for Home Economics

Technical:
1. Design and Realisation I
2. Introduction to Graphic Communication
3. Metal and Automotive Technology I
4. Wood Technology I

Visual Arts:
1. Concepts and Foundational Skills in Drawing
2. History and Philosophical Foundation of Visual arts
3. Introduction to 2-Dimensiona Arts
4. Introduction to 3-Dimensional Arts

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/Hood and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning	1.1 Reflect on the previous PD session: write two responses each to the questions/ statements on sticky: ***what went well*** and ***what did not go well*** and share with the whole group. 1.2 Critical friend to share his/her findings with the whole group. 1.3 Discuss the observations and lessons learnt from critical friend's report.	**20 mins**

outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/Hood should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/Hood should ask tutors to plan for their teaching as they go through the PD session	1.4 Read and discuss introductory sections of the lessons up to and including learning outcomes and indicators. 1.5 Identify important or distinctive features of the topics in lesson 3; **NB:** **The discussion must be based on the different topics in lesson 3 in the following TVET domains:** e.g. **Agriculture** • Environmental issues in Agriculture (Nursery sanitation and farm hygiene) **e.g., human excreta control, managing solid waste and wastewater, and pest and vector control** **Technical:** • Construction of geometrical objects using AutoCAD software, e.g., **Setting up of AutoCAD** • Safe working environment in the metal and automotive industries, **e.g. Safety hazards, Biological hazards, Physical hazards, Ergonomic hazards, Chemical hazards, Work organization hazards, Material safety, storage handling, transporting disposal, etc**. • Types of timber and their uses, and cross-section of timber. **E.g., Softwoods, Hardwoods, Manufactured Wood Products** • Identification of problems in different places in the community around them and state situation clearly: e.g. **Criteria you may consider when identifying community problems:** **Frequency:** The problem occurs too frequently. **Duration**: The problem has lasted for a while. **Scope or range:** The problem affects many people. **Home Economics:** • Management in Living/lodging and Accommodation, e.g. **Lodging**- hotel**, motel, hostel, inn or hostel**, **guesthouse, etc.** NOTE: The Four Models for Home Economics, e.g., **Management of households (Oikonomia-**	

	Economics), **Application of science for improving the environment (Human Ecology), Inductive reasoning (Cooking and Sewing) and Education of women for womanhood (Home making).** ***Visual Arts:*** • Skills in drawing and composition • Three- Dimensional Arts: **e.g. sculpture, architecture, basketry, ceramics, bead making, leatherwork, etc.** • Principles of Art, e.g. **scale, proportion, unity, variety, rhythm, mass, shape, space, balance, volume, perspective.** 1.6 Identify prior knowledge of student teachers that will activate effective learning of the lesson. 17. Identify any aspect of the lesson that may require clarification.	
2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	2.1 In your buzz groups, identify and discuss the new concept(s) in lesson 3. 2.2 Identify potential barriers to learning for student teachers or students. e.g. • Difficulty faces the SEN student teachers in manipulative tools and equipment during practical sessions. • Lack of tools and equipment practical activities. • Stereotyping and misconceptions of TVET programmes that it is for low academic achievers. • Lack of interest in TVET programmes by the public. 2.3 Discuss the concepts or pedagogy for introduction of the lesson.	**15 mins**
3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and	3.1 Read and discuss the teaching and learning activities in *their respective course manuals.* 3.2 Identify and discuss the areas that require clarification.	**40 mins**

discussion of the teaching and learning activities
• Noting and addressing areas where tutors may require clarification
• Noting opportunities for making links to the Basic School Curriculum
• Noting opportunities for integrating: GESI 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 student teacher learning
• Resources:
  ○ links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
  ○ guidance on any
	3.3 Use assessment opportunities in the lesson to support student teachers to assess project work of JSH learners in Career Technology lesson during their STS sessions.
	
	3.4 Identify and use reverse brainstorming method to resolve and incorporate GESI responsiveness approaches into the lesson, e.g.
	• Difficulty faces the SEN student teachers in manipulative skills of the AutoCAD software.
	• Fear and anxiety, lack of practical know-how of Graphic communication not being a vocation for SEN student teachers.
	• Stereotyping of woodwork as male occupation
	• Misconceptions about Home Economics is for low academic achievers.
	• Religious and cultural background of student teachers (males do not perform home chores like cleaning, sweeping and taking care of younger children).
	• Misconceptions about Visual Art.
	• SEN student teachers may not be interested in associating Agriculture practical.
	
	3.5 Identify ICT and 21st C skills in the lesson and discuss how it can be integrated in the lesson using the think-pair- and share approach.
	  e.g.
	• Analysis of problem, Problem solving, reasoning, interpretation, synthesizing information.
	• Research skills and practices, interrogative questioning.
	• Creativity, artistry, curiosity, imagination, innovation, personal expression.
	
	• Identification of appropriate ICT tools that can be used to deliver the lesson.
	
	3.6 Identify the continuous assessment opportunities in the lesson. E.g Assist student teachers to work on their Subject Portfolio and Subject projects identified for the semester.
	
	3.7 Identify and discuss core and transferable skills can be applied in lessons.
	  E.g. Diversity through formation of mixed	

power point presentations, TLM or other resources which need to be developed to support learning • Tutors should be expected to have a plan for the next lesson for student teachers	groups, Use of ICT tools for searching for information online and preparing a video, Teamwork formation, Leadership, Problem solving Effective, Communication, Creativity, etc. 3.8 List the needed resources for teaching and learning of the concepts in lesson 3. 3.9 Read the course manuals in preparation for PD session 4 and plan for the next lesson.	
4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1 Identify a critical friend to observe your lesson and report outcome at the next PD session. 4.2 Identify any outstanding issues relating to this lesson for clarification.	**15 mins**

Tutor PD Session for Lesson 4

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. **Introduction to the session** • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.1 Review PD lesson three by responding to leading questions from the lead 1.2 Share the impact of PD session 3 on the delivery of your previous lesson. 1.3 Read and discuss the introductory sections of the lesson 4 including learning outcomes and indicators. • ***Refer to the various TVET course manuals taking into account the various strands sub – strands in lesson 4***	**20 mins**

2. Concept Development (New learning likely to arise in lesson/s):	2.1 Explore and discuss in your buzz groups the new learning techniques, concepts or pedagogy in lesson 4.	**15 mins**
• Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD	*Agriculture:*	

