

TUTOR PROFESSIONAL DEVELOPMENT HANDBOOK: B.Ed in Initial Teacher Education TVET Year 4

HANDBOOK FOR TUTORS





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Tutor Version

Foreword to the Year 4 Tutor Professional Development Handbook

The development of this set of Tutor Professional Development Handbooks, for Year 4 Bachelor of Education (B.Ed.) courses in Initial Teacher Education marks both an end and a beginning.

It marks an end in that this is the final set of Tutor Professional Development Handbooks to be written, bringing an end to three years of writing by teams from across the four mentoring Universities (Kwame Nkrumah University of Science and Technology, University for Development Studies, University of Ghana and University of Education, Winneba) and Colleges of Education.

It marks a beginning because the significant reforms in teacher education which these Handbooks are helping to bring about has only just begun. The first student teachers who have directly benefitted from these Handbooks entered Colleges of Education in 2019 and won't graduate until 2023. Once these B.Ed. graduates enter Ghana's basic school classrooms, I am confident that we will see a year-on-year increase in the number of teachers meeting the quality benchmarks set out in the National Teachers' Standards (NTS).

It is our intention and belief that these Handbooks will be used in Universities and Colleges of Education for many years to come and that they will play a central role in helping us to bring about a sustained transformation in our basic education system so that we achieve the goal of the Education Strategic Plan (2018-2030) that "all pupils are equipped with appropriate literacy, numeracy and social development skills to effectively transition to second cycle education."

I would like to take this opportunity to thank the Ghana Tertiary Education Commission, the UK's Foreign, Commonwealth and Development Office (FCDO) and Mastercard Foundation for their support over the past three years in making all this possible.

Robin Todd
Executive Director, T-TEL
June 2022

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 however, 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.***

- ***In Year 4 Semester 2, student teachers are moving into a higher Extending Teaching phase of the TVET specialism. At this stage student teacher deepens their skills in thinking and exploring, planning and making, displaying and sharing their items through exhibition as well as appreciating and appraising what has been displayed, developing tools and materials using local resources where necessary and demonstrate critical understanding in the observation of workshop safety rules as well as the proper use and maintenance of tools and equipment.***

- *They are also to develop the capacity to operate both independently and collaboratively at this stage and engage in studio research which provides the opportunity for them to pursue a self-proposed and self-directed research.*
- *They are to adopt a problem-solving approach to identifying problems in the immediate environment (action research) and through critical thinking, design, innovative processes and products to solve them as well as extensively explore a variety of materials and tools (local and foreign) including ICT, applying the appropriate scientific/design processes and principles of ideation to solve identified problems.*
- *As part of their continuous professional development, student teachers are expected to teach, motivate and extend the learning with increasing consistency and independence by paying attention to all cross-cutting issues of gender, equality and inclusivity during their Supported Teaching in School (STS) sessions.*

The Course combinations are as follows:

For Year 4 Semester 2, TVET is mounting 15 Courses in all. Agriculture and Home Economics have two (2) each Technical has five (5) while Visual Art has six (6) Courses. Student teachers offering Agriculture and Home Economics, will select the two Courses mounted in their domain only. Visual Art students will offer Project Work in Visual Art as Core and add any other two (2) Courses from the 3-Ds mounted. These have also been grouped thus:

Group A.

- Sculpture
- Ceramics

Group B

- Basketry
- Jewellery and Bead Making
- Leatherwork

Students are expected to select one from each group, i.e., one from Group A and one from Group B.

AGRICULTURE

- Project work in agriculture
- Agribusiness Management: Processing, Financing and Marketing of Agricultural Products

Home Economics

- Enterprise Management in Home Economics
- Product Development and Action Research in Home Economics

Technical

- Final Project Work (Technical)
- Wood Technology III
- Construction Technology III
- Power Generation, Transmission and Domestic installation
- Metal and Automotive Technology III

Visual Art

- Project Work in Visual Arts

- Studio Practice in:
 - Basketry
 - Ceramics
 - Jewellery and Bead Making
 - Leatherwork
 - Sculpture

Level: JHS		Name of Subject: TVET	
Year 4		Semester 2	
Tutor PD Session 1			
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.	
1a Introduction to the semester – in session one ➤ Overview of subject/s age level/s to be covered in the PD sessions and guidance on grouping tutors according to the subject/s, age level/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 Appendix NB in subjects where there are no assessment components in the course manuals examples will need to be provided by the SWL for the SL/HoD .		1.1. Listen to the story of the Proverbial Monkey and the Banana <i>Long, long ago, the monkey looked very ugly and had no resemblance to man at all. As a result of its ugly sight, it found it difficult to attend gatherings for fear of ridicule. One day, the monkey visited God to demand a better look; to look like a human being.</i> <i>In response, God told the monkey that the change would require passing a test of being locked up for seven (7) days and seven (7) nights without food and water in a room with ripe bananas. ‘No problem’, declared the monkey. So, the test began.</i> <i>Grudgingly the days rolled past, and the monkey had endured the temptation and did not come near let alone touch or eat the banana. As the days passed, the ugly monkey was gradually but systematically metamorphosing into a human being and by the evening of sixth (6th) day, the resemblance was very close. By the sixth</i>	
		20 mins	

<p>1b Introduction to the session</p> <ul style="list-style-type: none"> ➤ 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, <p>NB The guidance for SL/HoD should identify, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson.</p> <p>NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session</p>	<p><i>(6th) evening, the monkey was almost a human being, but the hunger pangs also increased considerably while the banana also became sumptuously ripe and was releasing sweet-scented aroma. So strong was the temptation to eat that the monkey unconsciously dragged itself gradually towards the banana until it came very close to the banana. Having come so close the monkey noticed that some of the banana had got rotten and had dripped sweet smelling juice on the floor. So, the monkey decided to use its nose to push away the banana to see the quantum of liquid spilt. Meanwhile, as the clock ticked towards the seventh day, the ugly monkey had almost completely metamorphosed into a human being.</i></p> <p><i>In the fifty-ninth minute of the last hour the monkey realised that its nose was wet with the fluid from the rotten banana that it had pushed. It therefore decided to clean it by licking it with its tongue. So tasty it was that it decided to use its tongue to clean all the dripping fluids on the banana. Before it became aware, it had eaten all the banana. Just when it gulped the last morsel, the door opened. Guess who entered; God Himself, apparently to pronounce the monkey a 'human being'. But it was too late.</i></p> <p>1.2. What lesson can you learn from this story and how does the lesson learnt be applied to attendance to Year 4 Semester 2 PD Sessions?</p> <p>1.3. Share some of your experiences you had during your internship supervision with the whole group.</p> <p>1.4. Suggest ways in which the <i>Post Internship Course-based Seminar</i> can be used to prepare student teachers for the world of work as beginning teachers, e.g.,</p>	
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	<p>a. encouraging both student teachers and tutors to share their experiences freely</p> <p>b. providing guidance and counselling services to it to resolve traumatic experiences</p> <p>1.5. Read the introduction to the Year 4 Semester 2 Course from the Course manual to identifying the <i>Goal(s), Key contextual factors, Course Description, Core and transferable skills, CLO and Indicators, etc. i.e., focus of the course.</i></p> <p>Agriculture: The two courses mounted in Agriculture are: Project work in agriculture and Agribusiness Management. The focus is for student teachers to use variety of scientific approaches to solving agricultural problems and write a project report on field experimentation and action research. while at the same time prepare for out of Collage activities like Agribusiness Management: Processing, Financing and Marketing of Agricultural Products</p> <p>Home Economics: Also has similar focus having mounted two courses namely, <i>Enterprise Management in Home Economics</i> and <i>Product Development and Action Research in Home Economics</i></p> <p>Technical: <i>The focus of Technical include Hand Forging as in metal and Automotive iii, Problem Identification, Design brief, and Analysis as in the Final Project work, Plastic materials for Woodwork as in Woodwork Technology III as well as Introduction to Generation and Distribution of Electric Power as in Power Generation, Transmission and Domestic Installation are all build on year 3 Semester 2 courses.</i></p> <p>Visual Art: is mounting five (5) courses in all. One is focusing on Project report writing in</p>	
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	<p>Visual Art while four of these are quasi-independent Studio Research meant to produce exhibitable artefacts by the end of the semester. These four are all in 3-Ds and include <i>Basketry, Ceramics, Jewellery and Bead Making, Leatherwork, and Sculpture.</i></p> <p>1.5. identify possible challenges you could face in delivering this Course, e.g.</p> <ol style="list-style-type: none"> Possible conflicting instructions from subject tutors and project/action research supervisors Possible pressure on both students and tutors due to the end of semester exhibition Some students may have a divided attention between class attendance, project works, subject portfolio and professional portfolio building, etc. <p>Possible Solution</p> <ol style="list-style-type: none"> HoD/SLs in collaboration with Academic Affairs officers organize regular workshops or fora for tutors to harmonize procedures for completing projects, Action Research write-ups, Subject as well as Professional Portfolio building, etc. Create effective E-interactive platforms to engage student teachers in and out of the classroom Teach student teachers time management skills, etc. <p>1.6. Discuss how to effectively apply the two forms assessment in this course, e.g.</p> <p><u>Summary of NTEAP Assessment</u> There are three components of the NTEAP assessment activities to be noted: <u>Component 1:</u> i. Subject Portfolio Assessment (30% overall Score) <i>Summary of Assessment activities include:</i> ➤ <i>Reports, Selected items of Students' work, Midterm assessment, Reflective Journals, subject Portfolio, etc.</i></p>	
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	<p>Component 2 Project: (30% overall Score)</p> <p>This is also in two parts:</p> <ul style="list-style-type: none"> i. Projects that do not end up with a physical product, e.g., surveys. The outcome of such may be reports, statistical data, etc. ii. Projects that involve hands-on activity with a physical end product such as an artefact, (sculpture, painting, garment, model farm, etc.) These may need to be exhibited Portfolio of preliminary drawings/designs, artefacts, tools, equipment, materials and products and their uses.) <p>Building of subject-based Portfolios</p> <ul style="list-style-type: none"> i. Identify the variety of items that can go into a TVET portfolio <ul style="list-style-type: none"> a. Sketches b. Finished 2D/3D works c. Scrap book d. Cut-out articles from magazines and newspapers, etc. e. projects/assignments f. Downloads from the internet g. Power point presentations h. Written Reports i. Photographs/videos, etc. ii. Decide the appropriate form of the portfolio. Portfolios can be either soft as in E-Portfolios or hard portfolios. iii. Portfolios should not exist only for assessment. They constitute a private library for the learner, now and the future iv. For Visual Art, it is a necessary requirement for the scoring of any practical project work. <p>1.7. Discuss how you would use the course to prepare student teachers for the world of work as beginning teachers, e.g., draw student teachers' attention to the following:</p> <ul style="list-style-type: none"> a. Community entry skills b. Knowledge and linkages between the B.Ed. curriculum and the Basic Design Technology 	
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	<p><i>c. Survival skills, etc.</i></p> <p><u>Community Entry Skills</u> Community entry refers to the processes of initiating, nurturing, and sustaining a desirable relationship with the new community with the aim of securing and sustaining the community's interest in all aspects of one's duty and stay among them</p> <p><u>What to do</u></p> <ol style="list-style-type: none"> Collect information and map out the community; (culture, languages spoken, values, taboos, etc.) Conduct a stakeholder analysis; Identify institutional memories, attitude of staff members to work, expectations of the Headteacher/SMCs/PTA, etc., Pupil's class attendance, parental support, role of opinion leaders in the community, etc. On arrival in the community, visit and interact with key community leaders, e.g., the Headteacher, PTA Chairman, Chief, Religious leaders, District/Municipal Directors of Education, landlord, etc. Interact with your pupils and share your teaching philosophy with them (set the tone for good interpersonal relationships), etc. <p>1.8. Ask tutors to suggest possible Projects for the semester:</p> <p>Agriculture:</p> <ol style="list-style-type: none"> <i>Plant Abro Legon</i> <i>Observe and take data on:</i> <ol style="list-style-type: none"> <i>Number of Plants infested</i> <i>Height in every week (measurement)</i> <i>Effect on yield</i> <i>Write a comprehensive report.</i> <p>Home Economics: <u>Small group business operations:</u> (Food Production Enterprise as in Food Buzza or Process Food Sales).</p> <ol style="list-style-type: none"> In groups, identify a business idea related to food/clothing and home improvement Development. 	
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	<p>b. Develop a business plan, produce and sell your products employing different pricing and sale models to maximise profit. Conduct break even analysis</p> <p>c. Write and present a report on your business activities.</p> <p>Technical: One Student teacher or a group of student teachers (not more than four) identify a problem or challenge within the college environment, collect data, investigate and provide suitable solution to solve problem by making an artefact. This work may be done in student teacher's major or minor course area.</p> <p>Visual Art: <i>Design and produce an exhibitable artefact to solve an identified need in your college or its immediate environs using any two of the 3-D Art forms. The final product should be accompanied by a Project report illustrating clearly all the vital processes including ideation (preliminary sketches) and symbolisms (colour or/and form).</i></p> <p><u>A Summarised Guide to TVET Project Design and Realization</u></p> <p>Stage One- Preparation of design folios</p> <p>i. Preparation of design folios for design processes:</p> <ol style="list-style-type: none"> Problem Identification Design Brief Analysis Specification Investigation Cutting List or part list, Scaled Modelling Stating manufacturing processes for the Artefact Costing Testing and Evaluation Illustration using appropriate working drawings and detailed drawing, etc. <p>Stage Two- Making /Designing the artefact</p> <ol style="list-style-type: none"> Produce scaled model of the design. 	
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	<p>b. Selection of appropriate material artefact</p> <p>c. Manufacturing of the Artefact</p> <p>d. Testing and Evaluation</p> <p>e. Exhibition of project work.</p> <p>NB. These may be modified to suit specific TVET domains</p> <p>1b.</p> <p>1.9. Read and discuss the introductory sections of lesson 1 up to and including learning outcomes and indicators and discuss the focus and the achievability of the LOs and LIs, etc. to identify any distinctive and interrelated features, e.g., the focus of the lesson:</p> <p>Agriculture: The focus of Agriculture is:</p> <ul style="list-style-type: none"> a. The Concept of Educational Action Research b. Small Project in Crop Production <p>Home Economics: The focus of Home Economics is:</p> <ul style="list-style-type: none"> c. <i>Enterprise Management in Home Economics</i> and d. <i>Product Development and Action Research in Home Economics</i> <p>Technical: <i>The focus of Technical include:</i></p> <ul style="list-style-type: none"> e. <i>Hand Forging as in metal and Automotive iii,</i> f. <i>Problem Identification, Design brief, and Analysis as in the Final Project work,</i> g. <i>Plastic materials for Woodwork as in Woodwork Technology iii</i> h. <i>Introduction to Generation and Distribution of Electric Power as in Power Generation, Transmission and Domestic, etc.</i> <p>Visual Art: The focus of the Visual Art is:</p> <ul style="list-style-type: none"> i. <i>Functions of Museums and Galleries as it pertains to basketry, Ceramics, Jewellery and Bead Making, Leatherwork as well as Sculpture and</i> 	
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	<p><i>k. The Concept of Educational Action Research</i></p> <p>1.10. Identify possible linkage(s) to any previous courses/lesson, as well as the Basic Design and Technology Curriculum in the JHS, e.g.</p> <p>Agriculture: The assessment techniques studied in Year 3 Semester 2 are applicable in the two courses mounted, namely Project work in agriculture and Agribusiness Management: Processing, Financing and Marketing of Agricultural Products</p> <p>Home Economics: Similarly, the assessment techniques studied in Year 3 Semester 2 are applicable in the two courses mounted, namely, <i>Enterprise Management in Home Economics</i> and <i>Product Development and Action Research in Home Economics</i></p> <p>Technical: <i>Hand Forging in metal and Automotive iii, Problem Identification, Design brief, and Analysis as in the Final Project work, Plastic materials for Woodwork as in Woodwork Technology iii as well as Introduction to Generation and Distribution of Electric Power as in Power Generation, Transmission and Domestic Installation are all build on year 3 Semester 2 courses. Each these also have basic provision in the Basic Design and Technology Curriculum in the JHS.</i></p> <p>Visual Art: The studio Practice in the 3-D as in the Visual Art is a direct follow-up to the studio Practice in 2-Ds in Year 3 Semester 2</p> <p>1.11 Read and discuss the introductory sections of lesson 1 up to and including learning outcomes and indicators and discuss the focus and the achievability of the Los and Lis, etc.</p>	
<i>As this course is dealing with supporting and or assessing the Professional Teaching</i>	Refer to links below to guide student teachers in writing Project Report	

