The Government of the Republic of the Union of Myanmar

Ministry of Education

Year 2 Semester 2

EDU2208
Curriculum and Pedagogy Studies: Social Studies

Teacher Educator Guide

PREFACE

The Myanmar Ministry of Education developed the four-year Education Degree College Curriculum, in line with the pre-service teacher education reform as specified in the National Education Strategic Plan (NESP) 2016-2021.

The Myanmar Education Degree College Curriculum consists of several components: the curriculum framework, syllabi, Student Teacher Textbooks, and Teacher Educator Guides. This curriculum for the four-year Education Degree College was designed and structured to align with the Basic Education Curriculum and to equip student teachers with the competencies needed to teach effectively in Myanmar's primary and middle school classrooms. It is based on a Teacher Competency Standards Framework (TCSF) which articulates the expectations for what a teacher should know and be able to do in the classroom.

The curriculum follows a spiral curriculum approach which means that throughout the four years, student teachers return to familiar concepts, each time deepening their knowledge and understanding. To achieve this, the four-year Education Degree College programme is divided into two cycles. The first cycle (Years 1 and 2) is repeated at a deeper level in the second cycle (Years 3 and 4) to enable student teachers to return to ideas, experiment with them, and share with their peers a wider range of practices in the classroom, with the option to follow up on specific aspects of their teaching at a deeper level.

The curriculum structure provides an integrated approach where teaching of subject knowledge and understanding educational theories are learnt through a supportive learning process of relevant preparation and practical application and experience. The focus is, therefore, not just on subject content, but also on the skills and attitudes needed to effectively apply their knowledge, skills, and attitudes in teaching and learning situations, with specific age groups. As the focus is on all components of a 'competency' – knowledge, skills, attitudes and their effective application – it is referred to as a competency-based curriculum.

Accordingly, a competency-based curriculum is learner-centred and adaptive to the changing needs of students, teachers, and society. Where new concepts are learnt, they are then applied and reflected on:

1. Learn (plan what and how to teach);
2. Apply (practise teaching and learning behaviours); and
3. Reflect (evaluate teaching practice).

Beyond the Education Degree College coursework, it is intended that student teacher graduates will be able to take and apply this cycle of 'learn, apply, and reflect' to their own teaching to effectively facilitate the learning and development of Myanmar's next generation.

The Myanmar Education Degree College Curriculum was developed by a curriculum core team, which is a Ministry of Education-appointed team of Myanmar Education Degree College teacher educators supported by the Ministry of Education, resource persons from the Universities of Education, University for the Development of National Races of the Union and a team of national and international experts. Overall guidance of the work was provided by the Department of Higher Education, Ministry of Education.

The curriculum development was also supported by the Strengthening Pre-service Teacher Education in Myanmar project, with technical assistance from the United Nations Educational, Scientific and Cultural Organization (UNESCO) and financial contributions from Australia, Finland, and UK Governments.

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HOW TO USE THIS GUIDE

Who will use this Social Studies Teacher Educator Guide?

This Teacher Educator Guide has been designed to help you facilitate student teachers' learning of Year 2 Social Studies. It is addressed to you, as the teacher educator, and should be used in tandem with the Student Teacher Textbook as you teach Social Studies. This Teacher Educator Guide contains step-by-step instructions to help you guide the student teachers in your class towards achieving the learning outcomes for each unit and lesson in the Student Teacher Textbook.

When and where does Year 2 Social Studies take place?

A total of 44 teaching periods (Semester 1: 24 teaching periods; Semester 2: 20 teaching periods) are allotted for Year 2 Social Studies of the four-year Education Degree College programme. Classes will be held on the Education Degree College campus.

What is included in the Year 2 Social Studies Teacher Educator Guide?

The organisation and content of both Social Studies Student Teacher Textbook and Teacher Educator Guide align with Social Studies subject syllabus of the four-year Education Degree College programme.