Agriculture:
- **Health, safety and environmental issues in Agriculture (Effects of environmental variables on crop/ornamental plants production).**
- **Tool, equipment, machines and their uses: Animal production**
- **Home Economics Manipulative skills and processes for: Food and Nutrition/Catering**
- **Philosophical Foundations of the four models of Home Economics**

Technical skills
- **Construction of geometrical shapes (Circles and Triangles**
- **Materials used in the Metal and Automotive Industries**
- **Timber as the main material in the wood working industry – characteristics and properties of timber**
- **Design Investigation and Generating Possible Solution**

Visual Art
- **Creating Values and Tones by Shading (Rendering).**
- **A brief History of Art: African Art**
- **Two- Dimensional Arts: The Design Process**

2.2 Discuss potential barriers to learning for student teachers or students on concepts or pedagogy being introduced in lesson 4**. E.g.**

Agriculture
Barriers:
- Lack of model farms in the College

Solution:
- Facilitate a visit to crop and ornamental farms, take pictures of crop and ornamental diseases to create an album.

Home Economics
   Challenge:
- Lack of laboratory for demonstration in the College

Solution:
- Use of You tube to explain the processes of making pastries and cooking.

NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors

| 3. Planning for teaching, learning and assessment activities for the lesson/s
• Reading and discussion of the teaching and learning activities
• Noting and addressing areas where tutors may require clarification
• Resources:
   o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
   o guidance on any power point presentations, TLM or other resources which need to be developed to support learning
• Tutors should be expected to have a plan for the next lesson for student teachers | 3.1 Read and discuss teaching and learning activities in lesson 4.

Refer to the respective manuals

3.2 Discuss one or two methods of **presenting the lesson**

Refer to your respective manuals

3.3 Discuss how to help student teachers apply concepts and methods in their activities during STS sections,

3.4 Identify and device plans to address GESI and 21st C issues in lesson 4 delivery

3.5 List the needed resources for the teaching of lesson 4 in the various TVET domains

3.6 Share your draft teaching plans with your buzz group members | **40 mins** |
| 4. **Evaluation and review of session:**
• Tutors should Identifying critical friends to observe lessons and report at | 4.1 Identify a critical friend who can observe your lesson delivery and report feedback at the next PD session.

4.2 Make sure, every tutor present have a teaching plan | **15 mins** |

next session • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.3 In the case of unresolved issues refer to the SWLs **Advanced Preparation for next PD Session** 4.4 Read through lesson five of their course manuals in preparation for *PD session 5*	

Tutor PD Session for Lesson 5

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.1 **Starter** Participate and create motivate ICE breakers to prepare your students mind for lesson 5. *E.g. Song, story, rhyme or a riddle related to any of TVET domains* **Reflection Activity** 1.2 Pick and answer the question writing on the piece of paper 1.3 Listen to the critical friend observations in lesson 4 and take note of arears that need improvement. 1.4 Read the introduction section of lesson 5 in your manual and identify the learning outcomes and learning indicators on a sticky notepad 1.5 Sit in your course group and discuss the distinctive features of lesson 5*(Topic/sub (topics, LOs, LIs, teaching and learning activities, assessment procedures, etc.)* *Refer to your Course Manual:* *Agriculture* *Home Economics* *Technical Skills* *Visual Art*	**20 mins**

2. **Concept Development (New learning likely to arise in lesson/s):** • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	**Concept Development** 2.1 Write the major concepts in your respective lesson 5s and write them on a notepad for sharing in your domain group 2.2 Brainstorm in your respective group and identify the interrelatedness and distinctiveness of the lesson and the concepts in relation to the Basic School Curriculum 2.3 **Brain** write the potential barriers of teaching and learning the concepts in lesson 5, e.g. ***Socio-cultural issues, religious barrier, difficulty in handling of tools, gender stereotypes and cultural bias (boys do not cook, girls do not build, draw, painting for low achievers).*** 2.4 Suggestion possible ways of overcoming the challenging areas in teaching and learning of the concepts listed in *1.5* above	**15 mins**
3. **Planning for teaching, learning and assessment activities for the lesson/s** • Reading and discussion of the teaching and learning activities • Noting and addressing areas where tutors may require clarification • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills • Reading, discussion, and identification of continuous assessment	**Planning for teaching and assessment** 3.1 Read and discuss the major teaching and learning activities of the lesson 3.2 Tutors of the various TVET domains identify possible ways student teachers can make use of the new knowledge gain in the lesson to relate concepts of the lessons in the basic school curriculum at STS schools 3.3 Use concept maps to identify ways of integrating GESI, ICT and 21s C skills lesson, **e.g.** GESI (graphic communication is not a vocation foe females and SEN students, males do not do household chores, rearing male activities, modeling a dirty activity for females **ICT**: use of smart phone to surf internet for relevant information, PowerPoint presentation, **21st C** Skills, e.g. Critical thinking and problem solving. Creativity and innovation. Personal development and leadership skills	**40 mins**

opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning	3.4 Read the assessment activities in their respective course manuals and list alternative assessments activities that could be used to assess student teachers in relation to subject portfolios and subject projects, e.g. Creating TLRs albums fishing processes, posters of animal diseases, talk walls for various lesson 5 related concepts in the Basic School curriculum. These could be added to student portfolios. 3.5 Tutors identify the needed resources for the teaching and learning of the concepts listed in 2.3 above. ***E.g. tool and equipment (computer, Brailet, scanner, embosser), construction tools and materials (Drawing tools machine, cutting tools), potter's wheel, pug-mill, plunger, garment construction album, Album of animal diseases. pre-video recordings, squeegee, brushes, looms, fabrics, animal and farms real life objects, cameras, LCD projector fishing tools and machines NTS/NTECF, NTEAP, etc. (refer to respective course manuals)*** 3.6 Plan and prepare the outline of your respective lessons to guide your lesson delivery	
4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1 Identify a critical friend to observe your lesson and report his/her observation to improve your reflective practices and teaching activities 4.2 Identifying and addressing any outstanding issues relating to the lesson/s for clarification	**15 mins**

Tutor PD Session for Lesson 6 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.1 Share your experiences from PD session 5, e.g. your successes and the challenges. 1.2. Report on your observation of the teaching of Lesson 5. Discuss issues raised. 1.3. Read the introductory sections of Lesson 6 (up to learning outcomes) and discuss in pairs the important or distinctive aspects of the Lesson. ***Refer to your respective TVET manuals taking into consideration the various sub-strands in lesson 6.*** 1.4. Read the Overview of content and identify any distinctive aspects of the lesson, ***(Refer to the respective TVET manuals).***	**20 mins**

| 2. **Concept Development (New learning likely to arise in lesson/s):**
• Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD
NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors | 2.1. Identify and discus the new learning of lesson 6.