<p>Portfolio Development or the Action Research Project Report (CAR) writing. Tutors need to be provided with guidance on what to do including organisation of Post Intern Seminar.</p>	<p>Presentation of individual reflective notes on analysis of the videos with the links:</p> <p>https://youtu.be/TPJWh85Xt9k https://youtu.be/860LtRxP3rw https://youtu.be/zcA2B41Wym8</p>	
<p>For each session remember this is the final semester before Students start teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</p>		
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors</p>	<p>2.1. Scan through lesson 1 as in their respective subject areas and identify the major concepts in the lesson.</p> <p>NB. The Concept of Educational Action Research runs through all the TVET domains</p> <p>Agriculture:</p> <p>a. small group project in crop production b. The Concept of Educational Action Research</p> <p>Home Economics:</p> <p>The major concepts in Home Economics include:</p> <p>c. <i>Enterprise Management in Home Economics and Product Development and</i> d. <i>Action Research in Home Economics</i></p> <p>Technical:</p> <p>e. <i>The major concepts in Technical include Hand Forging as in metal and Automotive iii, Problem Identification, Design brief, and Analysis as in the Final Project work, Plastic materials for Woodwork as in Woodwork Technology iii as well as Introduction to Generation and Distribution of Electric Power as in Power Generation, Transmission and Domestic Installation are all build on year 3 Semester 2 courses.</i></p> <p>Visual Art:</p> <p>f. Functions of Museums and Galleries as it pertains to basketry, Ceramics, Jewellery and Bead Making, as well as Sculpture</p>	<p>15 mins</p>

	<p>2.2. Ask tutors in their respective domains to discuss the major concepts in lesson 1 with reference to the course description. Refer 2.1 above.</p> <p>Note.</p> <ul style="list-style-type: none"> ▪ <i>The course manual requires that student teacher deepens their skills in thinking and exploring (conceptualization, ideation and making preliminary designs/ sketching using manual and ICT systems), planning and making (explore the possibility of using appropriate tools and materials at low or no cost, production of various items) display and share their items through exhibition as well as appreciating and appraising what has been displayed, develop tools and materials using local resources where necessary and demonstrate critical understanding in the observation of workshop safety rules as well as the proper use and maintenance of tools and equipment.</i> <p><i>They are also to develop the capacity to operate both independently and collaboratively at this stage and engage in studio research which provides the opportunity for them to pursue a self-proposed and self-directed research.</i></p> <p><i>They are to adopt a problem-solving approach to identifying problems in the immediate environment (action research) and through critical thinking, designs, innovative processes and products to solve them as well as extensively explore a variety of materials and tools (local and foreign) including ICT, applying the appropriate scientific/design processes and principles of</i></p>	
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	<p><i>ideation to solve identified problems.</i></p> <p><i>As part of their continuous professional development, student teachers are expected to teach, motivate and extend the learning of classes with increasing consistency and independence by paying attention to all cross-cutting issues of gender, equity and inclusivity during their Supported Teaching in School (STS) sessions.</i></p> <p>2.3. Identify GESI, ICT, and other 21st Century Skills in your respective course manuals and in your buzz, groups discuss the pedagogies to use to make the acquisition easy and also relevant to the student teachers as beginning teachers after college, e.g.</p> <ul style="list-style-type: none"> <i>i. Encourage mixed gender and ability group work</i> <i>ii. Encourage idea sharing through class jury sessions</i> <i>iii. Facilitate the use of resource persons especially those who have defied social, cultural and economic stereotyping to make it in their TVET careers</i> <i>iv. Encourage computer aided designs</i> <i>v. Encourage the use of motorised tools and ICT tools</i> <i>vi. Encourage work-based learning</i> <i>vii. Encourage extended learning (refer 3.2.), etc.</i> 	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s Reading and discussion of the teaching and learning activities</p> <p>Noting, addressing, and explaining areas where tutors may require clarification</p>	<p>3.1. Discuss the major pedagogies prescribed in the course manual for lesson 1, e.g., <i>e-learning opportunities, independent Studies, practical activities (demonstration, etc.).</i></p> <p>3.2. Identify any possible area(s) that require further explanation, e.g., <i>independent Studies and practical activities as in studio Research.</i></p>	40 mins

<p>Noting opportunities for making <i>explicit</i> links to the Basic School Curriculum</p> <p>Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>Resources: links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube physical resources, power point; how they should be used. Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning</p> <p>Tutors should be expected to have a plan for the next lesson for student teachers</p>	<p>Refer to notes on 2.2.</p> <p>3.3 Discuss other alternative ways to deliver lesson 1 to facilitate the student teacher's practice as a beginning teacher after college, e.g.</p> <ol style="list-style-type: none"> Linking it to the Basic Design and Technology Curriculum in the JHS the use of extended learning. Ref. https://www.education.nh.gov. Helping student teachers to build their professional portfolios <p>Extended learning opportunities allow for the primary acquisition of knowledge and skills through instruction or study outside of the traditional classroom including, but not limited to independent study, private instruction, performing groups, community service, apprenticeship and on-line courses. This is relevant for the learning of lesson 1 in all the TVET domains. It will provide opportunity for cross-fertilization of ideas especially for the quazzi independent studies that is required of student teachers in the lessons on:</p> <p>Agriculture:</p> <ol style="list-style-type: none"> <i>The Concept of Educational Action Research</i> <i>Small Project in Crop Production</i> <p>Home Economics:</p> <ol style="list-style-type: none"> <i>Enterprise Management in Home Economics and</i> <i>Product Development and Action Research in Home Economics</i> <p>Technical:</p> <ol style="list-style-type: none"> <i>Hand Forging as in metal and Automotive III,</i> <i>Problem Identification, Design brief, and Analysis as in the Final Project work,</i> <i>Plastic materials for Woodwork as in Woodwork Technology iii</i> <i>Introduction to Generation and Distribution of Electric Power as in Power Generation, Transmission and Domestic, etc.</i> 	
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	<p>Visual Art:</p> <p><i>Functions of Museums and Galleries as it pertains to basketry, Ceramics, Jewellery and Bead Making, Leatherwork as well as Sculpture and</i></p> <ul style="list-style-type: none"> <i>i. The Concept of Educational Action Research</i> <i>j. Functions of Museums and Galleries as in Visual Art</i> <p>3.4. Discuss possible barriers in teaching /learning of lesson 1, e.g.</p> <ul style="list-style-type: none"> <i>i. Some student teachers especially those with SEN may have difficulty going through the rigorous practical activities that characterise lesson 1</i> <i>ii. Poor time-tabling due to lack of understanding of the dynamics of TVET practical activities by college authorities. NB. The practical course are 6 credits each and require 12 continuous hours.</i> <i>iii. Student teachers may experience fatigue from physical exertion. (NB Visual Art and Technical students may be taking at least 2 practical lessons each week.</i> <i>iv. Some students may have financial challenges because the practical lessons require materials which the College may not provide, hence student teachers may have to purchase them from their own resources, etc.</i> <p>Possible Solutions</p> <ul style="list-style-type: none"> <i>i. Give each student ample time to complete their work</i> <i>ii. Assist student teachers under stress especially those with SEN adequate support to be able to finish their work on schedule</i> <i>iii. Guide student teachers to use their allowances on tools and learning materials</i> <i>iv. Educate College authorities especially time-table officers to schedule practical lessons such that</i> 	
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	<p><i>they can have ample working time, etc.</i></p> <p>3.5. List TLRs suggested in your respective manuals for the delivery of lesson 1, e.g.</p> <ol style="list-style-type: none"> 1. Forging tools and accessories, centre Lathe, Electrical and Electronic tools and accessories, woodwork tools and accessories Sculpture tools (Chisel, Adze gouge, <i>mallet, knife, Pliers, hammer, clamps, saw, scrapers, etc., Sculpture materials (clay, plasticine, fibre glass, paper pulp, stone, wood, metal, wax, foam, plaster of Paris etc),</i> 2. Computers and accessories, projectors, internet facilities smart boards, studio, physical environment, marquette scrapers, pliers, needle, bodkin etc), Jewellery and Bead-making materials (abrasives, adhesives artificial beads, flexible wire, natural beads, gari, flour dough etc.). <p>3.6. Suggest other possible resources that could also be used to deliver the lesson</p> <p>3.7. Share their draft teaching plans with the whole group.</p> <p>3.8. Brain-write the assessment practices identified in your respective Course manuals and use think-pair -and- share approach to discuss in your domains how they would be used in lesson 1, e.g. self, peer, and tutor assessment, etc.</p>	
<p>4. Evaluation and review of session:</p> <p>a. Tutors need to identify critical friends to observe lessons and report at next session</p> <p>b. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Sum-up what you learnt in the PD session1</p> <p>4.2 Identify a critical friend to observe lessons and report at the next PD session.</p> <p>4.3 Refer any outstanding issues relating to the lesson/s to the SLs/HoDs for clarification.</p> <p>4.4 Remember to read lesson 2 of your manual before coming for the PD session next week</p>	15 mins

Tutor PD Session 2		
Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
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, NB The guidance for SL/HoD should identify, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.1. How useful was PD session 1 and how did it influence your teaching over the week? 1.2. Share your observation of the teaching of Lesson 1. 1.3. Discuss the positive lessons learned from the previous PD Session. 1.4. Read the introductory sections of Lesson 2 (up to learning outcomes) and discuss in pairs the important or distinctive aspects of Lesson 2, e.g., <i>the achievability of the Los and LIs</i> <i>Refer to your respective TVET manual.</i> 1.5. Read and discuss the overview of the content and identify any distinctive aspects of the lesson(s), e.g., to deepen their knowledge and skills of solving animal production problem, concept of Designing in Clothing and Textiles (Fashion) <i>with special reference to the various TVET courses?</i>	20 mins

<p>As this course is dealing with supporting and/or assessing the Professional Teaching Portfolio Development and/or Classroom enquiry and Action Research, Project Report writing, tutors should be provided with guidance on what to do including organization of Post Internship Seminar.</p>	<p>NB Remember to examine how student teachers chose their action research topics, enquiries made, literature/data gathered so far, etc. e.g. Sources of Data: ➤ Primary sources, (interviews, etc.) Secondary sources, (library research, etc.)</p>	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>NB Remind tutors to use the discussions on student teachers' subject based project development/report to teach PowerPoint presentation to them, e.g. These should cover areas such as: ➤ identification of the problem, ➤ investigation/idea development ➤ tool and material gathering ➤ systematic processes/procedures to be used to execute the final artefacts possible challenges they expect and how they propose solving them, etc.</p>	
<p>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, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>2.1. Identify and discuss the new learning as in lesson 2, e.g. Agriculture i. Identification of the Problem. (To demonstrate knowledge and ability to identify viable problems community). ii. Small project in animal production. (To demonstrate knowledge and skills of solving animal production problems)</p> <p>Home Economics i. <i>Business ideas and opportunities in Home Economics: Assessing business ideas.</i> ii. <i>Design Creation in Clothing and Textiles: Concepts of designing</i></p> <p>Technical i. <i>Specifications, Investigation and Cutting List.</i></p>	<p>15 mins</p>

	<p>ii. <i>Hand forging operations (upsetting, drawing down, flattening, swaging, bending, twisting, punching (Exhibit basic knowledge, understanding and manipulation skills metal hand forging operation).</i></p> <p>iii. <i>Sources of electrical power generation (non-renewable).</i></p> <p>iv. <i>Timber as the main material in the woodworking industry – types of timber and their uses, and cross section of timber.</i></p> <p>Visual Art</p> <p>i. <i>Greening TVET. (Demonstrate knowledge and understanding of the processes, tools and materials used in Basketry, Leather Work, Jewellery and Bead making, Pottery and Ceramics and Sculpture, etc. that will address the concept of greening TVET).</i></p> <p>ii. <i>Identification of the Problem.</i></p> <p>2.2. Discuss potential barriers to teaching and learning of lesson 2. e.g., Greening TVET:</p> <p>a. the challenge of student teachers accepting/ implementing the concept.</p> <p>b. tutors may have little experience or limited professional expertise to effectively guide student teachers on how to collect data and analysis them statistically in animal production.</p> <p>c. Some Student teachers may have the challenge of preparing cutting list for proper execution of their end of semester projects.</p> <p>d. Lack or Inadequate tools, equipment and materials for student teachers to have first-hand activity on for the Generation, Transmission and Distribution of Electric Power.</p> <p>e. Some student teachers may react negatively to the topic because they may find Action Research difficult to conceptualize.</p> <p>f. Stereotyping of woodwork as male occupation. (Show pre-recorded videos of persons who have overcome the gender and SEN stereotypes in the TVET,</p>	
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	e.g., female and/or a physically challenged person working as a carpenter, a person with SEN working as dressmaker/tailor, female mechanics, engineers etc.)	
3.Planning for teaching, learning and assessment activities for the lesson/s <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD ➤ 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 ➤ Tutors should be expected to have a plan for the next lesson for student teachers 	<p>3.1. Read and discuss the teaching/learning activities prescribed in the Course manual in their respective for lesson 2, e.g., group discussions, demonstrations, hands-on activity, Interactive lecture discussions, Independent Study, Work Based Learning, field trips, Simulation etc.</p> <p>3.2. Identify and address areas that may require clarification, e.g., <i>how to organise a field trip (industrial visit) as way of teaching.</i></p> <p><u>How to organize Field Trips</u></p> <p><u>Before the D-day</u></p> <ul style="list-style-type: none"> i. Identify the appropriate site at least one semester ahead. ii. Do the preliminary internal and external correspondence. (This arrangement should be tabled latest at the beginning of the semester at the Academic Board meeting and if necessary, at the Council Meeting so that adequate funding and administrative support can be obtained. The Tutor should never try to carry sole responsibility for a field trip. Involve all relevant College authorities including the Dean of Student, HoDs and staff, Domestic Bursar, Chief Security, Chief Driver (if it will involve travelling) and the principal. iii. Identify officer(s)/resource person(s) that will be the in-house tour guide at the site. iv. Discuss the outline of the lesson with him/her indicating exactly what you expect your students to learn. v. Prepare your students (tell them the kind of preparation they need (dressing, materials they must carry or not carry, tell them the nature of the site and possible risks in the place, what they should expect and look out for, internal and external 	40 mins

	<p>provision made for them, time of departure to and from the College, etc.</p> <p>vi. Take or check attendance before departure to authenticate the student teachers on the board.</p> <p>vii. At the site do the following:</p> <ul style="list-style-type: none"> ○ Take attendance and be sure all student teachers with whom you left college have arrived safely on site. ○ Be at hand to emphasize salient points raised by your on-site guide. ○ Prompt your students on relevant things to note/pICTures to take /questions to ask, etc. ○ At the end of the tour review what was taught and put all information into the right perspective. ○ Take attendance to be sure every student teacher is on board before you take off back home. <p>viii. Back at College do the following:</p> <ul style="list-style-type: none"> ○ Review the trip with students. ○ Let students write reports on the trip. <p>Tutor writes a report to the principal on the trip, etc.</p> <p>3.3 Suggest and discuss other possible teaching and learning activities, e.g. Internet platform (Cloud Computing, WatsApp, and Telegram), industrial attachment, Power Point Presentation, etc.</p> <p>3.4 Look out for links between lesson 2 and the Career Technology curriculum and how the delivery methods will enhance student teachers' performance during their STS, e.g., <i>the relationship between finishes and finishing and Abrasive and sandpaper in Technical and Visual art related courses. Items in lesson 2 as in Career Technology (Designing and making of artefacts/products). The applicability of lesson 2 on Business ideas and opportunities in Home Economics and</i></p>	
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	<p><i>establishing and managing small business enterprise of career technology.</i></p> <p>3.5 Brainstorm and discuss possible responses to GESI, ICT and 21st C skills issues, in lesson 2, e.g.</p> <ul style="list-style-type: none"> <i>a. Show pre-recorded videos of companies or/and persons who have taken the initiative to protect and sustain the environment through TVET activities (Greening TVET),</i> <i>b. Invite resource persons who have demonstrated mastery over gender/SEN stereotyping in the community, e.g., a female/person with SEN who is vested in data collection and analysis.</i> <i>c. Deliberately creating mixed ability groupings as way of encouraging all student teachers to sharpen their skills to the best of their abilities and also benefit from the collaborative strength of others to promote collaboration, leadership skills, cooperation (i.e., 21st C) etc. among student teachers,</i> <i>d. Asking student teachers to use their phones to surf the internet for new knowledge, etc.</i> <p>3.6. Read, identify and discuss the continuous assessment opportunities in lesson 2, e.g., refer tutors to the NTEAP summary in PD session 1 above and focus their attention on subject portfolio and subject based projects considering the following critical issues.</p> <ul style="list-style-type: none"> <i>a) Emphasis should be placed on helping student teachers to:</i> <ul style="list-style-type: none"> <i>i. settles on their project topics and designs,</i> <i>ii. assemble appropriate tools and materials for the project</i> <i>iii. Look for and read literature related to the project, etc.</i> <i>b) Encouraging creative application of knowledge and skills, innovation, teamwork and relevant application</i> 	
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	<p><i>of ICT tools and skills both in and out of class.</i></p> <p><i>c) Student teachers must be assisted at this stage to understand the concept and practice of Greening TVET. This will help them learn to act responsible towards the environment.</i></p> <p>NB. Tutors should encourage student teachers to develop power point presentation skills and other TLRs needed to support teaching and provide guidance.</p> <p>3.7 identify TLRs or/and other resources needed to support the learning of lesson 2, <i>e.g. internet facility, library laptop/mobile phones, charts, Interactive boards, text books, projectors, smart boards studio, workshops, forging tools and accessories, and Sketch pads, NTS/NTECF, NTEAP, a link on how: <u>Cut Lists Explained - Cabinet Solutions Software - YouTube etc.</u></i></p> <p>3.8 Discuss verbally your teaching plans for lessons 2 with the whole group.</p>	
<p>4. Evaluation and review of session:</p> <p>1. Tutors should Identifying critical friends to observe lessons and report at next session</p> <p>2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1. Invite critical friends from the same or related discipline to observe them as they teach lesson 2 in class and provide feedback.</p> <p>4.2. Are there any outstanding issues relating to lesson 2 for clarification?</p> <p>4.3. Read lesson 3 before the next PD session.</p>	15 mins