Year 2 Social Studies contains the following topics:

- Introduction to Geography
- Environmental Geography
- Human Geography
- Assessment for Geography
- Introduction to History
- Myanmar History
- Assessment for History
- Regional Geography
- Practical Geography
- World History

The Teacher Educator Guide follows the same structure as the Student Teacher Textbook. For each unit and lesson, there are **expected learning outcomes** and **competencies** that indicate what student teachers should know and be able to do by the end of the unit.

For each lesson, the Teacher Educator Guide includes:

Competencies gained: This list of competencies highlights the teacher competencies from the Teacher Competency Standards Framework (TCSF) that are focused on in that lesson.

Time: This is the total teaching minutes and number of 50-minute class periods allocated for the lesson as per the syllabus.

Learning strategies: This is an overview of all the learning strategies used during the suggested lesson learning activities.

Assessment approaches: This is an overview of all the assessment approaches suggested to be used before, during and after the lesson learning activities.

Preparation needed: This can include guidance on what you need to know about the topic and references to subject knowledge resources; technology preparation; links to other subjects; room organisation; time management; and reference to expected answers.

Resources needed: This can include printed media, flipchart paper, coloured paper, marker pens, URLs, video clips, low/no cost resources, and practical equipment.

Learning activities: Each lesson includes a variety of suggested learning activities designed to help student teachers achieve the expected learning outcomes within the allotted time. Each lesson should begin by activating the student teachers' prior knowledge or fostering interest in the subject. Learning activities are varied and in line with competency-based approaches to teaching and learning.

Facilitator's notes: These instruction boxes are included as an occasional 'safety net' at key points during the lesson, reminding you to quickly check that the lesson is flowing in the direction as planned, and to check if there are any points to emphasise to ensure that student teachers are learning effectively before moving forward.

Assessment This comes at the end of each activity. It is an explanation or recap as to how each activity can be assessed formatively in order to assess success and inform future teaching. Instructions for facilitating various types of assessment are included in the *Toolbox for assessment approaches.*

Possible student teachers' responses: These are responses that you may get from the student teachers from each learning activity's assessment.

Check student teachers' understanding: This is the lesson plenary. At the end of the lesson, revisit the learning outcomes and TCSF competencies, and briefly assess the extent to which they have been achieved. Summarise the competencies and how they were addressed by the lesson content. Explicitly remind student teachers <u>what</u> they have studied and <u>how</u> they did so.

Extended learning activities: Some lessons in this guide include ideas on ways to adapt the learning activities to provide additional stimulus for student teachers to deepen their learning. These extended learning activities emphasise the benefits of flexibility in learning to respond to diverse needs and interests of student teachers. It is not mandatory to complete these learning activities during the class period.

Differentiated learning activities: Some lessons in this guide include ideas on ways to adapt the learning activities by considering different learning needs and interests of student teachers towards attaining the learning outcomes and TCSF competencies. These differentiated learning activities emphasise inclusive and flexible practice in teaching and learning. It is not mandatory to complete these learning activities during class period.

For each sub-unit, the Teacher Educator Guide includes:

Expected student teachers' responses for the review questions in TB: A box at the end of each sub-unit gives you the answers to the review questions in the Student Teacher Textbook. This section exists to support your knowledge as a teacher educator, and enables you to support your student teachers by confirming the answers to the questions in their Student Teacher Textbook. It is NOT part of the lesson.

Each unit of the Teacher Educator Guide ends with a **Unit Summary**, which includes:

Key messages: This is a summary of the unit, including a reminder of the key points that student teachers should take from the unit.

Unit reflection: This section is part of the student teachers' self-study material and is included in the Student Teacher Textbook. It is duplicated here to inform you of its content. Your only task here is to remind the student teachers to read it. It does not form part of any lesson. It provides the student teachers with reflection points or questions relating to the learning in the unit.

Further reading: Suggestions for additional resources are listed according to the relevant unit. You can use these resources to learn more about the topic yourself or encourage student teachers to look these up in the library, on the internet, or in your Education Degree College's e-library.