2.2. Discuss potential barriers to learning for student teachers or students,
e.g. some student teachers may find **casting, Graphic Communication** a difficult work, a work not for females and people with SEN. These are usually gender stereotyped as a profession for males and abled bodied people. Some student teachers too may not resource to procure TVET materials needed for practical learning. There may be some gender issues as far as handling of pesticides in the farm are concerned.
Solution
Tutors must encourage student teachers on the success some female and people with SEN have made as Graphic Communication practitioners either through video or by the use of resource person.

2.3. Discuss the concept or pedagogy for the introduction of the lesson, e.g. Questioning, display of objects or pictures, narration of story (s). | **15 mins** |
| 3. **Planning for teaching, learning and assessment activities for the lesson/s**
• Reading and discussion of the teaching and learning activities.
• Noting and addressing areas where tutors may require clarification.
• Noting opportunities for making links to the Basic School Curriculum
• Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills | 3.1. Read and discus the teaching and learning activities in lesson 6. E.g. enquiry based discussions, group work, simulation, field trips, community walks, Power Point Presentation, etc.

3.2. Identify and address areas that require clarification. *E.g. how grouping of students should be done (SEN should be considered when grouping students for group work). How to develop 21st century skills in student teachers such as leadership skills, collaboration, cooperation etc. How to organise a community walk as way of teaching. etc.*

3.3. Identify the links between lesson 6 and the Career Technology Curriculum and how the delivery methods will enhance student teachers' performance during their STS. E.g. | **40 mins** |

• 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
• Resources:
  ○ links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
  ○ guidance on any power point presentations, TLR or other resources which need to be developed to support learning
• Tutors should be expected to have a plan for the next lesson for student teachers
	lettering and drawing as in Basic Design and technology, basic materials for crop production, careers in home economics, casting tools, examples of natural and artificial elements of Art, etc.
	
	3.4. Identify opportunities for integrating: GESI responsiveness and ICT and 21st C skills.
	E.g. Show pre-recorded videos of persons who have overcome the gender and SEN stereo types in the TVET area, e.g. female casting, males (boys) performing careers in Home economics, a person with SEN working as Mechanic and Repair Technologies etc.)
	  or
	Invite resource persons who have demonstrated mastery over gender/SEN stereotyping in the community. E.g. a female Mechanic, a male baker etc.
	Or/and,
	Being deliberate in creating mixed ability groupings as way of encouraging all student teachers to try the skills to the best of their abilities and also benefit from the collaborative strength of others to promote collaboration, leadership skills, cooperation (e.g. 21st C) etc. among student teachers, etc.
	
	3.5. Read, discus, and identify continuous assessment opportunities in lesson 2.
	
	3.6. Identify other resources need to be developed to support learning.
	
	3.7. Individually, articulate how you will use knowledge and understanding gained to prepare for lessons 6.	

4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session.	4.1. Invite a critical friend from the same or related discipline to observe lesson 6 and provide feedback. 4.2. Individually, identify any outstanding issues relating to lesson 6 for clarification.	**15 mins**

• Identifying and addressing any outstanding issues relating to the lesson/s for clarification		

Tutor PD Session for Lesson 7 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/Hood and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/Hood should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/Hood should ask tutors to plan for their teaching as they go through the PD session	1.1 Reflect on the previous PD session and write three best practices learnt in PD Session 6 that you implemented in the lesson. 1.2 Critical friend to share his/her findings with the whole group. 1.3 *S*hare any success stories and challenges as you had in the class during last lesson. 1.4 Read the introductory and overview of the main purpose of the lesson in the course manual individually. 1.5 Brainstorm on important or distinctive features and concept of the topics in lesson 7 **NB:** **The discussion must be based on the different topics in lesson 7 in the following TVET domains:** e.g. **Agriculture** • Writing report on disinfection and hygiene of animal farm. **Technical:** • Development of surfaces of Right Prisms e.g. square, rectangular, etc. • Plastics Manufacturing Processes: Extrusion, Injection moulding, Compression, Press	**20 mins**

	forming and Blow modelling.	
	• Natural (Air) seasoning and related terminologies (air drying, **Drying time, Piling Lumber for air drying)**	
	• Maintaining facilities in the school/learning environment e.g. classroom blocks, staffrooms, laboratories, workshops, libraries, laboratory equipment, etc.	
	Home Economics:	
	• Activities at school food laboratory or kitchen/workshop.	
	• Trends and development of Home Economics in Ghana	
	Visual Arts:	
	• Application of carving techniques	
	• Creating *tints* and *shades*	
	• D*istinctive,* scope, nature, and symbolisms of Renaissance art	
	• Drawing - Developing detail drawings from 'blocked' representations**.**	
	1.5 In pairs, discuss prior knowledge of student teachers that will activate effective learning of the lesson.	
2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	2.1 Read and identify any new concepts in lesson 7 individually and share with the whole group. 2.2 Write on A4 paper any ICT tools they identify and integrate into the teaching of the concepts. 2.3 Discuss misconceptions and barriers in teaching and learning the concept in the lesson. e.g. • Some student teachers may not be familiar with manipulation skills of tools and equipment. • Lack of materials, tools and equipment practical activities in TVET domains. • Selection of materials or TLRs to support student teacher's learning should consider different learning needs when gluing, planning, whittling, drawing, etc. • Both male and female student teachers should be assign a leading role during	**15 mins**