Tutor PD Session 3		
Age Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
Tutor PD Session for Lesson 3 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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	Ice Breaker Name your role model in your area of practice and state why this personality is your role model. 1.1 Reflect on the previous PD session with the whole group. 1.2 Critical friends report their observation of previous lesson to the whole group. 1.3 Read and discuss introductory sections of the lessons and including learning outcomes and indicators. NB: The discussion must be based on the different topics in lesson 3 in the following TVET domains: Agriculture: i. Small project in fish production ii. Definition/Specification/Investigation of the Agriculture Problem Technical: i. Scaled modelling and manufacturing process for artefact ii. Parts of Centre Lath machine iii. Timber as the main material in the woodworking industry – types of	20 mins

	<p>timber and their uses, and cross section of timber</p> <p>iv. Generation, Transmission and Distribution of Electric Power</p> <p>Home Economics:</p> <p>i. Reasons for Setting up a Home Economics Enterprise</p> <p>ii. Design Creation in Clothing and Textiles</p> <p>Visual Arts:</p> <p>i. Professional Ethics and Practices in Visual Arts studios (Leather Work, Basketry, Jewellery and Bead Making, Pottery and Ceramics)</p> <p>ii. Definition/Specification/Investigation of the Problems in Visual Arts</p> <p>1.4 Identify important or distinctive features of the topics in lesson 3.</p> <p>Agriculture:</p> <p>i. Scientific approaches to solving agriculture problems</p> <p>ii. Identification of fish production problems</p> <p>iii. identification of problem when conducting Agriculture project</p> <p>Home Economics:</p> <p>i. Factors to consider when setting up business</p> <p>ii. Skills needed for setting up Home Economics enterprise: clothing and textiles, home management, food and Nutrition, Child Development and Care.</p> <p>iii. Reasons for Setting up a Home Economics Enterprise: (follow your passions, support others, achieve financial independence, etc.)</p> <p>iv. Sketching garments and clothing designs</p> <p>v. Methods for designing/ creating and collection of dress catalogues</p>	
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	<p>Technical:</p> <ol style="list-style-type: none"> Scaled-Down Models- the physical properties which must be scaled are geometry, time, force, and rheology Various species of timber used in woodwork Cross section of timber Renewable and non-renewable electrical power transmission. Functions of the parts of the centre lathe machine. <p>Visual Arts:</p> <ol style="list-style-type: none"> Concept of Professional ethics and Professional practice (Leather Work, Basketry, Jewellery and Bead Making, Pottery and Ceramics) Identification of challenges found in teaching practice, the community or in the nation. <p>1.5 Brainstorm on prior knowledge of student teachers that will activate effective learning of lesson 3, e.g., student teachers have studied the following:</p> <p>Agriculture</p> <ol style="list-style-type: none"> Identification of the Problem. (To demonstrate knowledge and ability to identify viable problems community). small project in animal production. (To demonstrate knowledge and skills of solving animal production problems) <p>Home Economics:</p> <ol style="list-style-type: none"> <i>Enterprise Management in Home Economics and</i> <i>Product Development and Action Research in Home Economics</i> <p>Technical</p> <ol style="list-style-type: none"> <i>Hand Forging as in metal and Automotive III,</i> <i>Problem Identification, Design brief, and Analysis as in the Final Project work,</i> <i>Plastic materials for Woodwork as in Woodwork Technology iii</i> 	
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	<p><i>h. Introduction to Generation and Distribution of Electric Power as in Power Generation, Transmission and Domestic, etc.</i></p> <p>visual Acts</p> <p><i>i. Functions of Museums and Galleries as it pertains to basketry, Ceramics, Jewellery and Bead Making, Leatherwork as well as Sculpture and</i></p> <p><i>k. The Concept of Educational Action Research</i></p> <p>1.6 Outline any possible challenging areas in lesson that may require clarification</p>	
<p>As this course is dealing with supporting and or assessing the Professional Teaching Portfolio Development, Classroom Enquiry and Action Research Project Report writing, tutors need to be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.7 Discuss how to help/ support student teachers write clearly their Problem Statement and Literature Review problems. Ref. Year 3 Semester 2 STS page 114-117.</p> <p>1.8 Discuss the possible challenges extended teachers or beginning teachers may face on the field, e.g.</p> <p>Problems extended teachers or beginning teachers may face:</p> <ul style="list-style-type: none"> i. Lack of facilities in practicing school. ii. Poor method of teaching by their mentors. iii. Ineffective usage of teaching aids. iv. Inability to differentiate between the needs of the individual child and. <p>1.9 Discuss the possible guidance they could provide to the student teachers on Project Report Writing/project realisation.</p> <ul style="list-style-type: none"> i. Assist student teachers plan and organize the activities and materials ii. Guide student teachers to keep to the plan schedule and manage their time. 	

	iii. Guide student teachers to follow the safety procedures when producing the project artefacts	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>1.10 List and try your hands at ICT tools that beginning teachers can use to collect data to write their project works and also plan their lessons. <i>e.g., google forms, monkey survey, etc.</i></p> <p>1.11 Discuss the help or support they can give to extending teachers to handle GESI and CCI issues during their transition period</p> <p>e.g. GESI issue Highlighting the following</p> <ul style="list-style-type: none"> i. Prejudices of society about teaching as a poor profession, ii. Traditional beliefs and barriers affecting inclusion, iii. Strategies for promoting inclusion education iv. <p>Cross-cutting issues (CCI).</p> <ul style="list-style-type: none"> i. Community entry skills ii. Adjusting to the conditions in the new station through empowerment of the vulnerable, enforcing equity, equality and inclusion, becoming an example of social accountability, etc., maintaining effective Communication, with your learners and peers on staff 	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain</p>	<p>2.1 Discuss the new concept's introduction of the lesson,</p> <p>e.g.</p> <ul style="list-style-type: none"> i. Innovation - creating new ideas, new product development through research and development or improving existing services/product. This is applied in setting up Business in Home Economics and Design and Realisation in Technical Programme. ii. Ethical guidelines for arts practitioners and arts sector 	15 mins

the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.	<ul style="list-style-type: none"> iii. Scaled Modelling iv. Smart or modern material in woodwork industry. v. Scientific approaches in Agricultural problems, etc. <p>2.2 In pairs, discuss misconceptions and potential barriers in teaching and assessing lesson 3.</p> <p>e.g.</p> <ul style="list-style-type: none"> i. The semester is quite early yet for any meaningful progress in the project work ii. Lack of incentives or rewards for student teachers who excel in TVET areas. iii. Misconceptions to the effect that only some particular people or ethnicity can succeed in business. 	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD 	<p>3.1. Discuss the suggested pedagogies for teaching the concepts in lesson 3 as in the course manual. (Refer Course Manual)</p> <p>E.g.</p> <p>Face to face, talk for learning strategies (discussion, Think-Pair-Share), small group work, whole group discussion, Practical Activity), e-learning opportunities, brainstorming, etc.</p> <p>3.2. Identify assessment components in the lesson and compare them with the NTEAP, e.g., using jury, peer-assessment, self-assessment, tutor assessment to assess portfolio, subject project, independence learning, etc.</p> <p>3.3. Discuss assessment opportunities in the course manual that can be used to support student teachers during their STS sessions as well as provide feedback to the tutor, i.e., assessment for learning (AFL), assessment as learning (AAL), etc. Refer summary of NTEAP in PD Session 1(1.8.)</p>	40 mins

<p>➤ 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</p> <p>➤ Tutors should be expected to have a plan for the next lesson for student teachers</p>	<p>3.4. Identify the links between lesson 3 and the Basic Design and Technology curriculum in the JHS. Refer to the TVET course manual in the various domains, e.g., Example of lesson 3's linkage with the JHS Basic Design and Technology curriculum, e.g.</p> <p>a. <i>STRAND 6: Entrepreneurial Skills Sub-Strand 2: Establishing and Managing a Small Business Enterprise</i></p> <p>b. <i>STRAND 2: Materials for Production Sub-Strand: Smart and Modern Material</i></p> <p>.</p> <p>3.5. Lead tutors to point out GESI responsive activities in lessons 3 in the Course manual and discuss how they will apply them in their lessons, e.g.</p> <p>a. <i>Figure out the best collaborative activities that will ensure that the student teachers work together and encourage mixed ability and gender groups as it may apply to perform practical activity,</i></p> <p>b. <i>Provide support for each student teacher to attain their full potential</i></p> <p>c. <i>Show fairness in the treatment of all student teachers irrespective of gender, religion, ethnic, socio-economic standing, and</i></p> <p>d. <i>Respect the views of student teachers, ensure equal rights and provide opportunities.</i></p> <p>3.6. identify ICT and 21st C skills in the lesson that can be integrated in the lesson, e.g., and demonstrate in pairs how they can be used in class, e.g.,</p> <p><i>Use an appropriate ICT tool such as Google Form and SPSS as an assessment and analytical tool.</i></p> <p>3.8. List and discuss the needed resources for the teaching and learning of the concepts in lesson 3, e.g.</p> <p>a. <i>Centre lathe machine and accessories, Electrical and electronic accessories (wires, Amplifiers,</i></p>	
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	<p>Switches, Sockets, lamp holders, etc.) Braille, Scanner and Embosser for Sign language, YouTube Design studio, Internet facility, laptop/ computer/PCs, JHS Career Technology curriculum</p> <p>b. YouTube Video on Small materials https://www.youtube.com/watch?v=5s6-1uREV4A</p> <p>c. YouTube Video on Innovation (Product and Process) in entrepreneurship https://www.youtube.com/watch?v=BbUE9Fco5Nc</p>	
<p>4. Evaluation and review of session:</p> <p>1. Tutors should Identifying critical friends to observe lessons and report at next session</p> <p>2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Name a critical friend to observe your lesson and report the outcome at next PD session.</p> <p>4.2 Raise any outstanding issues in lesson 3 that needs clarification.</p> <p>4.3 Read the course manuals in preparation for PD session 4.</p>	15 mins

PD Section 4	Name of Subject: TVET	
Age Level: JHS		
Year 4	Semester 2	
Tutor PD Session for Lesson 4 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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.1 Reflect and share how PD session 3 influenced your teaching over the past week. 1.2 Share your observation of the teaching of Lesson 3. <i>Example: how did the pedagogy used influence the performance of both female and male student teachers in the use of laptops for data analysis and use of cutting tools?</i> 1.3 Read and discuss introductory sections of lesson 4 including learning outcomes and indicators, <i>For example:</i> <i>a. Is there any link among the Los and Lis of the lesson?</i> <i>b. Is there any relevant RPK of students?</i> <i>Are the Los and Lis achievable? etc.</i> <i>Note: Refer to the various TVET course manuals</i> 1.4 Identify important or distinctive features of lesson 4 in your TVET course manuals. <i>Example</i> The special features imbed in all the TVET domain below are exploration, creativity and innovation.	20 mins

	<p>Agriculture:</p> <ul style="list-style-type: none"> a. Finding Possible Solutions, (Design of Experiment) b. Small project in agricultural mechanizations. <p>Home Economics</p> <ul style="list-style-type: none"> c. Costing, Pricing and Record Keeping: The importance of costing and pricing d. Design Creation in Clothing and Textiles: Factors <i>influencing clothing designing</i> <p>Technical</p> <ul style="list-style-type: none"> e. Testing and evaluation of an artefact f. Centre lathe cutting tools g. Distribution of Electric Power h. Thinner, Lacquer and Varnish <p>Visual Art</p> <ul style="list-style-type: none"> i. The Concept of Basic Design: Conceptualization, Ideation and the Design Process in sculpture j. The Concept of Basic Design: Introduction to Conceptualization, Ideation and the Design Process in Beads Making k. Finding Possible Solutions (Sketch Model /Prototype, Appraisal and Evaluation, etc.) 	
<p>As this course is dealing with supporting and /or assessing the Professional Teaching Portfolio Development and/ or Classroom Enquiry and Action Research Project Report writing, Tutors should be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.5 Brainstorm in your buzz and discuss the various ways you can support student teachers to build a comprehensive teaching portfolio and discuss the procedure for assessing them.</p> <p>Example</p> <p><i>Collection of artefacts from their internship schools and community for their professional portfolio. Student exercises, teachers note, pICTures of experiments etc.</i></p> <p>Note: refer to STS handbook and NTS. 1c.</p> <p>1.6 Ask tutors to discuss how this lesson can facilitate discussions of targets and</p>	

	<p>activities in NTS with mentors and STS partners to improves personal and professional development of student teachers through lifelong learning and Continuous Professional Development (post internship seminar)</p> <p>Refer NTS 1b, 1a, 1c, 1d, 2a</p> <p>1.7 Discuss with tutors the various ways to support students in Action Research Project Report Writing</p> <p>Example. <i>Identifying a problem/topic, setting objectives, methods to use to gather data, and analysing their data, interpretation of pre and post intervention marks etc.</i></p> <p>Note: refer to STS handbook and guide them to use the internet</p>	
<p>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</p>	<p>1.7 Brainstorm ways by which this lesson can be used to support beginning teachers towards smooth transition whilst considering <i>GESI, CCI and ICT etc.</i></p> <p>Refer to STS Pg 33</p> <p>Example: this lesson in the various domains involves problem solving: in Agriculture, students teachers will use their knowledge in designing experiments and mechanization of small farms, Home Economics, student teachers will apply the lessons in Costing, Pricing and Record Keeping: and in Technical the student teachers will apply their knowledge in Designing and Creation as well as use of tools while in Visual student teachers will apply ideas from Conceptualization, Ideation and the Design Process to challenges they are likely to face at their new stations.</p> <p>In dealing with these challenges, both males and females should participate in community work as has been demonstrated in class. They should</p>	

	<i>also be aware sexual harassment laws and comply with, etc.</i>	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>2.1 Identify and discuss the new concepts in lesson 4.</p> <p><i>Example</i></p> <p>a. Identifying viable educational projects, define it properly, providing solid evidence and/or data to prove that the problem actually exists</p> <p>b. Distinguish between the types of cost and identify the importance of costing and pricing.</p> <p>(NTS, p.14, 3j; NTS p.19, 2c; NTS p.26, 3j; NTECF, p.29)</p> <p>c. Scaled Modelling Manufacturing process for Artefacts Testing and Distinguish between the types of cost and identify the importance of costing and pricing. (NTS, p.14, 3j; NTS p.19, 2c; NTS p.26, 3j; NTECF, p.29)</p> <p>d. Scaled Modelling Manufacturing process for Artefacts</p> <p>e. Testing and Evaluation</p> <p>f. solving problems relative to Leather Work and the visual arts as a whole.</p> <p>2.2. Identify and discuss potential barriers to teaching and learning of lesson 4,</p> <p><i>Example: stereotyping of the use and operation of machines as masculine and not feminine this couple by the hazards associated with Lethe cutting tools may cause fear among some students. Inadequate standards of products may bring about difficulty in pricing products.</i></p> <p><i>Some people may find Action Research difficult to conceptualize, etc.</i></p> <p><i>Note: Tutors should encourage females and SEN students to take active part in all activities just as the males.</i></p> <p><i>Tutors may also organise a community walk to interact with female and</i></p>	15 mins