Please note that the learning activities in the Student Teacher Textbook are designed for individual self-study. At times, these individual learning activities may be incorporated into the learning activities outlined in this guide. You may also wish to assign the learning activities in the Student Teacher Textbook for homework, or encourage student teachers to do them at their own pace.

While this Teacher Educator Guide contains detailed learning activities to help you plan and deliver lessons, the instructions in this guide are only suggestions. The student teachers in your classroom will have different characteristics and learning needs. As their teacher educator, you are encouraged to come up with your own

learning activities which suit these needs, interests, and ability levels. You should feel free to change and adapt the lessons as much, or as little, as needed.

What is a competency-based curriculum?

The Student Teacher Textbooks and Teacher Educator Guides for all Education Degree College programmes follow a competency-based approach. This is outlined in the Education Degree College Curriculum Framework for the four-year degree and is based on the Myanmar Teacher Competency Standards Framework (TCSF). A competency-based approach means that the teacher education curriculum does not just focus on subject content. Rather, it emphasises the development of knowledge, skills, and attitudes and their application in real-life contexts. Competency-based curriculums are learner-centred and adaptive to the evolving needs of learners, teachers, and society.

The following elements are integrated throughout this Teacher Educator Guide, in line with a competency-based approach to teacher education: [1]

- **Contextualisation:** The learning content and learning activities are based on the Myanmar context to ensure that student teachers can relate what they learn to daily life.

- **Flipped classroom:** This pedagogical concept and method replaces the standard lecture-in-class format with opportunities for student teachers to review, discuss, and investigate module content with the teacher educators in class. Student teachers are typically expected to read the learning materials before class at their own pace. Classroom time is then used to deepen understanding through discussion with peers and problem-solving activities facilitated by you, the teacher educator.

- **Collaborative learning:** This educational approach involves groups of student teachers working together to solve a problem or complete a task. Learning occurs through active engagement among peers, either face-to-face or online. The main characteristics of collaborative learning are: a common task or activity, small group learning, co-operative behaviour, interdependence, and individual responsibility and accountability (Lejeune, 2009).[2]

1 Adapted from the *Glossary of curriculum terminology* (UNESCO-International Bureau of Education, 2013)
2 Lejenue's Collaborative Learning for Educational Achievement (1999)

- **Problem-solving:** This involves the act of defining a problem; determining the cause of the problem; identifying, prioritising and selecting alternatives for a solution; and implementing a solution. The learning content and activities included in this Teacher Educator Guide provide opportunities for student teachers to apply their problem-solving skills as appropriate.

Course rationale and description

This course will prepare student teachers with the competencies required to teach the Social Studies subject through modelling the values and attitudes promoted in the basic education curriculum for the types of citizens and society Myanmar envisions to create. Likewise, this course enables student teachers to develop skills of historical and geographical exploration. Through their studies, student teachers will begin to understand how the local, national and international environment, society, economy and cultural similarities and differences impact on the world and human lives today. This understanding will lead them to value the country's diversity as its strength and promote a peaceful way to live together as Myanmar citizens. With reference to the Education Degree College Curriculum Framework, in Years 1 and 2, student teachers are expected to develop their fundamental knowledge of Social Studies and basic pedagogical knowledge and competencies for teaching Social Studies. In Years 3 and 4, they will further strengthen deeper understanding of Social Studies subject knowledge and gain a more systematic grasp of the effective implementation of Social Studies curriculum, instruction and assessment.

Basic Education Curriculum objectives

This subject, Social Studies, is included in the pre-service Education Degree College (EDC) curriculum to ensure that teachers are prepared to teach the Social Studies curriculum as defined for basic education in Myanmar. Middle school teachers will be trained as subject area specialist and learn about academic standard equivalent to middle and high school level in order to ensure a strong subject proficiency foundation for being effective teachers for middle school students (Education Degree College Curriculum Framework, 2018).