	practical sessions. • Balance the different learning needs of student teachers. 2.4 Write A4 paper one activity you will employ to introduce the lesson and share of with the whole group.	
3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and discussion of the teaching and learning activities • Noting and addressing areas where tutors may require clarification • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI 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 student teacher learning • Resources: o links to the existing PD Themes, for example, action research, questioning and to other external	3.1 Read and discuss the teaching and learning activities in their respective course manuals. 3.2 Identify and discuss the areas that require clarification. 3.3 Use assess opportunities in the lesson to support student teacher's to assess project work of JSH learners in Career Technology lesson during their STS sessions. 3.4 Outline the relationship between the concepts in lesson 7 to the Basic School Curriculum (Career Technology) and share with their findings whole group, e.g B7, Strand 2, 3, 4, 5 of Career Technology Curriculum 3.5 Identify GESI responsiveness issues in relation to the lesson, e.g. • Celebrate student teacher's achievement and good work done. • Encourage student teachers for innovation during practical lessons. • Tools and equipment should not engender the health of user. • TLRs should not be gender bias. • Support and encourage female student teacher's achievement in TVET programmes. • Both male and female student teachers should actively engage in the various TVET practical activities but not just watching or assisting others. • Drawing of images in Visual Arts should depict both sex. • Dispel that notion by discussing TVET careers, which were formerly female, dominated, where males are now patronising such as in the hospitality industry or female in male dominated such designing, painting, and animal farming, etc.	**40 mins**

reference material: literature, on web, Utube, 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	3.6 Discuss challenges the will potentially inhibit integration of ICT and 21st C skills into the lesson. • Lack of teamwork and empathy, • Lack of ICT tools and equipment in some colleges, • Tutors working too many roles at the same time, • No time to deal individual learning needs, • Poor use of terminologies in TVET programmes, etc. 3.7 Discuss core and transferable skills can be applied in lessons. e.g. • Effective time management to complete project works. • Paying attention to details during when participation in activities at school food laboratory, creating tints and shades practice, Maintaining facilities in the school. • Collaboration during practical session. • Self-awareness of dangers TVET workshops. 3.8 Discuss the continuous assessment opportunities in the lesson. 3.9 List the needed resources for teaching and learning of the concepts in the lesson. 3.10 Use internet resources to search for one link (YouTube) that will assist them in teaching of the lesson.	
4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1 Identify a critical friend to observe their lesson and report outcome at the next PD session. 4.2 Identify any outstanding issues relating to this lesson for clarification. 4.1 Read the course manuals in preparation for next PD session.	**15 mins**

Age Levels/s: COMMON CORE PROGRAMME CURRICULUM (JHS)

Tutor PD Session for Lesson 8 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s,	1.1. Start the session with an ice breaker 1.2. Discuss how they implemented the competences during their lessons. 1.3. Critical friend reports his/her findings for a short discussion. 1.4. Read and discuss the introductory sections of the lesson up to and including learning outcomes and indicators of lesson 8. 1.5. Identify any distinctive aspects of the lesson/s.	**20 mins**
2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts	2.1. Tutors read through the whole lesson 8 and discuss the LOs, LIs, topic, sub-topics, teaching and learning activities and assessment procedures. 2.2. Identify and discuss new learning in the lessons 8. 2.3 Ask tutors to write three major concepts/ pedagogies introduced in lesson 8 on sticky note pad and share.	**15 mins**

or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors.	2.3. Write three major pedagogies introduced in lesson 8 on a sticker and share with your buzz group 2.4. Identify linkages if any between 2.3 above and the Career Technology curriculum in the Common Core Programme Curriculum (JHS) and demonstrate through role play how they can use this lesson to enhance student teachers' performance in their STS 2.5 Write and share potential barriers and possible approaches to overcome the barriers.	
3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and discussion of the teaching and learning activities • Noting and addressing areas where tutors may require clarification • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI 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	3.1. Walk through one or two learning activities in your buzz groups to illustrate how you will deliver lesson 8 **E.g. using a pre-recorded video to deliver topics *like exponents of Renaissance, and Metal Work Joining Processes in Technical, learning environment in Home, Health, safety and environmental issues in Agriculture, etc.*** *NB.* In addition to provisions in the manual, tutors may explore other approaches and resources in the lesson delivery. 3.2. Identify the areas that require clarification. **E.g.** • **Use videos from Youtube.** • **Photographs from phones and computer, etc.** • **The need for Resource persons to share experiences with learners.** 3.3. Read and share links of COMMON CORE PROGRAMME CURRICULUM (JHS) School Curriculum, **e.g.** *Agriculture:* • Food security and nutrition information system. *Home economics:* • Food security and nutrition information system. *Technical*: • Development of surfaces of Right Prism. *Visual Arts:* • Types of Linear and angular perspective in landscape drawing.	**40 mins**

support student teacher learning
• Resources:
   o 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
   o
	3.4. Identify and discuss how to integrate GESI responsiveness, ICT and 21st C skills in your lesson 8 through activities to be inculcated in your student teachers.
	
	3.5. Identify the assessment activities of lesson 8 in your Course manuals and ensure they are aligned with the NTS (1a, 2b, 3f, 3i), and NTEAP.
	E.g. Self-motivation (life-long learning/ personal life skills).
	
	3.6. Read the assessment component of Lesson 8 and identify areas that require clarification especially on GESI, ICT and 21st C skills related activities.
	E.g. appreciate the efforts of female/male/SEN student teachers during practical activities where they are performing tasks that are considered harmful to them (vibrating machines).
	
	3.7. Brain write additional assessment activities that will be relevant to the lesson 8.
	E.g. Presentation, exhibition and critic sessions, self-assessment, peer and tutor assessment, etc.
	
	NB. At this stage, subject projects should be nearing completion. Assessment should be looking at the student teachers':
	• Understanding of concepts
	• Understanding of procedures and processes
	• Proper use of tools and materials
	• Observance of Studio, workshop, laboratory safety rule, etc.
	Take note of how to score practical activities, e.g.
	How to score practical lessons
	i. Develop a check list indicating stages of the process
	ii. Identify skill(s) that must be acquired
	iii. Determine scores for each stage depending on the complexity of the skill
	iv. Completed artefact must be scored on the following criteria
	• Evidence of Preliminary/idea development process
	• Appropriate use of tools/material	

	• Draft/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works) • Originality • Suitability (NB if the work is not suitable it means all other areas of evaluation may be faulty). Also remind tutors to inspect student teachers' portfolios.	
4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1. Invite a critical friend from the same or related discipline to observe them as they teach Lesson 8 in class and provide feedback in lesson 9. 4.2. Identify and discuss any outstanding misconceptions that arose from the PD session for further clarification. ***Remind tutors to also allow their students to reflect on lesson learnt and relate them to their STS.***	**15 mins**

Tutor PD Session for Lesson 9

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	**Revision Activity**: 1.1 Review the PD session with an ice breaker. 1.2 Share your views on PD lesson eight you have observed. 1.3 Read and discuss the introductory sections of the lesson to identify the distinctive features of the lesson learning outcomes and indicators, e.g. *topic/sub-topics, LOs, LIs, teaching and learning activities, assessment procedures, etc.* **Refer to your respective course manuals** 1.4. Brain storm the achievability of targets set *e.g. Are the Los and LIs in agreement? Does the course Description reflect the Purpose of the Course, etc?* 1.5 Discuss in your buzz groups any issues that need to be clarified.	20 mins.