	<p>persons with SEN performing TVET activities as well as guiding Home Economics student teachers through the walk to locate products that are standardised to help them develop pricing skills.</p> <p>Tutors provide systematic guide to student teachers on the conduct of their action research.</p>	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> a. Reading and discussion of the teaching and learning activities b. Noting, addressing, and explaining areas where tutors may require clarification c. Noting opportunities for making <i>explicit links</i> to the Basic School Curriculum d. Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills e. 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, subject specific examples should be provided for SL/HoD f. 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 	<p>3.1 List pedagogies for the lesson 4 Example: face –to face, demonstration/Simulation, discussion, Think-Pair-share, brainstorming, questioning, jury, etc.</p> <p>3.2. Read and discuss some of the teaching and learning activities in lesson 4 Example group work, whole class discussions, think, pair and share, independent study, data collection pre video recording etc.</p> <p>3.2 Suggest other possible teaching and learning activities for teaching lesson 4, Example; Teaching on internet platform (Microsoft teaching, Cloud Computing), field survey, PowerPoint Presentation, etc</p> <p>3.3 Identify and address areas that may need clarification. Example.</p> <ul style="list-style-type: none"> a. How action research should be carried out and assessed. b. How to organise students for a group project (NB. Females and SEN should be considered when grouping students). c. How to develop 21st century skills in student teachers such as leadership skills, collaboration, cooperation through group work when carrying out activities in lesson 4 <p>3.4 Read and discuss the Basic Design and Technology curriculum of the JHS and</p>	40 mins

	<p>identify the linkages between it and Lesson 4.</p> <p>Example</p> <ul style="list-style-type: none"> ➤ <i>Experimentation- data collection analysis-putting data into tables and simplifying it, drawing,</i> ➤ <i>Drawing, pattern making, printing, entrepreneurship,</i> ➤ <i>drawing and labelling of cutting tools on card boards etc.</i> <p>3.5 In your subject groups to discuss how teaching/learning activities adopted in lesson 4 will augment the skill of student teachers during their STS and action research.</p> <p>Example</p> <ul style="list-style-type: none"> ○ <i>micro-teaching</i> ○ <i>PowerPoint presentation</i> ○ <i>role play,</i> ○ <i>data collection</i> ○ <i>data analysis</i> ○ <i>ICT (phones and laptops) to surf information on the</i> <p>3.6 List and discuss how they would facilitate the transfer of ICT and 21st C. related skills to their student teachers during the teaching and learning of Lesson 4.</p> <p>Example.</p> <ul style="list-style-type: none"> ○ <i>collaborative learning through teamwork, mixed sex/ability group work</i> ○ <i>independent learning through take home assignments, library research</i> ○ <i>ICT through the use of their phones to surf for information on the internet.</i> <p>3.7 Read, identify, and discuss continuous assessment opportunities in lesson 4 and how it will help them in preparing</p>	
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	<p>student teachers towards final examination and the job market.</p> <p>Note: refer tutors to the NTEAP summary in PD session</p> <p>1. Focussing on subject portfolio and subject based projects.</p> <p>CA helps student teachers to master the use of tools and materials procedures and processes devoid of fear in examination and quiz.</p> <p>3.8 In your TVET domains to list the resources, tools and materials needed for both teaching/learning lesson 4 as well as carrying out action research, e.g., Laptop, projector and screen, internet facilities, Drawing board and Instrument, AutoCAD software, Computers, different types of pencils, Drawing Sheets, Sculpture tools (chisel, adze gouge, mallet, knife, pliers, hammer, clamps, saw; Sculpture materials (clay, plasticine, fiberglass, paper pulp, stone, wood, metal, wax, foam, plaster of Paris etc. Ask tutors to discuss their tools listed laying much emphasis on locally available tools and materials.</p>	
<p>4. Evaluation and review of session:</p> <ol style="list-style-type: none"> 1. Tutors should Identifying critical friends to observe lessons and report at next session 2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification 3. Tutors should be expected to have a plan for the next lesson for student teachers 	<p>4.1 Identify a critical friend who will observe their lessons and report at the next PD session.</p> <p>4.2 Discuss any outstanding issue relating to lesson 4, and where necessary surf information from the internet for clarification.</p> <p>4.3 Individually prepare and share draft/plan for lesson 4.</p>	15 mins

Tutor PD Session 5		
Age Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
Tutor PD Session for Lesson 5 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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	Introduction to the Session 1.1 Create a song, story or rhyme a motivating song to prepare student teachers for lesson 5 E.g., Teach me teacher 3x I want to read and write I want to be a sculptor If teacher will teach me well I want to be a gardener If teacher will teach me well I want to be a painter If teacher will teach me well I want to be a caterer 1.2 Reflect and share two achievements and one challenge in delivering lesson 4. 1.3 Share your observation of lesson 4 with the whole group 1.4 Sit in your domain groups to read the introductory session of lesson 5 your course manuals and write down the Learning Outcome and learning indicators on a flip chart, e.g. Guidance Note Agriculture: Appraisal and Evaluation of selected Design Artefact Production in Crops	20 mins

	<p>E.g., LO.1. Demonstrate knowledge and ability to do Power-Point Presentation of Designed Experiment</p> <p>LI.1 Exhibit draft Working procedures and processes of the designed experiment</p> <p>Home Economics Costing, Pricing and Record Keeping: Pricing units for sale.</p> <p>Design Creation in Clothing and Textiles: Creating prototypes of clothing articles.</p> <p>E.g., LO.1 Demonstrate knowledge and understanding of the four cost concepts and their importance in pricing decisions</p> <p>LI.1: Explain the four cost concepts.</p> <p>Technical Possible solution. Development of selected solution. Hydraulic system and Pneumatics machines. Installation/wiring.</p> <p>Sandy Sealer and Putty. E.g., LO.1 Apply knowledge, understanding and skills in drawing of possible solution and development of selected idea.</p> <p>LI.1 Produce and exhibit a portfolio on possible solution and development of selected idea (NTS pg. 29, NTECF pg29 Pillar 3)</p> <p>Visual Art Thinking and Exploring ideas for making Leather, Basketry. Jewellery and Bead items, Pottery and Ceramics Items Sculptures (I) and Working Drawing and Production layout</p> <p>E.g., LO.1 Demonstrate knowledge and understanding of how to critically explore</p>	
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	<p>the history and culture as well as the natural and man-made environment in any given community</p> <p>LI.1: Documentation and discussion on the history and culture as well as the natural and manmade environment in any given community</p> <p>1.5. Identify possible links between lesson 5 and 4 in terms of previous knowledge of student teachers, e.g. <i>All lesson 5s across all the TVET domains are a logical build up on lesson 4</i></p> <p>1.6 study the overview of lesson 5 content and identify the distinctive features of your lesson 5 using concept maps</p> <p>E.g., Drafting working or design procedures and processes of experiment, identification of business ideas connecting to the STS Schools and communities. Using inspiration from the natural and artificial environment in developing design in clothing, Leather Work, Basketry (I)</p> <p>Sculpture, Pottery and Ceramics as well as organising Exhibitions to show case student teachers creative works</p>	
<p>As this course is dealing with supporting and or assessing the Professional Teaching Portfolio Development or the Action Research Project Report writing. Tutors need to be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.6 Identify and discuss some activities you would use to help the student teachers relate lesson 5 to some lessons they taught in their STS practice Schools.</p> <p>E.g., Mini group post STS discussion to enable student teachers share their successes and challenges in relation to lesson introduction and lesson review.</p> <p>Or Peer review of sample videos of student lessons and discuss alternative activities that could be used to enhance their teaching as beginning teachers in the Basic Schools.</p>	

	<p>Note Emphasis should be on specific aspect of the lesson planning and delivery e.g., introduction, lesson review, pedagogy, TLR and classroom management.</p>	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>1.7 Reflect on and discuss various ways of helping student teacher understand to develop comprehensive learner plan for the various TVET domain as beginning teachers.</p> <p>E.g., Guiding students to plan sample lessons related to concepts of lesson 5 as it pertains in their specific TVET domain of the Common Core Curriculum for JHS emphasising on inclusivity of all the sexes and persons with SEN, as well as people from different socio-cultural and religious backgrounds with their varied learning styles and speed.</p> <p>Note: These sample learner plans could be added to their Professional teaching Portfolio.</p>	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <ul style="list-style-type: none"> ➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>2 Concept Development</p> <p>2.1 In pairs (if possible) study the lesson description and discuss the new concepts of lesson 5.</p> <p>Guidance Note Agriculture: Research design, experiment procedure report writing, entrepreneurship, business planning and management, appraisal and evaluation</p> <p>Home Economics Entrepreneurial skills. Enterprise management: costing and pricing models, break-even analysis, risk management, garment prototype design, integration of design elements and principles e.g., colour, texture space, proportion, balance and emphasis</p> <p>Technical Skills in cutting of joints, Hydraulic systems, pneumatic machines, principles and</p>	15 mins

	<p>application of hydraulic and pneumatic systems, skills of electric power generation and transmission, philosophy and history of generation, safety and safety working environment</p> <p>Visual Art Creativity as a means of addressing local and global challenges. Creating resilient arts, culture and human experience; Qualities of a good art practitioner; problem solving processing and producing and evaluating art products as well as assessing creative inspiration from the natural and artificial environment</p> <p>2.2 Brain-write three potential barriers to the teaching and learning of your lesson 5 s. E.g.,</p> <p>Agriculture: The season and weather condition may not support the growing of some crops in experimental research</p> <p>Home Economics: Some students may perceive entrepreneurial activities to be difficult and only meant for rich people</p> <p>Technical: Difficulty and possible dangers associated with electricity in the workshop due sometimes due to lack appropriate tools and equipment.</p> <p>Visual Art: Some student teachers may have difficulty in conceptualizing design ideas from the natural and the artificial environment to produce functional artifacts.</p> <p>2.3 Reflect and discuss the possible ways to overcome the barriers identified in 2.2 above.</p> <p>E.g.,</p> <ol style="list-style-type: none"> Establishing green-house farming Establish effective and efficient college gardening systems and make careful selection of crops in relation to the 	
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	<p>climate and other geographical conditions of the location.</p> <p>c. Organizing educational trips to parks and gardens, studios, workshops, restaurants and hotels, fashion industries</p> <p>d. Inviting resource persons.</p> <p>2.4 Read the lesson activities and identify the pedagogy being introduced in lesson 5 that you need further explanation.</p> <p>E.g., Independent study, whole group discussions Think-Pair and Share, group-work, hands-on activities, -Learning Opportunity/ Hands-on Activity, etc.</p> <p>2.5. Discuss alternatives pedagogy you want to assist your student teachers link the new concepts and pedagogy to STS activities in the Basic Schools of practices</p> <p>E.g., Experiential learning, extended learning, Mini cultural group project works Open forum and seminars Group report writing and presentation Peer planning and teaching</p>	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <p>a. Reading and discussion of the teaching and learning activities</p> <p>b. Noting, addressing, and explaining areas where tutors may require clarification</p> <p>c. Noting opportunities for making <i>explicit links</i> to the Basic School Curriculum</p> <p>d. Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>e. Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two</p>	<p>Planning for teaching</p> <p>3.1 Read and discuss the teaching and learning activities of lesson 5.</p> <p>3.2 discuss some creative ways of helping the student teachers to share related experiences of handling the Basic School curriculum during the extended teaching STS programme.</p> <p>E.g., Pick and act presentation model and Panel discussion</p> <p>3.3 Think and volunteer to do a brief model presentation on any activity that needs further clarification.</p> <p>3.4 Identify ways to help student teachers to actively review lesson 5 to identify various</p>	40 mins

<p>opportunities to use continuous assessment to support student teacher learning, subject specific examples should be provided for SL/HoD</p> <p>f. 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</p> <p>g. Tutors should be expected to have a plan for the next lesson for student teachers</p>	<p>GESI, ICT and 21st C skills that must be integrated into their practice</p> <p>Guidance Note: GESI (seating arrangement, mixed ability groups, socio-cultural group presentations, effective use varied and multifunction TLRs and SEN students, males and persons with disabilities leading household chores in enterprise operations, female leading crop growing experiments activities, give prompts to support all learners to develop prototype for design works.</p> <p>ICT: use of smart phone to surf internet for relevant information, PowerPoint presentation, videos of sample lessons of student teachers and pICTure and print materials, 21st C Skills E.g., Critical thinking and problem solving through reflection and sharing ideas during group work. Foster Creativity and innovation through conceptualizing design ideas from the natural and artificial environment, develop prototypes. Facilitate personal development and leadership skills by taking lead group presentation and participating peer reviews and seminars</p> <p>3.5 Write the teaching and learning resources indicated in your course manuals on stick note pad and discuss how to acquire them before the lesson</p> <p>3.6 Tutors to prepare draft outlines of their lesson plans to ensure effective presentation of lesson 5.</p>	
<p>4. Evaluation and review of session:</p> <p>1. Tutors should Identifying critical friends to observe lessons and report at next session</p> <p>2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>Evaluation</p> <p>4.1 Reflect, review and recap the key issues discussed in this session and identify any issues that need further clarification.</p> <p>4.2 Invite a critical friend to observe you deliver lesson 5 and provide you feedback to improve your reflective practice to enhance teaching and learning.</p>	<p>15 mins</p>

	4.3 Read lesson 6 in your course manual and PD manual to prepare for the next PD session.	
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Tutor PD Session 6		
Age Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	1.1. Start the session with an icebreaker. 1.2. Share your experiences of the previous PD session, e.g., your successes and challenges. 1.3. Report on your observation of teaching of Lesson 5. 1.4. Discuss lessons learned from critical friend’s findings. 1.5. Read the introductory sections of Lesson 6 (up to learning outcomes) and discuss in pairs the important or distinctive features of the Lesson. e.g., the purpose of the lesson Agriculture The purpose of this lesson is to introduce student teachers to scientific experimentation. Home Economics The purpose of this lesson is to introduce student teachers to the whole spectrum of product development through to final product production. Technical The purpose of this lesson is to introduce student teachers to problem-solving skills	20 mins

	<p>Visual Art The purpose of this lesson is to introduce student teachers to problem-solving skills relative to Basketry, Jewellery and Bead Making, Leather Work, Pottery and Ceramics, sculpture, etc. The course is also intended to provide opportunity for student teachers to investigate identified problems that will support the design and production of Pottery and Ceramics products.</p> <p>1.6. Read through the whole lesson and identify the main focus of the lesson. e.g.</p> <p>Agriculture Knowledge, skills and attitude of rearing and marketing of animals and their products.</p> <p>Technical Basic operational/ principles of Hydraulic and Pneumatic systems, etc., To develop the skills in cutting of joints/ parts of the final Solution.</p> <p>Visual Art To develop guided and critical thinking strategies for the design and making of visual forms, etc.</p> <p><i>Refer to your respective TVET manuals taking into consideration the various topics in lesson 6.</i></p>	
As this course is dealing with supporting and or assessing the Professional Teaching Portfolio Development or the Action Research Project Report writing. Tutors need to be provided with guidance on what to do including organisation of Post Internship Seminar.		
<i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this</i>		

<p><i>transition for planning and give regard for GESI, CCI, ICT etc.</i></p>		
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>2.1. Read and discuss the new learning in lesson 6, e.g.</p> <p>Agriculture</p> <ul style="list-style-type: none"> i. Artefact production in animals. ii. Executing the Experiment. <p>Home Economics</p> <ul style="list-style-type: none"> i. Costing, pricing and record keeping: Record keeping. ii. Recipe Development in Food and Nutrition: Experimental Cooking Research into local dishes and drink. <p>Technical</p> <ul style="list-style-type: none"> i. Principles of basic operations of Hydraulic and Pneumatic systems. ii. Parallel connection. iii. Conversion of timber - tangential sawn and radial sawn. iv. Preparation of the following drawings: Final solution, working drawing. <p>Visual Art</p> <ul style="list-style-type: none"> i. Thinking and exploring ideas for making Leather work, Basketry, Jewellery and Bead, Pottery and Ceramics and Sculptures items (II). ii. Production <p>2.2. Discuss the potential barriers to learning for student teachers, e.g., difficulty on the part of some student teachers translating designs into real product difficult.</p> <p>Specific student teachers may have limited knowledge in working drawing. <i>Some student teachers may find it a challenging task to conceptualize, perceive and illustrate ideas.</i> Some student teachers may see sculpturing and Ceramics as time consuming because artist take a lot of time in the planning, preparation and execution of artefacts. The misconception that sculpture is a male profession and the stereotyping of woodwork as male occupation. (Take</p>	<p>15 mins</p>