The objectives of Basic Education Curriculum are as follows:

a. Ensure every school-age child learns until the completion of Basic Education;
b. Generate critical thinking skills in students, progressively throughout their primary education and are hence, equipped with five strengths;
c. Engage students to become responsible and accountable individuals who abide by the laws in compliance with civic, democracy and human rights standards;
d. Cultivate students with appreciation to open-mindedness, curiosity, innovation and cooperation;
e. Strengthen 'union spirit' by allowing students to appreciate and preserve the languages, literatures, cultures, arts, traditional customs and historical heritage of all national ethnic groups and hence, evolve as citizens capable to pass on those valuable assets;
f. Give rise to students who appreciate and conserve natural environment, and involve in the dissemination of knowledge and skills in respect to sustainable development;
g. Enable the quality environment for education in conformity with international standards, and strengthen the quality of learning and teaching process by integrating technology in line with today's needs;
h. Promote sound body and sportsmanship through participation in sports and physical education activities, and school health activities;
i. Develop foundational knowledge for higher education, with inclusive to technical and vocational education; and
j. Empower to become global citizens who embrace diversity as individual or group, respect and value equality, and are armed with fundamental knowledge of peace to practise in their daily lives.

Learning objectives for middle school students for Social Studies subject

Geography

- To understand the natural systems that sustain the Earth.
- To understand the human systems that sustain human populations.
- To analyse Myanmar's natural and human patterns.
- To understand the importance of effectively managing Myanmar's natural resources.

- To compare and contrast different natural and human patterns across the globe.
- To apply written, verbal, and analytical skills to solve geographical problems appropriate to their age.

History

- To use history to build pride in Myanmar and promote good citizens.
- To learn a more inclusive history, giving both the majority and minority groups equal place in the development of the Republic of the Union of Myanmar.
- To emphasise periods or eras of great political, economic, and social change (with less focus on memorising dates, people, and places).
- To express their ideas and opinions about what they will find through their research by using maps, chronological tables of history and various materials effectively.
- To strengthen the union spirit by learning about the national races who are living together in the same country.
- To study and analyse the situation of development in countries around the world.

Teacher competencies in focus for Year 2 Social Studies

This section identifies key competencies from the Myanmar Teacher Competency Standards Framework (TCSF) specifically relevant for this subject. These teacher competencies give an overall compass for what student teachers should know and be able to do when graduating from this course. This overall teacher competencies links to the specific learning outcomes expected by Social Studies strands as outlined in the syllabus.

Table A. Teacher competencies in focus: Year 2 Social Studies

Competency standard	Minimum requirements	Indicators
A2: Know appropriate use of educational technologies	A2.1 Demonstrate understanding of appropriate use of a variety of teaching and learning strategies and resources	A2.1.1 Plan learning experiences that provide opportunities for student collaboration, inquiry, problem-solving and creativity A2.1.2 Use teaching methods, strategies and materials as specified in the textbooks and additional low cost support materials, to support student learning

Competency standard	Minimum requirements	Indicators
A4: Know the curriculum	A4.1 Demonstrate understanding of the structure, content and expected learning outcomes of the basic education curriculum	A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught A4.1.2 Prepare lesson plans reflecting the requirements of the curriculum and include relevant teaching and learning activities and materials A4.1.3 Describe the assessment principles underpinning the Lower Secondary curriculum
A5: Know the subject content	A5.1 Demonstrate understanding of the subject matter to teach the assigned subject/s for the specified grade level/s	A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught
	A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context	A5.2.2 Explain how lessons are contextualised to include localised information and examples related to the subject content, concepts and themes
B1: Teach curriculum content using various teaching strategies	B1.1 Demonstrate capacity to teach subject-related concepts clearly and engagingly	B1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes B1.1.3 Encourage students' awareness of their own thought processes and use of reflection to build new understanding
	B1.2 Demonstrate capacity to apply educational technologies and different strategies for teaching and learning	B1.2.1 Use teaching methods and learning strategies appropriate for the class – culture, size and type B1.2.3 Create opportunities for students to investigate subject-related content and concepts through practical activities
	B1.3 Demonstrate good lesson planning and preparation in line with students' learning ability and experience	B1.3.1 Plan and structure lesson to ensure all the lesson time is used effectively
B2: Assess, monitor, and report on students' learning	B2.1 Demonstrate capacity to monitor and assess student learning	B2.1.1 Use assessment techniques as part of lessons to support students to achieve learning outcomes B2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback
	B2.2 Demonstrate capacity to keep detailed assessment records and use the assessment information to guide students' learning progress	B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum B2.2.3 Communicate students' learning progress and achievement to students, parents and other educators
B3: Create a supportive and safe learning environment for students	B3.1 Demonstrate capacity to create a safe and effective learning environment for all students	B3.1.2 Encourage students to interact with each other and to work both independently and in teams
	B3.2 Demonstrate strategies for managing student behaviour	B3.2.4 Encourage well-adjusted behaviour of students by collaborative teamwork and independent learning