2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	2.1 Identify and discuss the new concepts and pedagogies in lesson 9, *Refer to your respective manuals* 2.2 Brain write any potential barriers identified on sticky paper and share with your buzz group members and then brain storm on how you would address same in the teaching and learning session. 2.3 Discuss the concepts and pedagogy being introduced in the lesson	**15 mins**
3. **Planning for teaching, learning and assessment activities for the lesson/s** • Reading and discussion of the teaching and learning activities • Noting and addressing areas where tutors may require clarification • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills • Reading, discussion, and identification of continuous assessment opportunities in the	3.1 Read and discuss teaching and learning activities in lesson 9. 3.2 Identify and discuss the areas that require clarification 3.3 Identify how you will discuss assessment opportunities in the lesson with student teachers that will help them assess project work in STS. NB. Since the semester is almost coming to an end, tutors should pay closer attention to subject project work assessment. At this stage, originality, effective use of tools and materials, finishing processes, greening TVET, etc. must be assessed. Refer to summary of the NEAP and how to score practical works in PD session 1 3.4 Identify 21st C skills and ICT issues in lesson 9 and discuss how these can be integrated in their lesson. e.g. • **Critical thinking, Communication, Collaboration.** • **Problem solving skills reasoning,**	**40 mins**

lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning
• Resources:
   o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
   o guidance on any power point presentations, TLM or other resources which need to be developed to support learning
• Tutors should be expected to have a plan for the next lesson for student teachers
	interpretation, synthesizing information.
	• **Research skills and practices, interrogative questioning.**
	  Creativity, artistry, curiosity,
	
	3.5 List the needed resources for the teaching and learning of the concepts in lesson 9.	

4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session • Identifying and addressing any outstanding issues relating to the	4.1 Reflect on the lesson 9 and write four new things you have learnt. Discuss it with the whole group 4.2 Identify a critical friend who will observe your lesson delivery and report the outcome at the next PD session 4.3 If you have any unresolved issues ask tutors refer it to your SWLs /HoDs or any other friend for clarification	**15 mins**

lesson/s for clarification	4.4 Prepare a skeletal lesson plan to guide your teaching your respective TVET domains.	

Tutor PD Session for Lesson 10

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. **Introduction to the session** • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	**Ice Breaker** 1.1 Craft a story about a vulnerable group in the society making living out of TVET activities to inspire your learners to participate actively in your lessons. **Reflection** 1.2 Listen to the critical friend's observations and share the lessons you learnt 1.3 read and discuss the introduction section of lesson 10 1.4 Use concept map to outline the distinctive aspect of lesson 10 and relate them to the Basic Design and Technology curriculum in the JHS. *(Los, LIs, content, teaching strategies, background knowledge of learners to support learning)*	20 mins

2. Concept Development (New learning likely to arise in lesson/s):	Refer to your respective manual lesson 10	15 mins
• Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	**Concept Development** 2.1 In pairs (where applicable) ask tutors to identify and write down the major concepts in lesson 10. 2.2 Brain write the possible barriers to learning for student teachers, 2.3 Share your view on possible ways to overcoming the challenges identified in 2.2 above. 2.4 Select a radio station name for your group and discuss the creative teaching methods that you would use to help student teachers understand and teach the concepts identified in 2.1 above in the JHS, **e.g** Panel group presentation (a host soliciting ideas from a panelist on a specific theme), mini group practical projects, creating and using learning centres (construction, drawing/painting, farming and home, sewing/cooking and shopping centres) in the classroom, visit to well established laboratories, studios and workshop as well as resource persons 2.5 Demonstrate how you would use one of the teaching strategies identified in 2.2 above. *NB. Set laboratory, workshop, studio and farm roles promote safety practices as student teachers use tools and machines. Enforce workshop safety rules to the later.*	
3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and discussion of the teaching and learning activities • Noting and addressing areas where tutors may require clarification • Noting opportunities for making links to the	**Planning for teaching and Assessment** 3.1 Read and discuss the teaching and learning activities in respective manuals and align them to LOs, LIs, identified in 1.4 above. 3.2 Ask questions on any teaching and learning activity you perceive to be challenge. e.g. *Panel group presentation* *Answer:* *A unique way of presenting fact. Panel discussions involves a group of people gathered to discuss a topic in front of an audience typically at scientific,*	

Basic School Curriculum • Noting opportunities for integrating: GESI 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 student teacher learning • Resources: ○ links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, 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 • Tutors should be expected to have a plan for the next	*business, or academic conferences, fan conventions and television shows. They are neither strictly formal nor informal discussions because the speaker sets the mood of the audience, etc.* 3.3 Talk with your pair on possible ways student teachers can make use of the new knowledge and skills gained of the lesson in their STS activities and record their observation appropriately in their STS journals. *Note:Remind the students teachers to look out for similarities differences of lesson 10 in relation to the Basic Design and Technology curriculum in the JHS for a whole class reflection*. 3.4 One of you from any domain group should list at least one way to integrate GESI, ICT and 21st C skills lesson 10 and share same with the whole group, e.g. **GESI** (active involvement of males, females and SEN students, students of different religious and social- cultural as well as economic background) **ICT:** use of smart phone to surf internet for relevant content and pedagogical information, prepare PowerPoint presentation, visit YouTube and MOOC for suitable videos for lesson 10. **21st C Skills**, e.g Communication and collaborating, Digital literacy and global citizenship and teamwork, etc. 3.5 Read the assessment activities in your respective course manuals and suggest additional assessments activities that could be used to assess student teachers in relation to subject portfolios and subject projects, **e.g.** **Subject portfolio**: Group investigation reports, relevant STS journal reports, pictures and audio recordings. **Subject project:** Student teachers to select different themes and create varied TLRs (flip charts processes, video recordings some skills and techniques on the TVET domain (preparing feeds, food and beverage production, waste management, landscaping processes, concept maps and posters)	

lesson for student teachers	of lesson 10 related concepts in the Basic Design and Technology curriculum. These could be added to student portfolios. 3.6 List the needed resources stated in their respective course manuals and suggest alternative TLRs for the teaching and learning of the concepts listed in 2.1 above. *NB: Refer to lesson 10 in your respective manuals* 3.7 Plan and prepare the outline of their respective lessons to guide their lesson delivery	
4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	**Evaluation** 4.1 Identify your pair to participate in the pick and act activity to recap the main issues discussed in the session 4.2 Invite a critical friend from other TVET domains to observe your lessons and report his/her observations to promote your reflective practices. 4.3 Identify and address any outstanding issues relating to the lesson 10s for clarification **Preparation Before next PD Session** read lesson 11 in your respective course manuals before the next PD session	**15 mins**