	<i>student teachers for a community walk to interact with females and persons with SEN performing TVET activities in the communities), etc.</i>	
3.planning for teaching, learning and assessment activities for the lesson/s <ul style="list-style-type: none"> ➤ reading and discussion of the teaching and learning activities ➤ noting, addressing, and explaining areas where tutors may require clarification ➤ noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD ➤ 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 ➤ Tutors should be expected to have a plan for the next lesson for student teachers 	<p>3.1. Read and discuss some of the teaching and learning activities in lesson 6. e.g., group work, group discussions, think, pair and share, independent study, etc.</p> <p>3.2. Suggest and discuss other possible teaching and learning activities, e.g. internet platform (cloud computing), industrial attachment, extended learning, power point presentation, exhibition, etc.</p> <p>3.3. Identify and address areas that may require clarification. <i>e.g., how grouping of students should be done (students with 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, how teaching through cloud computing is organise etc.</i></p> <p>3.4. In your respective subject areas identify and discuss links between lesson 6 and the Basic Design and Technology curriculum in the basic school during their STS. e.g., the relationship between cutting/shaping, planning for making artefacts/ products, joining and assembling etc., in career technology is same as in lesson 6.</p> <p>3.5. Point out and discuss opportunities for integrating: GESI responsiveness and ICT and 21st Century skills into lesson 6. e.g., Invite resource persons who have demonstrated mastery over gender/SEN stereotyping in the community, e.g., a female Sculptor and a male potter. Create mixed ability groupings in the classroom as a way of encouraging all student teachers to try their hands and</p>	40 mins

	<p>skills to the best of their abilities. These will also benefit from the collaborative strength of others to promote collaboration, leadership skills, cooperation (e.g., 21st C) etc. among student teachers, etc.</p> <p>3.6. Read from the course manual, outline and identify continuous assessment opportunities in lesson 6.</p> <p><i>e.g., refer tutors to the NTEAP summary in PD session 1 above and focus their attention on subject portfolio and subject based projects considering the following critical issues.</i></p> <p><i>a) Emphasis should be placed on creative application of knowledge and skills, innovation, teamwork and relevant application of ICT tools and skills.</i></p> <p><i>b) Final products are not the target yet but works should be at least halfway completed. Assessment should concentrate but not limited to understanding and proper application of theories, principles, processes, procedures as well as appropriate use of tools and compliance with safety rules in the studio and workshops.</i></p> <p><i>c) Student teachers must at this stage apply the concept and practice of Greening TVET. This will help them learn to act responsible towards the environment.</i></p> <p>NB. Encourage tutors to develop power point presentation skills and other TLRs needed to support teaching and provide guidance.</p> <p>3.7. Mention and discuss TLRs or other resources needed to be developed to support learning. <i>e.g., design tools and materials, internet facility, library, laptop/mobile phones, charts, drawing room, interactive boards, Projector,</i></p>	
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	<p><i>textbooks, pICTures, electrical and electronic accessories like wires, Amplifiers, Switches, Sockets, lamp holders, etc. NTS/NTECF, NTEAP, etc.</i></p> <p>3.8. Share your draft teaching plans for lesson 6 with the whole group.</p>	
<p>4. Evaluation and review of session:</p> <p>1. Tutors should Identifying critical friends to observe lessons and report at next session</p> <p>2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1. Invite a critical friend to observe your lessons and give feedback to the tutors and report back to the group.</p> <p>4.2. Read through lesson 7 of your course manuals in preparation for session 7.</p>	15 mins

Tutor PD Session 7		
Age Levels: JHS	Name of Subject: TVET	
Year 4	Semester 2	
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/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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	Ice Breaker Somebody came to you and said he/she is liar, next day the same person said to you: he/she ate a bowl of fufu yesterday. Will you believe he/she this time and why? 1.1 Reflect on the previous PD session with the whole group. 1.2. Critical friends report on their observation of previous lesson to the whole group. 1.3. Read and discuss introductory sections of the lessons and including learning outcomes and indicators. e.g., the relevance and achievability LO (Agriculture) Demonstrate knowledge and understanding of the key features of Chapter 1 of a Project Report. LI (Agriculture): List the key components of chapter 1 of a Project Report LO: (Home Economics) Demonstrate knowledge of food and catering learning environment	20 mins

	<p>LI (Home Economics): Identify and list basic activities of the learning environment</p> <p>LO (Technical) a. Demonstrate knowledge and understanding of the basic operation principles of Hydraulic system and Pneumatics machines.</p> <p>LI Technical: the basic operation principles of Hydraulic system and Pneumatics machines</p> <p>LO (Visual Arts) Demonstrate knowledge and understanding of some foundational skills, techniques, tools, materials and processes in Basketry, Ceramics, Jewellery, Leather work, Sculpture, etc.</p> <p>LI (Visual Art) Brainstorm and document information on some foundational skills, techniques tools, materials and processes in Basketry, Ceramics, Jewellery, Leather work, Sculpture, etc.</p> <p>1.4 Read and identify important or distinctive features of the topics in lesson 7 in their various course manuals.</p> <p>Agriculture: i. Identification of key components of chapter 1 of Project Report in Agricultural project ii. Fish species to rear iii. Fish species and cultural activities.</p> <p>Home Economics: i. Importance of a business plan in a small enterprise ii. Elements of a business plan iii. Preparation business plan iv. Evaluation of business plan v. Improvement on Local recipes vi. Ways of improving dishes (cooking time, nutritive value etc.)</p>	
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	<p>Technical:</p> <ul style="list-style-type: none"> i. Making Scaled modelling of an artefact ii. Advantages and disadvantages of manual and automatic transmission system. iii. Natural (air) seasoning g and related terminologies e.g., Allowable Property iv. Bulk transmission of electrical energy from a generating site v. Safety delivery of power transmission of electrical energy to consumers vi. Single-phase AC vii. Three-phase power AC <p>Visual Arts:</p> <ul style="list-style-type: none"> i. Concept of Professional ethics and Professional practice (Leather Work, Basketry, Jewellery and Bead Making, Pottery and Ceramics) ii. Identification of the key components of Chapter 1 in Report writing. <p>1.5 Review prior knowledge of student teachers that will activate effective learning of the lesson, e.g.</p> <ul style="list-style-type: none"> i. Student teachers have discussed the Concept of Action Research, NTS: 3b ii. Student teachers are familiar with fish farming activities. iii. Student teachers have ideas about business development from their communities and lessons on setting up a Home Economics enterprise from previous lessons. iv. Student-teachers are Familiar with series and parallel connection of electric power v. Student-teachers are familiar with car engine <p>1.6 Outline any possible challenging areas in lesson that may require clarification</p>	
As this course is dealing with supporting and /or assessing the Professional Teaching Portfolio Development and /or Classroom Enquiry and	1.7 Discuss how you would help/ support student teachers design portfolio for their realisation of project artefact or final project work.	

<p>Action Research Project Report writing, tutors should be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>Student-teachers should document the following in their design portfolio:</p> <ul style="list-style-type: none"> v. State designing processes/ preliminary drawings vi. Preparing cutting list/ingredients, tools and materials vii. Development of final and detailed drawings. viii. Test and evaluation reports, etc. <p>1.8 Discuss the needed guidance you will provide to the student teachers on Project Report Writing /project realisation or development.</p> <ul style="list-style-type: none"> ix. Guide student teachers to be innovative and creative in production or making items in Artwork (Leather Work, Basketry, Jewellery and Bead Making, Pottery Ceramics and final project in design and realization. x. Guide student teachers to keep records relevant documents/materials. xi. Guide student teachers to manage their time when producing the project artefacts. <p>1.9 Discuss meaningful documents or artefacts a beginning teacher may keep forming part of their Professional Teaching Portfolio. <i>Ref. Year 3 Semester 2 STS page 114-117.</i></p> <ul style="list-style-type: none"> xii. Personal data xiii. Personality attributes xiv. Lesson plans for whole class teaching xv. Reflective Journal xvi. Scheme of Work xvii. Technical competencies, etc. <p>1. 10 Discuss problems / challenges extended teachers or beginning teachers may face on the field, e.g.</p> <p>Problems extended teachers or beginning teachers may face:</p> <ul style="list-style-type: none"> i. Challenge managing freedom. ii. Not knowing their learners well. iii. Not understanding the different learning abilities and capacities of the students. 	
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	iv. Lack of knowledge on entry into new community skills	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>1.11 Identify and discuss ICT tools that can be recommended to the extending teachers can use to collect data on the field and plan their lessons, e.g.</p> <ul style="list-style-type: none"> i. Surf the internet and other OER sources to find additional ideas to improve on their draft in Report writing. ii. Use YouTube for pre-recorded videos to present their lesson concepts. iii. The use of digital literacy skills in lesson delivery. iv. Use digital camera / mobile phone for data collection and recording. <p>1.11 Discuss what help /support they will give to extending teachers during this transition period with regard for GESI and CCI issues.</p> <p>e.g.</p> <ul style="list-style-type: none"> i. Environmental issues relevant to materials for production of project artefacts. ii. Incorporation of GESI issues into classroom activities bearing in mind individual differences and abilities on learners. <p>Create a safe learning environment for all learners including learners with SEN..</p>	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and</p>	<p>2.1 Discuss the concepts or pedagogy for introduction of the lesson,</p> <p>e.g.</p> <p>NB: The discussion must be based on the lesson topics in lesson 7 as in the following TVET domains:</p> <p>Agriculture:</p> <ul style="list-style-type: none"> i. Project Report Writing (Chapter 1) ii. Artefact used in production of fish <p>Technical:</p> <ul style="list-style-type: none"> i. Scaled modelling 	15 mins

<p>explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<ul style="list-style-type: none"> ii. Operations of the Transmission system (manual, automatic) iii. Transmission of Electric Power (Renewable and Non-renewable Electric power) iv. Seasoning of timber - natural (air) seasoning <p>Home Economics:</p> <ul style="list-style-type: none"> i. Starting and managing a small business in Home Economics ii. Recipe Development in Food and Nutrition: Experimental cooking- Improving existing recipes in Food and Nutrition. <p>Visual Arts:</p> <ul style="list-style-type: none"> i. Planning and Making items (Leather Work, Basketry, Jewellery and Bead Making, Pottery and Ceramics) ii. Project Report Writing (Chapter 1) <p>2.2. Discuss misconceptions and potential barriers in teaching and assessing student teachers in lesson 7.</p> <p>e.g.</p> <ul style="list-style-type: none"> i. Some students have negative attitude towards practical/ activity-based learning i. Large class size hinders effective individual attention giving ii. Many people find the making of Leatherwork items is time consuming. iii. Misconceptions that only some particular people or tribe can set up business. iv. Lack of self-esteem or confidence due to low skills levels v. Negative personal experience of learning vi. Previously undetected or unaddressed learning disabilities. vii. Some people may find translation of designs into real products difficult. viii. College studios may not be well equipped and resourced for the project work. 	
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	<ul style="list-style-type: none"> ix. Lack of tools and equipment to teach Operations of the Transmission system. x. SEN students may not be interested in fieldwork when collecting data for project work. <p>2.3 Discuss strategies or modes of delivery the lesson to support student teachers in achieving the learning outcomes. NTS: 1a, 2b 2c, 2d, 2i, e.g.</p> <ul style="list-style-type: none"> i, use group discussions to explore techniques involved in making items. ii. Through workshops or independent study to explore the possibility of using available tools, materials, preliminary designs and sketch models to produce Art items. iii. Use practical work to help student teachers to understand the process of their artefact. 	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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 	<p>3.1 Read and discuss how to apply teaching and learning activities in the lesson 7 and take feedback to gauge (measure) understanding of student teachers. NTS 2a, 2d, e.g.</p> <ul style="list-style-type: none"> i. Conduct activities that will track progress in skill acquisition in the workshop or the stereo. ii. Brains and take note of student teachers' ideas. iii. Pyramid discussions on the need for setting up business to reduce unemployment. iv. Provide constructive feedback to ensure understanding of the concepts. <p>3.2 Discuss how to plans and deliver the challenging areas of the lesson and show how to help student teachers overcomes their difficulties. NTS 2a, 2d,</p> <ul style="list-style-type: none"> i. Addresses individual student teacher's difficulty as soon as possible. ii. Re-teaching content or give assignment for presentation. iii. Use ICT tools and technology to explain challenging concepts. 	40 mins

<p>teacher learning, subject specific examples should be provided for SL/HoD</p> <ul style="list-style-type: none"> ➤ 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 ➤ Tutors should be expected to have a plan for the next lesson for student teachers 	<p>3.3 Identity and discuss the assessment criteria in the lessons and their relationship with the NTEAP. NTS: 3k, NTEAP Appendix 4.</p> <ul style="list-style-type: none"> i. To ensure fair and consistent assessment. ii. Assessment must match student teachers' progress in line with achievement of the CLOs of the lesson. iii. Provide clear assessment criteria, which relate to student teachers achieving CLO. iv. Assessment criteria should consider GESI responsiveness issues v. The mid-semester assessment should consider student teacher's ability to demonstrate and apply their knowledge and understanding of the CLOs. <p>3.4 Discuss how you intend to use the assessment opportunities in lesson 7 to facilitate student teachers' assessment of their learners as an extending teacher STS and subsequently as a beginning teacher on the field.</p> <ul style="list-style-type: none"> i. Regularly quizzes (not necessarily written) and homework to assess of learners' learning progress. ii. Assessment for learning (AFL) approach to teaching and learning that give feedback to improve students' performance. iii. Provides opportunities for self-assessment and reflection during the learning process. iv. Support student teachers understand NTS and Basic School Curriculum. <p>3.5 Identify the links between lesson 7 and the lessons in the JHS Career Technology curriculum.</p> <p>e.g.</p> <ul style="list-style-type: none"> i. STRAND 5: Designing and Making of Artefacts/Products ii.. Sub-Strand 4: Making Artefacts from Compliant, Resistant Materials and Food Ingredients 	
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	<p>iii. Strand 6: Entrepreneurial Skills Sub-Strand 1: Career Pathways and Career Opportunities</p> <p>iv. Strand 4: Technology Sub-Strand: Simple Structures and Mechanisms, Electric and Electronic Systems</p> <p>v. Strand 2: Creative Arts Sub-Strand 2.3. Connections in Local and Global Cultures</p> <p>vi. Strand 2: Creative Arts Sub-Strand 2.2. Creative and Aesthetic Expression</p> <p>3.6 Discuss how to use assessment for and as learning opportunities to assess student teachers during project work or practical sessions, e.g.</p> <ol style="list-style-type: none"> Encourages positive innovational skills. Provides opportunities for student teachers to complete their work time in the workshop. <p>3.7 In four various TVET domains, discuss and suggest how to address GESI responsiveness issues in lesson 7. NTE 1g E.g</p> <ol style="list-style-type: none"> Ensure Gender equity when giving out the needed TLRs Effective management of behaviour and learning of disadvantage student teachers in small groups or large classes. Promotes inclusion and actively prevent intolerance attitude among student teachers and ensure gender equity. Focuses on the task rather than the student teacher's weaknesses, etc. <p>3.8 Use think-pair-share to identify and discuss the ICT and 21st C skills that can be integrated into the lesson. NTS: 3j, 3i, e.g.</p> <p>ICT skill</p> <ol style="list-style-type: none"> PowerPoint (group) presentation on the importance and the elements of a business plan, air seasoning, operation of transmission system internal combustion engine, production of fish, etc. 	
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	<p>ii. Use digital tools such as Use YouTube pre-recorded video to explain air seasoning, operation of Transmission system, production of fish, etc.</p> <p>21st Century skills</p> <p>iii. Offer alternative approaches or asks students to think of alternatives ways of doing the same work.</p> <p>iv. Provide opportunity for collaboration and relationship between student teachers, etc.</p> <p>3.9 Discuss the needed resources for the teaching and learning of the concepts in lesson 7. NTS: 3j</p> <ul style="list-style-type: none"> ▪ E.g., Interactive boards, Electrical and electronic accessories (wires, Amplifiers, Switches, Sockets, lamp holders, etc.) Vehicle maintenance tools and equipment, Design studio, Internet facility, laptop/ computer/PCs, JHS Career Technology/Basic Design and Technology curriculum, etc. <p>i. Video on Scaled Modelling https://www.youtube.com/watch?v=iiWtPVESdE8</p> <p>ii. Operations of the Transmission system https://youtu.be/wCu9W9xNwtI</p> <p>iii. Air seasoning https://youtu.be/mxRurvC-mds</p> <p>iv. Artefact used in production of fish https://www.youtube.com/watch?v=SxIhIMHfRjk</p> <p>Leather Work</p> <p>v. https://www.youtube.com/watch?v=CLPkVvI9yFg</p>	
<p>4. Evaluation and review of session:</p> <p>1 Tutors should Identifying critical friends to observe</p>	<p>2.1 Brain-write two things they have learnt in this session and share it in pairs.</p>	15 mins