Appendix 1
The PD session check list: supporting B.Ed. implementation.
In some cases, to support implementation and address recent developments the PD session writers may need to add detail to what is covered in the course manuals

What to Include in PD sessions	Checked and In Place.
Course introductions and conclusions • The first PD session of each semester introduces the course manual/s, course expectations and course assessment components • The final PD session provides the opportunity to review student teachers' learning from the course	
Prior knowledge: Points for tutors on activating student teachers' prior knowledge.	
Basic School Curriculum: when topics for student teachers are from the Basic School Curriculum the PD session makes explicit links.	
LO: relevance to each session are introduced	
Interactive teaching PD **s**essions provide opportunities for SL/HOD to model interactive approaches to teaching and learning that tutors will use to support student teachers	
Lesson Learning outcomes and indicators are introduced	
Integration of subject specific content and subject specific pedagogy is modelled in PD sessions through activities for tutors. Any potentially new concepts introduced in the lesson are explored with tutors	
Subject Specific Training: where subjects have been grouped together for the PD sessions, tutors are guided to engage with activities in the subject course manuals to ensure the PD is subject specific. Where appropriate there is direct page or point references to activities in each of the relevant subject course manuals.	
Integrating GESI: each PD session explicitly includes at least two (2) teaching and learning activities from the course manual/s which should be used to promote student teachers' understanding of GESI responsiveness and support the inclusion of all pupils.	
Assessment, integrating and embedding NTEAP practices: PD sessions include at least two (2) continuous assessment opportunities which will support tutors in developing student teacher's understanding of, and ability to apply, assessment for or as learning.	
Age Specific Training: where relevant tutors are guided to specific activities in the course manuals for EG, UP and JHS. Tutors are advised to group student teachers according to the age they are training for.	
Building in STS: STS tasks are integrated into the PD sessions. Preparing for work in school and opportunities for tutors to draw on what student teachers are	

learning in school by, for example, targeting observations linked directly to the themes in the course manuals.	
Building in activities which support the development of 21c skills in particular the use of ICT. The development of these is integrated into the PD sessions including the use of ICT to support learning. Each PD session should include at least two (2) examples of students being required to use ICT to extend their learning.	
Resources /TLM. Where specific resources are required, it is clear where tutors can access them e.g., videos, online resources or readings.	

Tutor PD Session 11 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. Introduction to the session • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask tutors to plan for their	1.1. Write at least one idea you learnt in PD session 10 and how you applied it in your teaching. 1.2. Share your experiences in the delivery of lesson 10 with the whole group. 1.3. Invite your critical friends to share their observations for a short discussion. 1.4. Read and discuss the introductory sections of the lesson 11, including learning outcomes and indicators in the course manual and indicate how they are related to student teachers' relevant previous knowledge. *e.g. you will notice that lesson 11 is a build-up form lesson 10* **NB:** **The discussion must be based on the different topics in lessons 11 in the respective TVET domains:** **NB: (Refer to the respective TVET manuals).** • **Please discuss and plan within your respective buzz group domains based on lesson 11, considering specific resources, ICT tools, equity and inclusion. i.e., Agriculture, Home Economics, Technical and Visual Art.**	**20 mins**

teaching as they go through the PD session	1.5. Identify any distinctive aspects of the lesson/s: ***Agriculture: Lesson Topics*** • Tools and materials for Animal production. • Agriculture Value Chain. ***Distinctive features*** • **Donors and other supporting agencies in Agriculture Value Chain** **E.g.** ***Food and Agriculture Organization of the United Nations (FAO), World Bank, Dentsche Gesellschaft Für Internationale Zusammenarbeit (GIZ), etc.*** ***Home Economics: Lesson Topics*** • Clothing and textiles/fashion and tailoring. • Factors to consider in setting up a small business I- (space, labour, raw-materials, transport, market). ***Distinctive features*** • ***Terminologies in fashion and tailoring, e.g.*** ***Bottom: Preferred hem circumference around trouser legs.*** ***Darts: These are pieces of fabric that are overlapped/folded over and sewn.*** ***Technical: Lesson Topics.*** • Methods and Resources Used for Teaching Design and Realization. • Orthographic projections (third angle projections) • Operation of Internal Combustion Engines • Uses of manufactured boards - plywood and block board. ***Distinctive features*** • Types of orthographic projections, e**.g.** *First angle and third angle projections.* • Two kinds of internal combustion engines currently in production, e**.g.** *Spark ignition gasoline engine and the compression ignition diesel engine.* • Types of plywood, e**.g.** *Softwood plywood, hardwood plywood, chip board, etc.* ***Visual Art: Lesson Topics*** • Independent work and studio practice – Making drawings to serve a need based on creativity (theme selection sources of inspiration and preliminary designing). • A brief History of Art: Post-Modern Art	

	Movements. • Two- Dimensional Arts: Visual Communication 3 – Picture Making. • Three Dimensional Art: Basketry: Cane and Rattan work. ***Distinctive Features*** ***Idealization stages, e.g.*** ***Problem selection, preparation, concentration, incubation, verification, idea production and evaluation.*** • ***Characteristics of Post-modern art, e.g.*** ***Bricolage, the use of text prominently as the central artistic element, collage, simplification, appropriation, performance art, etc.*** • ***Visual elements in visual communication, e.g.*** ***Signs, typography, drawing, graphic design, illustration, industrial design, advertising, animation, photographs, etc.*** • ***Techniques in weaving basket with cane and rattan, e.g.*** ***Plaiting, Twining, Wicker, Coiling, etc.***	
2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors.	2.1. In pairs, list the new learning in the lesson and share with the whole group, **e.g.** ***Agriculture*** • *Traditional and modern way of animal production: role of breeding.* • *Agricultural entrepreneurship.* • *Entrepreneurship and its role in alleviating poverty in Home Economics.* ***Technical:*** • *Material innovation in Design and Realization.* • Characteristics and differences *Spark ignition gasoline engine and the compression ignition diesel engine* of Compression (Diesel) Engines. • *Modern use of plywood and block wood for product designs.* ***Visual Art:*** • *Drawing techniques by old masters and contemporary artists.* • *Post- modern art exponents: Jackson Pollock, Mark Rothko, Willem de Kooning, etc.*	**15 mins**

	• *Advertising, designing and branding of products.* • *History on African baskets: Ghana, Kenya, Tanzania, etc.* 2.2. Discuss the potential misconceptions and barriers with respect to the concepts listed below using the reverse brain storming technique: **e.g.** • *The design of most of the classroom buildings in the institutions does not cater for SEN students.* ***Agriculture:*** • *Males mostly dominate slaughterhouse as workers.* ***Home Economics:*** • *Lack of workshops, equipped food and clothing laboratories for Home Economics practical activities.* ***Technical:*** • *SEN student teachers cannot handle some tools and equipment during practical works.* ***Visual art:*** • *Misconception about the use of technologies in drawing and designing is making the artist not creative and lazy.* 2.3. Discuss possible solutions for misconceptions and barriers with respect to the concepts listed, **e.g.** • *The current buildings should be design to cater for SEN students during practical works.* ***Agriculture:*** • *Equal opportunity and training should be given to both sexes practical session.* ***Home Economics:*** • *Equipped workshops should be built for the institutions to help train student teachers effectively and efficiently.* ***Technical:*** • *Selected tools and equipment should cater for the learning needs of SEN student teachers.* ***Visual art:*** • *Both manual (traditional) and digital (modern) way of drawing and designing should be taught for more advance way of creating art in the contemporary world now.*	

	2.3. In your respective buzz group levels identify the most appropriate concept/pedagogy that can be employed to best explain the new concepts, *e.g.* ***Technology integration (***computers/ Smart phones for video recordings, etc.* ***Collaboration/team teaching (***co teaching or the critical person).* ***Critical and creative thinking*** *(creation of group project works, group presentation).* As in line with *NTS 1a, 2c, 3a, 3d, 3e, 3g, 3f,3j/NTECF, NTEAP, etc.*	
3. Planning for teaching, learning and assessment activities for the lesson/s - Reading and discussion of the teaching and learning activities - Noting and addressing areas where tutors may require clarification - Noting opportunities for making links to the Basic School Curriculum - Noting opportunities for integrating: GESI 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 student teacher learning	3.1. Read and discuss the teaching and learning activities in the course manuals for the various domains group. 3.2. Identify areas that need clarification. **Note: *Ensure the use of gender responsive language*, e.g.** ***Do not use harsh, threatening language or actions that instil fear in both females and males.*** 3.3. Discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed, **e.g.** *Equal representation of males and females and mix ability grouping as appropriate.* *Assign leadership roles to females in male dominated courses.* 3.4 Identify where, and which, 21st century skills that can be developed or applied in the lesson and how they can help student teachers to support Basic Design and Technology leaners in the JHS to develop same through their STS activities. 3.5. Read the assessment activities in your respective manuals and identify areas that require clarification, **e.g.** *Group presentations on the idea development and processes.* *Reports on the progress of projects to be mounted for the semester, in line with the NTS 3f, and towards the final semester project.*	**40 mins**

• Resources:
  o 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
  o Guidance on any power point presentations, TLM or other resources which need to be developed to support learning
• Tutors should be expected to have a plan for the next lesson for student teachers		

4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1. Summarize what you learnt in the PD session 11. 4.2. Invite the critical friend from the same or related discipline to observe you as you teach Lesson 11 in class and provide feedback to you and the whole group during session 12. 4.3. Read on Lesson 12 before the next PD session.	**15 mins**

Tutor PD Session for Lesson 12 in the Course Manual

Focus: the bullet points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1. **Introduction to the session** • Review prior learning • A critical friend to share findings for a short discussion and lessons learned • Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators • Overview of content and identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify and address any areas where tutors might require clarification on any aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.a. **Review of the Semester's work** 1.1. Share with the whole group your experience when assessing student teachers' *subject portfolio and subject project for the semester,* *e.g.* either, • Display a short video produced by student teachers or • Show pictures of exhibited *project* works, etc. 1.2. Review/reflect on the skills student teachers have learnt or acquired from the various courses in the semester. 1.3. Write on flipcharts and discuss your peculiar experiences (successes and challenges) their teaching of Year 2 Semester 1 Courses **1. b. Focus on Lesson 12** 1.4. Critical friends share their experiences with the group. 1.5. Read the introductory sections of lesson 12 (including LOs and LOs) and discuss in pairs the important or distinctive features of the lesson. ***Refer to respective TVET course manuals***	**20 mins**

2. Concept Development (New learning likely to arise in lesson/s): • Identification and discussion of new learning, potential barriers to learning for student teachers or students, concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors	2.1. Identify and discus the new learning of lesson 12. 2.2. Discuss potential barriers to learning for student teachers or students, ***e.g.*** • Difficulty of handling mechanization tools and equipment by SEN student teachers. • Inadequate of Agricultural **mechanization** tools and equipment in the colleges. • Problem of acquiring recourse for Design and realization. • The perception that Gourd and Calabash Art is the occupation of the vulnerable in society. (i.e. Women, persons with SEN, etc.) • The difficulty of studying History of Visual arts and reluctance to reject memorization in favour of critical thinking. • The believed that tractor operation and other practices are for male, etc.	**15 mins**
3. Planning for teaching, learning and assessment activities for the lesson/s • Reading and discussion of the teaching and learning activities. • Noting and addressing areas where tutors may require clarification. • Noting opportunities for making links to the Basic School Curriculum • Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills	3.1. Read and discuss the teaching and learning activities in lesson 12, e.g. Talk for learning • Think-Pair-Share • Simulation • Demonstration, • Jigsaw • hands-on, etc. 3.2. Identify and address areas that require clarification. 3.3. Identify the link(s) between lesson12 and the Career Technology Curriculum in the JHS and how the delivery methods will enhance student teachers' performance during their STS. e.g. Some of the lessons in Career Technology Curriculum linked to lesson 12. • BS-Strand 4: Technology Sub-Strand: Simple Structures and Mechanisms, Electric and Electronic Systems • B9.6.1.1.1: Describe how the changing nature of the workplace can bring about global competition and technology • B9.6.2.1.1: Describe how to start and run a small business, etc.	**40 mins**