<p>lessons and report at next session</p> <p>2 Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>2.2 Name a critical friend to observe your lesson, give feedback and report the outcome at the next PD session.</p> <p>2.3 Mention any outstanding issues in lessons that needs clarification.</p> <p>4.3 Read the course manuals in preparation for PD session 8.</p>	
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Tutor PD Session 8		
Age Levels: JHS	Name of Subject: TVET	
Year 4	Semester 2	
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
<p>1 Introduction to the session</p> <ul style="list-style-type: none">➤ 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, <p>NB The guidance for SL/HoD should identify, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement.</p> <p>NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session</p>	<p>1.1. Write one teaching and learning strategy you learnt in the previous PD session and explain how you applied it in your teaching at your classroom on a sticky note.</p> <p>1.2. Share your views with the whole group.</p> <p>1.3. Share your observations on how lessons 7 went with your critical friend’s lesson</p> <p>1.4. Read and discuss the introductory sections of the lesson including learning outcomes and indicators in the course manual and indicate how they are related to student teachers’ relevant previous knowledge, e.g.</p> <p>LO (Agriculture) Demonstrate knowledge and understanding of the key features of Chapter 2 of a Project Report.</p> <p>LI (Agriculture) List the key components of chapter 2 of a Project Report</p>	20 mins

	<p>LO (Home Economics) Demonstrate knowledge, understanding and skills in developing new recipes from lesser-known foods</p> <p>LI (Home Economics) Identify wild or lesser-known fruits and vegetables that could be used for dishes and drinks</p> <p>LO (Technical) Prepare a report on the types of artificial seasoning</p> <p>LI (Technical) Prepare a report on the types of artificial seasoning</p> <p>LO (Visual Art) Apply the knowledge and skills in practical demonstrations as they continue to further develop their sculptures using relevant resources.</p> <p>LI (Visual Art) Hands on demonstration of the use of some key skills, techniques, workable materials at low or no cost and processes as they continue to further develop their skills</p> <p>NB: The discussion must be based on the achievability of these in lesson 8</p> <p>1.5. Ask tutors to identify the important or distinctive features of the lesson/s.</p> <p>Agriculture:</p> <ul style="list-style-type: none"> i. List of some value-added crop farm products. ii. Key components of Chapter 2 <p>Technical:</p> <ul style="list-style-type: none"> i. Identifying the problem, <i>defining</i>, developing prototypes, and finally producing the artefact. ii. Present written/pICTorial report 	
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	<p>iii. Transmission system (manual and automatic).</p> <p>iv. Types of artificial seasoning.</p> <p>Home Economics:</p> <p>i. Importance of a business plan.</p> <p>ii. Identify wild or lesser-known fruits and vegetables that could be used for dishes and drinks</p> <p>Visual art</p> <p>i. The distinctive aspect of Visual Art is that they looked at understanding of some foundational skills, techniques, tools, materials and processes they are using for their studio practice in Leather, Basketry, Pottery and Ceramics, Jewellery and Bead Making and also sculpture in the lesson 8.</p> <p>ii. List the key components of chapter 2 / Appropriate use of tools and materials.</p> <p>NTECF p 21; NTS 13</p> <p>NB: (Refer to the respective TVET manuals).</p> <p>Please discuss and plan within the respective domains based on lesson 8, considering specific resources, ICT tools, equity and inclusion. i.e., Agriculture, Home Economics, Technical and Visual Art.</p>	
<p>As this course is dealing with supporting and or assessing the Professional Teaching Portfolio Development or the Classroom Enquiry and Action Research Project Report writing, tutors need to be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.6. Discuss the assessment of the professional teaching portfolio development.</p> <p><i>e.g., Professional teaching portfolio is the evidence of a student teachers' progress towards becoming a beginning teacher. It contains among other things:</i></p> <p><i>a. curriculum Vitae</i></p> <p><i>b. a continuous professional development (CPD) record,</i></p> <p><i>c. Student Reflective Journal (SRJ),</i></p> <p><i>d. evidence from their STS,</i></p> <p><i>e. evidence of Action Research</i></p>	

	<p><i>f. selected subject based project portfolio, etc. (must be representative of knowledge gained or depicting something unique)</i></p> <p>Refer to STS Year Three School Placement Handbook.</p> <p>Table 8.2.7.2 pg. 117.</p>	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>1.8. How can student teachers integrate ICT, GESI and CCI into their teaching and learning?</p> <p>e.g.,</p> <ol style="list-style-type: none"> Embedding graphics using digital soft wares' (ZBrush, 3Dmax, Photoshop, etc.), pictures and videos in lessons about how to use equipment, tools and how to make products should be a skill acquired by beginning teachers. Giving equal opportunities to both gender when teaching, female student teachers should be directed and assisted in using heavy machines and equipment in technical and visual art aspects. The males should be given equal assistance in home economics. SEN students should also be attended to fairly and it should be applied when learners go out. Promote core and transferable skills, also professional attitudes and values in various TVET specialised aspects during their STS out segment and after school. 	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p>	<p>2.1. Ask tutors to read and discuss the new learning of lesson 8.</p> <p>Agriculture:</p> <ol style="list-style-type: none"> Value addition to crop farm products. Project Report Writing (Chapter 2: Review of Related Literature). <p>Technical:</p> <ol style="list-style-type: none"> Manufacturing process and the final production of the artifact. 	15 mins

<p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<ul style="list-style-type: none"> ii. Combustion engine Systems. iii. Domestic installation/wiring. iv. Wood Artifacts for Hospital/Clinic. <p>Home Economics:</p> <ul style="list-style-type: none"> i. Starting and managing a small business in Home Economics: Preparing a business plan ii. Recipe Development in Food and Nutrition: Developing new recipes from lesser used foods. <p>Visual Arts:</p> <ul style="list-style-type: none"> i. Planning and Making Leather Items Continued. ii. Planning and Making Basketry Products Continued. iii. Planning and Making Jewellery and Bead Items Continued. iv. Planning and Making Pottery and Ceramics Items Continued. v. Planning and Making Sculptures Continued. vi. Project Report Writing (Chapter 2: Review of Related Literature). <p>NB: Refer to the relevant TVET manuals.</p> <p>2.2. Discuss potential misconceptions and barriers with respect to the concepts listed, e.g.</p> <p>Barrier:</p> <ul style="list-style-type: none"> a. Some student teachers may not be able to think about value addition to local foods beyond the traditional ones they know. <p>Solution: Encourage student teacher experimentation and exploration of possibilities.</p> <p>Barrier:</p> <ul style="list-style-type: none"> b. As the semester is coming to an end, student teachers may not have enough money to buy materials for practical work <p>Solution: Encourage student teachers to put their resources together and work in groups</p>	
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	<p>Barrier:</p> <p>c. There may not be sufficient time available to execute some of the practical activities adequately for a good outcome.</p> <p>Solution:</p> <p>Encourage student teachers to practice effective time management</p>	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD ➤ 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. 	<p>3.1. Read and discuss the teaching and learning activities in the course manuals for lesson 8</p> <p>NB: Tutors should go through the activities one after the other taking into consideration the time available, resources and nature of learners, coherency and methodology.</p> <p>3.2. Identify areas that need clarification.</p> <ul style="list-style-type: none"> i <i>Project report writing on chapter two involves two important aspects, known as concept framework and theoretical framework.</i> ii <i>In technical, the marking scheme to follow when looking at manufacturing process and final production of a product has some peculiar attributes to look at.</i> iii <i>Procedure to follow when writing a business plan for TVET domains.</i> iv <i>Equipment, tools and materials varies when it comes to the three-dimensional aspects of visual art.</i> <p>NB:</p> <p><i>Take note and make time for slow learners and others with socio-cultural and economic.</i></p> <p>3.3. Discuss how you intend to facilitate GESI issues in the lesson, e.g a. The use of resource persons who have risen above the social-cultural barriers in their TVET businesses.</p>	40 mins

<p>Consideration needs to be given to local availability</p> <ul style="list-style-type: none"> ➤ Tutors should be expected to have a plan for the next lesson for student teachers 	<p>b. Pay attention to every student teacher and facilitate the working according to their ability and speed.</p> <p>NB: NTECF p 21; NTS 13 Refer to NTS, 2a, 2b, 2c, 2e, 2f, 2i, 2j</p> <p>3.4. Identify practically centered 21st century skills, CCI and ICT skills that can be developed or applied through the lesson, e.g.</p> <ul style="list-style-type: none"> ➤ <i>The use of ICT tools such as computers, smart phones, projectors, etc. to prepare and present lessons.</i> ➤ <i>Encouraging collaborative, creative and communicative skills through group work and presentations.</i> <p>3.6. Identify assessment opportunities in lesson 8 and discuss how these can be used to support student teachers during their STS sessions, e.g., Assessment as learning, assessment for learning, Peer assessment, self – assessment, etc.</p> <p>3.7. Read and outline the relationship between the concepts in lesson 8 and the Basic School Curriculum, e.g.</p> <p>The Basic Design and Technology curriculum have content that involves learning doing activities such as designing, construction, electronics, etc. Ref. Strand 3,4 and 5 of the Career Technology CCP curriculum.</p> <p>3.8. Identify the inclusive resources needed for teaching and learning of the concepts in lesson 8, e.g. turntable, carving tools, farm implements, agricultural chemicals, cooking utensils and equipment, electrical tools and equipment, automobile equipment, etc.</p>	
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	<p>Additional Resources</p> <p><i>Presentation of individual reflective notes on analysis of the pdfs with the links:</i></p> <p>https://www.sba.gov/sites/default/files/how%20to%20Write%20a%20Business%20Plan.pdf</p> <p>https://core.ac.uk/download/pdf/228447953.pdf</p> <p>https://www.brown.edu/academics/educationalliance/sites/brown.edu/academics/educationalliance/files/publications/act_research.pdf</p> <p>Ensure every member of the group have concrete plans teaching lesson 8.</p>	
<p>4. Evaluation and review of session:</p> <ol style="list-style-type: none"> 1 Tutors should Identifying critical friends to observe lessons and report at next session 2 Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1. Identify the critical friend to sit in their class and report on observations during the next PD session</p> <p>NB: Critical friend (s) <i>may</i> be in subject specific areas.</p> <p>4.2. Read lesson 9 from the PD manual and find relevant materials for the next session.</p> <p>4.3. Read through lesson 9 of their course manuals in preparation for session 9.</p>	15 mins

PD Session 9 Age Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
Tutor PD Session for Lesson 9 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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	Ice breaker Begin the PD lesson 9 with an ice an ice breaker (song) about the importance of learning a vocation: Grow banana, grow banana Pluck banana, pluck banana Peel banana, peel banana Eat banana, eat banana Sheet banana, sheet banana Note: remind tutors to perform the signs as they sing the song. 1.1 Reflect and share the good and the challenging aspects of PD session 8 with the whole group. 1.2 Share your observation on the teaching of Lesson 8 last week. Example: how did lesson 8 build the practical aspect of both female and male student teachers as well as SEN in TVET courses? 1.3 Read and discuss the introductory sections of the lesson 9 including learning outcomes and indicators, For example: Is there any link between the LOs and LIs of the various TVET domains, Is there any relevant RPK of students? What is the relationship between the LOs and LIs? etc. Note: Refer to the TVET course manuals	20 mins

	<p>1.4 Identify important or distinctive features of lesson 9 in your Course manuals.</p> <p>Example</p> <p>Agriculture:</p> <ul style="list-style-type: none"> a. Project Report Writing (Chapter 3) b. Research Methodology) c. Value addition to animal products <p>Home Economics</p> <ul style="list-style-type: none"> a. Marketing strategies and channels of distributing Home Economics products: Basic marketing strategies- Advertisements b. educational action research: Needs Identification and project writing (Chapter1) <p>Technical</p> <ul style="list-style-type: none"> a. Manufacturing process and the final production of the artefact. b. Combustion engine Systems c. Network Analysis d. Preservation of timber – pressure preservation <p>Visual Art</p> <ul style="list-style-type: none"> a. Writing project Report (chapter 3) b. Research, Methodology c. Planning and Making Basketry, Leather Work, Jewellery and Bead, Sculpture, etc. Items 	
<p>As this course is dealing with supporting and /or assessing the Professional Teaching Portfolio Development and/ or Classroom Enquiry and Action Research Project Report writing, Tutors should be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.5 Brainstorm and discuss the various ways you can support student teachers to build a comprehensive teaching portfolio, Classroom Enquiry and Action Research Project Report and discuss the procedure for assessing them.</p> <p>Example</p> <p><i>Collection of artefacts from their internship schools and communities for their professional portfolio. Other</i></p>	

	<p>documents include Student exercises, teachers note, pICTures of experiments etc. Note: refer to year 3 semester 2 STS handbook pg 114-117 and NTS. 1c.</p> <p>1.6 Discuss targets and activities in NTS with mentors and STS partners to improve personal and professional development through lifelong learning and Continuous Professional Development (post internship seminar) Refer NTS 1b, 1a, 1c, 1d, 2a</p> <p>1.7 Discuss with tutors the various ways to support students in Action Research Project Report Writing</p> <p>Example. Identifying a problem/topic, setting objectives, methods to use to gather data, and analysing their data, interpretation of pre and post intervention marks etc.</p> <p>Note: refer to STS handbook and guide them to use the internet</p>	
<p>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</p>	<p>1.7 Brainstorm and help discuss ways by which you can support beginning teachers towards smooth transition whilst considering GESI, CCI, ICT etc.</p> <p>Refer to STS Pg 33 Example: Tutor brings a resource person whom both male and female can easily relate to and who also can speak to the issues at stake to talk to student teachers, thus.</p> <p>Both male and female will be posted to arrears where their services are needed, ladies should make sure they do not succumb to pressure of men while the men refrain from sexually harassing the females. Indeed, all should participate in community work but know the extent to which they will go. All should make sure they continue</p>	

	<i>their education. They should use technological tools such as phones and laptops to improve their carrier etc.</i>	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>2.1 Identify and discuss the new concepts in lesson 9</p> <p>Example</p> <p>a. Key components of chapter 3 of a Project Report: Research Design, Population, Sample and Sampling procedure, Research Instruments, Data collection Procedure Data Analysis Plan</p> <p>b. Meaning and purpose of advertisements in a business enterprise. Types of advertisements in a business enterprise.</p> <p>c. Uses of key tools to acquire skills, techniques, processes as well as appropriate materials to make Leather and wood items. This will help student teachers to be explorative, creative and innovative in their teaching</p> <p>2.2 Identify and discuss potential barriers to teaching and learning of lesson 9</p> <p>Example:</p> <p>i Some student teachers may find research methodology difficult.</p> <p>ii. College libraries may not be well equipped and resourced for the project</p> <p>iii. Learners' religious background may hinder learning some new things</p> <p>iv. Many people find the making of Artefact production can be time - consuming and to a greater extent, a waste of time.</p> <p>Note: Tutors should encourage females and SEN students to take active part in activities that are Equally done by men and also take a community walk to interact with female and persons with SEN performing TVET</p>	15 mins

	activities, guide student teachers to go to the market and find products that are standardise and are advertised, guide student teachers on how to conduct their action research.	
3.Planning for teaching, learning and assessment activities for the lesson/s <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD ➤ 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 	<p>3.1. Discuss the concept (s) or/and pedagogy for the lesson 9</p> <p>Example.</p> <p><i>Simulation, practical work independent study, group work, Think-Pair-share, brainstorming, questioning, display of tools etc</i></p> <p>3.2. Read and discuss the teaching and learning activities in lesson 9</p> <p>Example: working in a group to collect and analyse data in an experiment: whole class discussions on the importance of advertisement, think, pair and share, independent study, pre video, recording, practical use of tools for woodwork and leather work etc.</p> <p>3.2 Suggest other possible teaching and learning activities for teaching lesson 9, Example; extended learning teaching on internet platform (Microsoft teaching, Cloud Computing), field survey, PowerPoint Presentation, visit to mall, marketplaces to take piCTures of posters etc. and discuss in class, etc.</p> <p>3.3 Identify and address areas that may need clarification.</p> <p>Example: how action research should be carried out and assessed? How to put together a group of students to carry out project work? What classroom activity can be used to trigger the development of 21st century skills such as leadership skills, collaborative and cooperative skills in student teachers? etc.</p> <p>3.4 Discuss opportunities in lesson 9 that will support student teachers to solve</p>	40 mins