	3.4. Identify opportunities for integrating GESI, ICT and 21st C skills into the lesson. 3.5. Demonstrate the use of Jigsaw approach to resolve issues relating to GESI, ICT and 21st Century skills. **NB:** *The Jigsaw Classroom is a cooperative learning technique that reduces racial conflict among students. As a result, it promotes better learning, improves student motivation, and increases enjoyment of the learning experience. This type of cooperative learning strategy allows individuals or small groups to become responsible for a sub-category of a larger topic. That is to say the Jigsaw strategy enables small groups within the larger group to specialize in one aspect of a topic and then come together to put the pieces of knowledge together to make whole. In this way each small group teachers the others what they have learnt. In practice, break concept to be learnt into smaller units and ask groups of student teachers to research portions;* i.e. **one group studies selection business name, and another group studies registration procedures and the last group studies start-up capital in Home Economics).** 3.6. Identify TLRs and other resources need for Lesson 12.	
4. Evaluation and review of session: • Tutors should Identifying critical friends to observe lessons and report at next session. • Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.1. Identify any outstanding issues relating to this lesson for clarification. 4.2. Read the course and PD manuals for the next semester.	**15 mins**

Appendix 1
The PD session check list: supporting B.Ed. implementation.
In some cases, to support implementation and address recent developments the PD session writers may need to add detail to what is covered in the course manuals

What to Include in PD sessions	Checked and In Place.
Course introductions and conclusions • The first PD session of each semester introduces the course manual/s, course expectations and course assessment components • The final PD session provides the opportunity to review student teachers' learning from the course	
Prior knowledge: Points for tutors on activating student teachers' prior knowledge.	
Basic School Curriculum: when topics for student teachers are from the Basic School Curriculum the PD session makes explicit links.	
LO: relevance to each session are introduced	
Interactive teaching PD **s**essions provide opportunities for SL/HOD to model interactive approaches to teaching and learning that tutors will use to support student teachers	
Lesson Learning outcomes and indicators are introduced	
Integration of subject specific content and subject specific pedagogy is modelled in PD sessions through activities for tutors. Any potentially new concepts introduced in the lesson are explored with tutors	
Subject Specific Training: where subjects have been grouped together for the PD sessions, tutors are guided to engage with activities in the subject course manuals to ensure the PD is subject specific. Where appropriate there is direct page or point references to activities in each of the relevant subject course manuals.	
Integrating GESI: each PD session explicitly includes at least two (2) teaching and learning activities from the course manual/s which should be used to promote student teachers' understanding of GESI responsiveness and support the inclusion of all pupils.	
Assessment, integrating and embedding NTEAP practices:** PD sessions include at least two (2) continuous assessment opportunities which will support tutors in developing student teacher's understanding of, and ability to apply, assessment for or as learning.	
Age Specific Training: where relevant tutors are guided to specific activities in the course manuals for EG, UP and JHS. Tutors are advised to group student teachers according to the age they are training for.	
Building in STS: STS tasks are integrated into the PD sessions. Preparing for work in school and opportunities for tutors to draw on what student teachers are	

learning in school by, for example, targeting observations linked directly to the themes in the course manuals.	
Building in activities which support the development of 21c skills in particular the use of ICT. The development of these is integrated into the PD sessions including the use of ICT to support learning. Each PD session should include at least two (2) examples of students being required to use ICT to extend their learning.	
Resources /TLM. Where specific resources are required, it is clear where tutors can access them e.g., videos, online resources or readings.	

Appendix 2. Course Assessment Components briefly

COMPONENT	SUBJECT PROJECT 1 per course per semester, individual or collaborative student teacher work.	SUBJECT PORTFOLIO 1 per course per semester, individual or collaborative student teacher work.
WHAT IS IT?	**The Subject project** is an assignment designed to enable student teachers to demonstrate achieving one or more of the CLOs, progress towards achieving identified NTS, development of knowledge and understanding of: the Basic School Curriculum, GESI responsiveness, using ICT mand 21stC skills	**The Subject Portfolio** is the deliberate collection of student teachers' work that has been selected and organized for a particular subject to show student teacher's learning and progress to achieving the CLOs through examples of his or her best work.
CONSTITUENTS	**Introduction:** a clear statement of aim and purpose **Methodology**: what the student teacher has done and why to achieve the aim and purpose of the project **Substantive or main section**: Presentation of any artifacts, experiments, TLMs created for the project; presentation, analysis, and interpretation of what has been done, learned, or found out in relation to focus of the project. **Conclusion:** Statement of the key outcomes of the project; reflection on what the student teacher has learnt	**3 items of work produced during the semester selected by student teachers with tutor support** during the semester as best examples of their progress and 200-word reflection on the items* **Or 2 items of work and** **A mid semester assessment**: case study, reflective note, quiz. * For each item they select, Student teacher's need to reflect on progress against identified NTS; achieving CLOs; increased knowledge and understanding of the Basic School Curriculum, GESI responsiveness, integration of ICT and how they could have approached developing the item differently to achieve a better outcome
WEIGHT	**Overall weighting of project = 30%** **Weighting of individual parts of project out of 100** • **Introduction – 10** • **Methodology – 20** • **Substantive section – 40** • **Conclusion – 30**	**Overall weighting of project = 30%** **Weighting of individual parts of portfolio out of 100** **i(a). Each of the three (3) items selected by the student teacher is 30 % (90%).** **i(b) Presentation and organisation of portfolio 10%.** **OR** **ii(a). Each of the two (2) items selected by the student teacher is 30 % (60%).** **ii(b)Mid semester assessment 30%** **ii(c)Presentation and organisation of portfolio 10%**

EXAM	**End of semester Exam, weight 40%. To assess:** achievement of one or more of the CLOs, progress towards achieving identified NTS, development of knowledge and understanding of the Basic School Curriculum, ability to use GESI responsive approaches and to integrate ICT and 21st C skills in teaching and learning

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