	<p>challenges they may face during their STS sessions.</p> <p>Example:</p> <ul style="list-style-type: none"> i. Assessment for learning (AFL) approach to teaching and learning that give feedback to improve students' performance ii. Self-assessment and reflection during the learning process. <p>3.5 Read and discuss any linkages between the JHS TVET curriculum and lesson 9.</p> <p>Example</p> <ul style="list-style-type: none"> i. Experimentation- data collection, analysis-putting data into tables and simplifying it, Marketing and advertisement in entrepreneurship, ii. Drawing and labelling of cutting tools on card boards <p>etc. Ref. to Strand 4, 5 and 6. etc.</p> <p>3.7 List and discuss how they would facilitate the transfer of ICT and 21st related skills to their student teachers during the teaching and learning of Lesson 9.</p> <p>Example.</p> <ul style="list-style-type: none"> i. collaborative learning through teamwork, ii. mixed sex/ability group work iii. independent learning through take home assignments, library research iv. ICT through the use of their phones to surf for information on the internet, <p>3.8 Read, identify, and discuss continuous assessment opportunities in lesson 9 and how it will help them in preparing student teachers towards final examination and the job market.</p> <p>Note: refer tutors to the NTEAP summary in PD session 1. Focussing on</p>	
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	<p><i>subject portfolio and subject based projects; CA helps student teachers to master the use of tools and materials procedures and processes devoid of fear in examination and quiz.</i></p> <p>3.10 In your TVET domains to list the resources, tools and materials needed for teaching and learning PD lesson 9 in their TVET domains and also use it to carry out action research, e.g., Laptop, projector and screen, internet facilities, Drawing board and Instrument, AutoCAD software, Computers, different types of pencils, Drawing, Sheets, Sculpture tools (chisel, adze gouge, mallet, knife, pliers, hammer, clamps, saw; Sculpture materials (clay, P. OP, plasticine, fibre glass, paper pulp, stone, wood, metal, wax, foam, plaster of Paris etc.</p> <p>Ask tutors to discuss their tools listed laying much emphasis on locally available tools and materials.</p>	
<p>4. Evaluation and review of session:</p> <ol style="list-style-type: none"> 1. Tutors should Identifying critical friends to observe lessons and report at next session 2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification 3. Tutors should be expected to have a plan for the next lesson for student teachers 	<p>4.1 Identify a critical friend who will observe their lessons and report at the next PD session.</p> <p>4.2 Discuss any outstanding issues relating to lesson 9, and where necessary surf information from the internet for clarification.</p> <p>4.3 Prepare and share draft/plan for lesson 9.</p>	15 mins

Tutor PD Session 10		
Age Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
Tutor PD Session for Lesson 10 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
<p>1 Introduction to the session</p> <ul style="list-style-type: none">➤ 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, <p>NB The guidance for SL/HoD should identify, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement.</p> <p>NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session</p>	<p>Introduction to the Session</p> <p>1.1 Volunteer to give an energizer to set tutors in readiness for the session, e.g., “I am a stimulating beverage; many adults like to take me to stay active and alert, Children do not like me because I taste bitter. Sugar and milk are my best friends” What is my name?</p> <p>1.2 Reflect and share your achievements and challenges of delivery your lesson 9 with the whole group</p> <p>1.3 Listen to the critical friend’s observations report and share your opinion to promote effective teaching and learning of lesson 10.</p> <p>1.4 Read the introductory session of lesson 10 in your course manual and write down the Learning Outcome and learning indicators on A4 sheet to share with the group.</p> <p>Guidance Note Agriculture Lesson:</p> <ul style="list-style-type: none">a. Project Report Writing (Chapter 4).b. Value addition to fish products, e.g., <p>LO.1. Demonstrate knowledge and understanding of the key features of Chapter 4 of a Project Report.</p>	20 mins

	<p>LI.1 <i>List the key components of chapter 4 of a Project Report.</i></p> <p>Home Economics</p> <ul style="list-style-type: none"> a. Marketing strategies and channels of distributing Home Economics products: Basic marketing strategies- Exhibitions. b. Project Report Writing processes (Review of Related Literature and Research Methodology), e.g., <p>LO.1 Demonstrate knowledge and understanding of the meaning and purpose of exhibitions in a business enterprise.</p> <p>LI.1: Explain the term exhibition.</p> <p>Technical</p> <ul style="list-style-type: none"> a. Design project realization /preparation of joints. b. Combustion engine Systems. c. Method of branch circuit: Ohm's law. d. Wood Artefacts for Community centre, e.g., <p>LO.1 Exhibit knowledge, understanding and skills in Realising the artefact.</p> <p>LI.1 Present written/pICTorial report and discuss on the realised artefact (NTS pg. 29, NTECF pg29 Pillar 3)</p> <p>Visual Art</p> <ul style="list-style-type: none"> a. Display / Exhibition and Sharing of Leather, Basketry, Jewellery and Bead, Pottery and Ceramics and Sculptures items b. Project report writing processes: tools for Data analysis, Discussion of results and findings, e.g., <p>LO.1 Demonstrate knowledge and understanding of basic concepts of art exhibitions</p> <p>LI.1: List and explain the step-by-step approach to exhibition organization</p> <p>1.5 Read the overview of lesson 10 content and identify the distinctive features of the lesson,</p>	
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	e.g., a. Handling and analysing Data b. finishing and packaging design artefacts c. sorting items for exhibition d. planning and organising exhibition e. writing and presenting report	
As this course is dealing with supporting and /or assessing the Professional Teaching Portfolio Development and/or the Classroom Enquiring and Action Research Project Report writing. Tutors should be provided with guidance on what to do including organisation of Post Internship Seminar.	1.6 Identify and discuss some activities you would use to help your student teachers relate lesson 10 to some lessons they may teach as beginning Teachers, e.g., a. Engaging student teachers to talk about TLA they can use to teach similar concepts in the Basic Schools as beginning teachers, Or b. Guiding student teachers to study and evaluate sample TLRs they may use to present similar lessons on the field. Note <i>Emphasis should be on specific functions and inclusive uses of TLRs in lesson delivery.</i>	
<i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i>	1.7 Discuss activities that you can use to assist your student teachers to effectively use classroom enquiring and action research findings as well as exhibitions to enhance School-Community relationship, e.g., a. Organizing a post research seminar for students to share their research findings and recommendations Or b. Organise a post exhibition forum for student teachers to share their observations and suggest ways to effectively use exhibition to teach the Career Technology Course in the JHS. Note: <i>Remind the student teachers to take pICTures and videos recording of the post research/exhibition seminars, forums and other relevant documentation records to be added to their Professional Teaching Portfolio.</i>	
2 Concept Development (New learning likely to arise in lesson/s): ➤ Identification and discussion of new learning, potential	Concept Development 2.1 Read the lesson description for lesson 10 in the course manual and outline the new concept(s) in lesson 10 on a sticky note pad to share with the whole group.	15 mins

<p>barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>Guidance Note</p> <p>Agriculture:</p> <ol style="list-style-type: none"> Data analysis: statistical instruments (frequency tables, pie charts, cross tabulation). Concepts of validity and reliability. Value addition in fish processing. Food quality and safety standards. <p>Home Economics</p> <ol style="list-style-type: none"> Marketing strategies (exhibition) Mounting exhibition in Home Economics (types of exhibitions, planning and selecting items for exhibition). Project report writing process Literature Review (sources and referencing) Research Design (action research and experimental design) <p>Technical</p> <ol style="list-style-type: none"> Manufacturing process (finishes) Cutting list preparation Scaled modelling, Exhibition of artefacts Vehicle maintenance in the metal and automotive industries. <p>Visual Art</p> <ol style="list-style-type: none"> Organising exhibition in Visual Art (Leather work, Basketry, Jewellery and Bead making, Pottery and Ceramics, Sculpture). Planning and organisational skills. Displaying 2-D and 3-D products. Project report writing processes Tools for data analysis. <p>2.2 Share your thought on the potential barriers to the teaching and learning of lesson 10, e.g.,</p> <ol style="list-style-type: none"> Some student teachers may perceive data analysis to be difficult. Difficulty and danger of generating electricity in the workshop due lack of appropriate tools and equipment. Some tutors and student teachers may find it difficult and expensive to organise exhibition Some student teachers may not complete their project work for the exhibition. 	
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	<p>2.3 Discuss the possible ways to resolve the barriers identified in 2.2, e.g.,</p> <p>Possible Solutions:</p> <ol style="list-style-type: none"> Encourage teamwork and pulling together the limited resources for projects Provide technical assistance or technical resource persons for student teachers handling dangerous systems like electricity and also for data analysis, or Prepare and use pre- video recordings from sources (YouTube Khan Academy, Coursera, Udemy, MOOCs) to discuss the following: - <ol style="list-style-type: none"> Functions of the Components of the Electrical/Electronic Food processing and packaging system of vehicles Plan exhibitions with the capacity of all student teachers in mind. 	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD 	<p>Planning for teaching</p> <p>3.1. Read the teaching and learning activities and list the new pedagogies being introduced in lesson 10 that may require further explanation. e.g.,</p> <p>Illustrative teaching of procedures (group and individual practical work) in the following areas:</p> <ol style="list-style-type: none"> electrical/ electronic system of vehicles Data analysis, Exhibition, etc. <p>3.2 Identify alternative pedagogy that can be used to assist your student teachers link the new concepts and pedagogy to STS activities in the Basic Schools Curriculum, e.g.,</p> <ol style="list-style-type: none"> Guiding student teachers to surf the Basic School Curriculum to identify and list the key related concepts and pedagogy. Panel group presentation (a host soliciting ideas from a panelist on selected concepts and pedagogy). <p><i>NB. Set laboratory, workshop, studio and farm rules to promote safety practices as student teachers use tools and machines. Enforce workshop safety rules to the latter.</i></p>	40 mins

<p>➤ 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</p> <p>➤ Tutors should be expected to have a plan for the next lesson for student teachers</p>	<p>3.3 Read and discuss the teaching and learning activities in respective manuals and align them to LOs, LIs, identified in 1.4 above.</p> <p>3.4 Ask questions on any teaching and learning activity you perceive to be challenging.</p> <p>3.3 Brain-write and share some innovative ways of using lesson 10 to help your student teachers share their experiences from living in their STS communities during the extended teaching (internship), e.g.,</p> <p>a. Organising role play on school community relationship or</p> <p>b. Setting up a panel review session to discuss issues of living in a rural community as a beginning teacher.</p> <p>3.4 Think and volunteer to do a brief model presentation on any activity that need further clarification.</p> <p>3.5 Talk with your shoulder (if possible) partner on possible ways of assisting student teachers to make use of the new knowledge and skills gained in the lesson as beginning teachers in the field of work.</p> <p>Note: <i>Remind the students teachers to look out for similarities and differences of lesson 10 in relation to the Basic School curriculum for a whole class reflection</i></p> <p>3.5 Pick an elbow friend (if possible) in your domain groups to tell him or her one way of helping student teachers to actively integrate GESI, ICT and 21st C skills in their lesson and share with the whole group, e.g.,</p> <p>a. GESI Monitoring to ensure active involvement of all students (males, females and SEN students, students of different religious and social- cultural as well as economic background) in group activities.</p> <p>b. ICT: Engaging student teachers of smart phone to surf internet for relevant content and</p>	
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	<p>pedagogical information, prepare PowerPoint presentation, visit YouTube and MOOC for suitable videos for lesson 10.</p> <p>c.SEN: Guiding students, (males and persons with disabilities) to play leading roles, e.g., female leading analysis activities, give prompts to support all learners to develop prototype for design works.</p> <p>d. ICT: Assigning students teachers in groups to use their smart phone to surf internet for relevant information, PowerPoint presentation, videos of sample lessons of student teachers and pICTure and print materials,</p> <p>e. 21st C Skills, e.g., Critical thinking and problem solving through reflecting and sharing ideas during group work. Creativity and innovation by conceptualizing design ideas from the natural and artificial environment to develop porotypes. Personal development and leadership skills by taking lead positions in group presentation and participating peer reviews and seminars activities.</p> <p>3.6 Write the teaching and learning resource indicated in your course manuals on stick note pad and discuss how to acquire them before the lesson e.g., Exhibition artefacts and prototypes, posters, pICTures, pre-recorded videos, smart phone, computers and computer soft wear (Auto Card), sample Basic School Standard Based Curriculum for Career Technology.</p> <p>Resource for self-preparation e.g., a. <i>Planning with Technology</i> https://www.youtube.com/watch?v=vTDh-h7Xti4 b. <i>Teaching with technology</i> https://www.youtube.com/watch?v=C7etwbRqqsq c. <i>Assessing learners with technology -</i> https://www.youtube.com/watch?v=2sd9YyqTGiq</p> <p>3.7 Share the outline of your lesson 10 delivery plan to ensure efficient presentation.</p>	
4. Evaluation and review of session:	Evaluation	15 mins

<ul style="list-style-type: none"> ➤ 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 	<p>4.1 Recap and share the key issues discussed in today's session and state any issue that need further clarification.</p> <p>4.2 Invite a critical friend to observe your lesson presentation and provide feedback to improve your practice and enhance teaching and learning among student teachers.</p> <p>4.3 Remember to read the lesson 11 in your course manuals and PD manuals to prepare for the next PD session.</p>	
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Tutor PD Session 11		
Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
Tutor PD Session for Lesson 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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	<p>1.1. Start the session with an icebreaker. e.g., TVET domains are Technical, Visual Art, Home Economics and Agriculture. But when the V is taken out of the abbreviation and replaced with Z, it becomeswhich is a food prepared by, planted and processed by, machine used to process the grains manufactured by and eaten in bowls and plates designed and produced through ideation by</p> <p>1.2. How did you go about transmitting and transferring the identified core competences of lesson 10 to student teachers during the lessons?</p> <p>1.3. Discuss critical friend’s findings during lesson 10.</p> <p>1.4. Read and discuss the introductory sections of the lesson up to and including learning outcomes and indicators of lesson 11. About transmitting and transferring the identified core competences of lesson 10 to student teachers during the lessons.</p> <p><i>e.g., Answer these questions to establish the uniqueness of lesson 11</i> <i>a. Are the LOs and LIs aligned?</i> <i>b. Are they achievable?</i></p>	20 mins

	<p>c. From the Lesson description and the Purpose of the Lesson, what is/are the focus of the lesson?</p> <p>d. How do you see the flow of the lesson 11, does it follow lesson 10 logically? Can lesson 10 constitute a good RPK for lesson 11? etc.</p> <p>1.5. Identify any distinctive aspects of lesson 11. (Confer from discussions in 1.4 above)</p>	
<p>As this course is dealing with supporting and or assessing the Professional Teaching Portfolio Development and the Classroom Enquiry or Action Research Project Report writing, tutors need to be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.6. Read and discuss how they will support and or assess the Professional Teaching Portfolio Development or and Classroom Enquiry the Action Research Project Report writing.</p> <p>e.g., <i>Guide student teachers to identify:</i></p> <p><i>a. Items that go into the Professional teaching portfolio, e.g., Curriculum Vitae (CV), Student Reflective Journal (SRJ), evidence of evaluations from STS, sample assessed learners' works from STS) teaching and target setting, evidence of continuous professional development (CPD), etc.</i></p> <p>For Action Research, tutor may guide the student teachers to:</p> <p><i>a. identify a problem in the classroom</i> <i>b. diagnoses the problem by vividly stating the problem</i> <i>c. collect data (both primary and secondary</i> <i>d. analyse data</i> <i>e. design and apply an intervention</i> <i>f. monitors the result</i> <i>g. writes a report</i></p> <p>Refer links below for a review of videos used in PD Session 1 <i>Presentation of individual reflective notes on analysis of the videos with the links:</i> https://youtu.be/TPJWh85Xt9k https://youtu.be/860LtRxP3rw https://youtu.be/zcA2B41Wym8</p> <p>1.7. Identify and discuss development of components of the PTP and Classroom Enquiry or Action Research report writing.</p>	

	<p>e.g., <i>Support on the compilation and filling of artefact, such as pictures, videos, audio tapes, reports from whole Classroom Enquiry or Action Research, reviewed personal teaching philosophy, entries in the SRJ, etc.</i></p> <p>1.8. Guide tutors to discuss the need to develop the Professional Teaching Portfolio Development.</p> <p>e.g.,</p> <ol style="list-style-type: none"> <i>It is a characteristic of a professional teacher for promotion.</i> <i>It serves as records and reference material of one's professional work overtime.</i> <p>Refer to STS Year Three School Placement Handbook. Table 8.2.7.2 pg. 117.</p>	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>1.9. Lead a discussion on how tutors can support student teachers' transition from extending teaching to a beginning teacher stage, while also drawing attention to such cross-cutting issues as GESI, CCI, ICT, e.g.,</p> <ol style="list-style-type: none"> <i>Embedding videos, pICTures and also the use of projectors, do power Point presentations, etc. into lessons.</i> <i>Giving equal opportunities to learners irrespective of sex, SEN or religious and socio-cultural status when teaching</i> <i>They should show professional attitudes and values and also problem-solving skills in the TVET domains.</i> 	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p>	<p>2.1. read through the overview of lesson 11 and list new concepts in the lesson.</p> <p>2.2. Discuss the new learning in the lessons 11.</p> <p>Agriculture:</p> <ol style="list-style-type: none"> <i>Agriculture Exhibition</i> <i>Project Report Writing (Chapter 5: Summary, Findings, Conclusions and Recommendation.</i> <p>Technical:</p> <ol style="list-style-type: none"> <i>Manufacturing process and production of the final artefact.</i> <i>Methods of teaching metal and automotive technology courses in the classroom and</i> 	15 mins

<p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>workshop.</p> <p>iii. Amplifiers.</p> <p>iv. <i>Teaching Learning Resources for teaching Woodwork in Classroom.</i></p> <p>Home Economics:</p> <p>i. <i>Marketing strategies and channels of distributing Home Economics products: Basic sale strategies- sale and distribution</i></p> <p>ii <i>Project Report Writing (Chapter 4: Analysis of Data and Chapter 5: Summary, Conclusions and Recommendation).</i></p> <p>Visual Arts:</p> <p>i <i>Display / Exhibition and Sharing of Leather items (II).</i></p> <p>ii. <i>Display /Exhibition and Sharing of Basketry products (II).</i></p> <p>iii. <i>Display /Exhibition and Sharing of Jewellery and Bead items (II).</i></p> <p>iv. <i>Display/Exhibition and Sharing of Pottery and Ceramics items (II).</i></p> <p>vi. <i>Display / Exhibition and Sharing of Sculptures (II).</i></p> <p>li. <i>Project Report Writing (Chapter 5: Summary, Findings, Conclusions and Recommendation), etc.</i></p> <p>2.3. Brain-wright and share potential barriers and possible approaches to overcome the barriers.</p> <p>Barrier</p> <p><i>Some student teachers may find art exhibitions difficult work because it involves a lot of planning, coordinating, walking and money.</i></p> <p>Solution</p> <p><i>Student teachers should be taken through training and workshops where an invited resource person like curators and renowned artists to guide them through the procedures to follow to both organize solo and group exhibitions.</i></p> <p>Barrier</p> <p><i>Writing and preparation for the exhibition may be a barrier to student teachers.</i></p>	
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	<p>Solution <i>Student teachers should be taken through the writing preparation as part of the preparation for the exhibition.</i></p> <p>Barrier <i>Students' attitude towards activity-based learning.</i></p> <p>Solution <i>Students should be put in working groups with well-demarcated roles so that all can play their part.</i></p>	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD ➤ Resources: links to the existing PD Themes, for example, action 	<p>3.1. Write three major concepts/pedagogies introduced in lesson 11 on a sticker and share.</p> <p>(Refer to the lesson 11 in the course manuals)</p> <p>3.2. Walk through one learning activities using one of the prescribed pedagogies for lesson 11. e.g., walk tutors through how to organise a <i>Visit to exhibitions/practicing studios, workshops of a renowned resource person, or to a historical sites related to lesson 11</i></p> <p>NB. In addition to provisions in the manual, tutors may explore other approaches and resources in the lesson delivery.</p> <p>3.2. Identify the areas that require clarification. e.g., i. <i>Summary is different from conclusion in Project report writing.</i> ii. <i>Displaying/exhibiting artefact follows the same exhibition procedures.</i></p> <p>NB: <i>Tutors may use ICT tools like videos from YouTube Photographs from phones and computer and also Resource persons to share experiences with learners on these areas for clarification.</i></p> <p>3.3. Read and trace linkages with the JHS School Curriculum. E.g.</p> <p>strand 9.10, 11, 12, 13, 14 of the Career Technology Curriculum.</p>	40 mins

<p>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</p> <p>➤ Tutors should be expected to have a plan for the next lesson for student teachers</p>	<p>3.4. Identify and discuss how to integrate GESI responsiveness, ICT and 21st C skills into the teaching and learning of lesson 11</p> <p>NB <i>Tutors should be Careful in forming the groups to ensure a mixed ability. Safety rules must also be observed while special attention be given to student with SEN. For ICT skill, you may refer to YouTube Google images, MOOCS (Coursera, etc.), using Mobile Phones, laptop computer/PCs, etc. Tutors may also inculcate 21st C skills using:</i></p> <ol style="list-style-type: none"> <i>I. Group work (collaborative/ social skills)</i> <i>II. Project work (creative and innovative skills)</i> <i>III. Self-motivation (life-long learning/ personal life skills), etc.</i> <p>NB: NTECF p 21; NTS 13 Refer to NTS, 2a, 2b, 2c, 2e, 2f, 2i, 2j</p> <p>3.5. Read the assessment component of Lesson 11 and identify areas that require clarification especially on GESI related activities.</p> <p>3.6. Discuss the alignment of the assessment activities in lesson 11 in the Course manual with the NTS (1a, 2b, 3f, 3i), NTEAP, GESI, ICT and 21st C skills.</p> <p><i>e.g., Self-assessment, peer-assessment, tutor assessment as in a Jury as well as other authentic assessment methods.</i></p> <p>3.7. Brain writes additional assessment activities that will be relevant to the lesson 11.</p> <p><i>e.g.,</i></p> <ol style="list-style-type: none"> <i>I. PICTorial report, project report, Presentation, exhibition and critic sessions, self-assessment, tutor assessment, business plans, Assessment plans and procedures samples.</i> <i>II.</i> <p>NB. Focus on exceptional students (special, social backgrounds, etc.)</p>	
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	<p>3.8. Have a concrete plan teaching.</p> <p><i>NB: in the case of unsolved issues, consult the subject lead</i></p>	
<p>4. Evaluation and review of session:</p> <p>1. Tutors should Identifying critical friends to observe lessons and report at next session</p> <p>2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1. Invite a critical friend from the same or related discipline to observe your lesson and provide feedback to the group at the PD Session 12.</p> <p>4.2. Identify and discuss any outstanding misconceptions that arose from the PD session for further clarification.</p> <p><i>Remind tutors to also allow their students to reflect on lesson learnt and relate them to their STS.</i></p> <p>4.3. Read through lesson 12 of their course manuals in preparation for session 12.</p>	15 mins

Tutor PD Session 12		
Level: JHS	Name of Subject: TVET	
Year 4	Semester 2	
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, address and <i>provide explanations</i> for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session	Icebreaker If you are to select from male and female chef to stay with you in your house and serve you for a year, which one will you choose and why? NB: This session is mainly the review of the Semester's work. 1.1 Critical friends report their observation of previous lesson to the whole group. 1.2 Share with the whole group your experience when assessing student teachers' <i>subject portfolio and subject project for the semester</i> , <i>e.g.</i> i. Display a short video produced by student teachers or ii. Show pictures of exhibited <i>project</i> works, etc. 1.3. Reflect on the skills student teachers have learnt or acquired from the various courses in the semester. 1.4. Discuss your peculiar experiences (successes and challenges) their teaching of Year 3 Semester 2 Courses.	20 mins

	<p>1.5. Critical friends share your experiences with the group.</p> <p>1.6. Read the introductory sections of Lesson 12 (including LOs and LOs) and discuss in pairs the important or distinctive features of the lesson.</p> <p><i>Refer to your respective TVET manuals.</i></p>	
<p>If this course is dealing with supporting and or assessing the Professional Teaching Portfolio Development or the Action Research Project Report writing. Tutors need to be provided with guidance on what to do including organisation of Post Internship Seminar.</p>	<p>1.7. reflect on and discuss the how to minimize challenges student teachers face in executing their Subject based Projects.</p>	
<p><i>For each session remember this is the final semester before Students begin teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc.</i></p>	<p>1.8 Review student teachers' learning and their preparedness to become effective beginning teachers</p> <p><i>Year 1 Semester 1: Interrelationship between Social Studies and TVET</i></p> <p><i>ear 2 Semester 1: Basic introduction to TVET domains, introduction to subject based portfolio and project, etc.</i></p> <p><i>Year 2 Semester 2: General but specific introduction to TVET</i></p> <p><i>Year 3 Semester 1: Intermediate level of specialization</i></p> <p><i>Year 3 Semester 2: Mastery of skills, processes, procedures, use of tools including ICT, equipment, materials with skills to engage in independent sturdy or research within the context of Greening TVET, C21st, CCI, GESI, etc.</i></p> <p><i>Year 3 Semester 2: introduction to the rudiments of Action Research, increasing professional competence, independence and assertiveness with greater insight into the ethics of the profession, independent subject-based projects, etc.</i></p> <p><i>Year 4 Semester 1: Independence at STS, active Research/research report, etc.</i></p> <p><i>Year 4 Semester 2: Mastery of skills, processes and procedures, comprehension of</i></p>	

	<p><i>studio practices and safety rules, conversant with standards, able to take responsibility, having been exposed to Greening TVET, GESI, CCI, NTS, NTEAP and its related issues, etc. Have completed of action research, completed/completing of comprehensive subject project, completion of professional portfolio ready to become a Beginning Teacher, etc.</i></p> <p>Use the above information to assist student teachers to transit form extending teaching to Beginning teachers using the information in community entry skills. Refer PD Session 1, 1:2</p>	
<p>2 Concept Development (New learning likely to arise in lesson/s):</p> <p>➤ Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD</p> <p>NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.</p>	<p>2.1. Ask tutors to read and discuss the new learning of lesson 12. e.g.</p> <p>Agriculture</p> <ol style="list-style-type: none"> Review of the Semester's work and Exhibition. Reflection on this course <p>Home Economics</p> <ol style="list-style-type: none"> Review of course work. <p>Technical</p> <ol style="list-style-type: none"> Testing and Evaluation of realised artefact. Methods of teaching practical lesson, Operational sequence sheets and Illustrations of procedures. Methods of teaching electrical or electronics technology courses in the classroom and workshop Teaching Learning Resources for Practical Teaching of Woodwork <p>Visual Art</p> <ol style="list-style-type: none"> Appreciation, appraisal and criticism of artworks (Jewellery and Bead, Sculpture, Pottery and Ceramics, Leather work and Basketry items). Review of the semester's work and exhibition. <p>2.2. Discuss potential barriers to learning of lesson 12.</p>	15 mins

	<p>e.g.</p> <ul style="list-style-type: none"> i. Difficulty of student teachers with SEN undergoing exhibition process. ii. Some student teachers and tutors may not see the importance of reviewing the semester's work though there may be gaps which must be corrected. iii. Some student teachers may have the fear of others condemning their words during appreciation and criticism of artefacts, etc. iv. Some student teachers may have the fear of others condemning their words during appreciation and criticism of artefacts, etc. 	
<p>3.Planning for teaching, learning and assessment activities for the lesson/s</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities ➤ Noting, addressing, and explaining areas where tutors may require clarification ➤ Noting opportunities for making <i>explicit links</i> 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, subject specific examples should be provided for SL/HoD ➤ Resources: links to the existing PD Themes, for example, action research, questioning and to other external reference material: 	<p>3.1. Read and discuss the teaching and learning activities in lesson 12, e.g., interactive lecture, work base learning, Think-Pair-Share, Reflective Practice, Exhibition, Hands-on approach, Group discussion, etc.</p> <p>3.2. Identify areas that require clarification in the lesson, e.g., How to organise Exhibition of student teachers' final subject project works.</p> <p>3.3 Identify the the link(s) between lesson 12s and the Career Technology Curriculum in the JHS e.g., the relationship between exhibition, appreciation and criticism of artefacts in lesson 12 as in JHS Career Technology Curriculum.</p> <p>3.4 Discuss how the delivery method(s) in the lesson will enhance student teachers' performance as beginning teacher.</p> <p>3.5 Identify and discuss opportunities for integrating GESI, ICT and 21st Century skills into the lesson, e.g.,</p> <ul style="list-style-type: none"> i. Student teachers should develop e-portfolios of subject portfolio and subject project. 	40 mins

<p>literature, on web YouTube, physical resources, power point; how they should be used. Consideration needs to be given to local availability</p> <p>➤ Tutors should be expected to have a plan for the next lesson for student teachers</p>	<ul style="list-style-type: none"> ii. Student teachers should be encouraged to display their end of semester works on the College website. iii. Appreciate student teachers especially the disadvantaged ones like SEN who have risen above their limitations in their final project works for good work. iv. Effective the behaviour and learning of disadvantage student teachers in class. v. Assist student teachers to develop high integrity and attitude. vi. Promote gender equity. vii. Work on student teachers' weaknesses to promote learning. <p>3.5. Identify and discuss TLRs and other resources needed for lesson 12, <i>e.g. Pictures, studio, workshops, cameras projectors, smart boards, studio, workshops, Pottery and Ceramic items, AutoCAD software, Sheet metal, physical environment, Mobile Phones, laptop computer, Internet facility etc.</i></p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> 1. Tutors should Identifying critical friends to observe lessons and report at next session 2. Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<ul style="list-style-type: none"> 4.1. Identify and discuss any outstanding issues relating to this lesson for clarification. 4.2. Read the course manual and PD manuals for the next semester of the new academic year. 	15 mins

Appendix 1. Course Assessment Components, detail in the Revised NTEAP Toolkit (Sept. 21)

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 and 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.
CONSTITUENTS	<p>Introduction: a clear statement of aim and purpose</p> <p>Methodology: what the student teacher has done and why to achieve the aim and purpose of the project</p> <p>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.</p> <p>Conclusion: Statement of the key outcomes of the project; reflection on what the student teacher has learnt</p>	<p>Either 3 items of work produced during the semester or 2 items of work and a mid-semester assessment</p> <p>The items of work to be selected by student teachers, with tutor support, during the semester as best examples of their progress. 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</p> <p>The mid-semester assessment: case study, reflective note, quiz etc.</p>
WEIGHT	<p>Overall weighting of project = 30%</p> <p>Weighting of individual parts of project out of 100</p> <ul style="list-style-type: none"> <input type="checkbox"/> Introduction – 10 <input type="checkbox"/> Methodology – 20 <input type="checkbox"/> Substantive section – 40 <input type="checkbox"/> Conclusion – 30 	<p>Overall weighting of project = 30%</p> <p>Weighting of individual parts of portfolio out of 100</p> <ul style="list-style-type: none"> <input type="checkbox"/> Each item of work - 30 <input type="checkbox"/> Mid semester assessment - 30 - <i>if applicable</i> <input type="checkbox"/> 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 21 st C skills in teaching and learning
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Examples of course assessment components

Subject portfolio examples of items of work

Literacy:

- o Reading log of children's literature
- o Review of different types of writing and how to teach them
- o Book summaries/reports
- o Report on different purposes for and types of reading or writing
- o Vocabulary achievement
- o Schemes of work

Mathematics:

- o Samples of problem solving with written explanations of how the problems were solved and how this can be taught
- o Charts and graphs with written explanations of how and why they were created and how this can be taught
- o Computer analyses conducted as well as use of software to teach mathematics and how effective they are
- o Use indigenous knowledge in mathematics teaching.
- o Schemes of work

Science

- o Lab reports,
- o Research reports
- o Charts, graphs created
- o Designs, TLMs, posters, worksheets
- o Integrating indigenous knowledge into science teaching
- o Schemes of work

Subject project examples

- o *Pedagogic Studies*. What are the qualities you need to develop to be a good teacher? Reflect on your personal experiences, values, and background, the NTS and the expectations of, and vision for, the B.Ed.

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