Competency standard	Minimum requirements	Indicators
C3: Promote quality and equity in education for all students	C3.2 Demonstrate respect for diversity of students and the belief that all students can learn according to their capacities	C3.2.1 Organise the classroom to encourage all students' participation in the lesson content, activities and interactions with the teacher
	C3.3 Demonstrate capacity to build students' understanding of different cultures and global citizenship	C3.3.1 Integrate concepts of sustainability, equality, justice and the rights and responsibilities of students into class and school activities
D1: Reflect on own teaching practice	D1.1 Regularly reflect on own teaching practice and its impact on student learning	D1.1.2 Use information from a variety of sources to improve teaching practice and student learning D1.1.3 Regularly reflect on a wide range of actions and experiences to identify areas for own continuous professional development as a teacher
D2: Engage with colleagues in improving teaching practice	D2.1 Improve own teaching practice through learning from other teachers and professional development opportunities	D2.1.1 Discuss teaching practices with supervisors and colleagues, and willingly seek constructive feedback D2.1.2 Participate in professional development activities related to identified goals for improving practice D2.1.3 Establish goals for own professional development as a teacher

Source: Myanmar Teacher Competency Standards Framework (TCSF) - Beginning Teachers, 2020, pp. 109 – 140

Teaching young adult learners

The student teachers in your classroom are young adult learners. As such, evidence suggests that they will learn best when:

- The course content is related to their prior knowledge and experiences;
- There are opportunities for them to be active in their learning, both in and outside the classroom; and
- They are asked to develop their critical thinking and social skills and to take ownership of their own learning.

The different types of content delivery and learning strategies proposed in this Teacher Educator Guide are based on the following 'good practice' principles of teaching adult learners:

1. **Keep it relevant.** Adults tend to be goal-oriented and practical. They want to understand how what they are learning will be important in their daily lives.

This means that it is important to have clearly defined goals and objectives for what student teachers will accomplish in a lesson, and why. Student teachers need to see the relevance of what they are learning for their future jobs as teachers. You can tell them explicitly what they are learning or how individual learning activities will be useful to them as teachers.

2. **Recognise your student teachers' backgrounds.** Your student teachers are coming to you with at least 18 years of life experience. The content of your course should reflect the level of education that they have completed and the realities of their daily lives. Adult learners need to be shown respect by valuing the experience and knowledge that they bring to the class. In your lessons, you can look for places where student teachers can draw on their real-life experiences and prior knowledge to help them understand and connect to a topic.

3. **Encourage exploration.** As adult learners, your student teachers are capable of learning on their own and being self-directed. Activities that require problem-solving and collaboration can help your student teachers to connect deeply and meaningfully with the lesson content. To do this, look for ways to actively involve your student teachers through discussion groups, real-life practice and opportunities to teach others. It may help to think of yourself as a *facilitator* of learning, rather than a teacher. You can encourage the student teachers in your classes to take ownership of their learning by finding out what is interesting to them and encouraging them to pursue these things.

Guidelines for inclusive and equitable classroom practices

Inclusion is the act of ensuring that all persons are free from discrimination of any kind and enjoy equal rights. In terms of inclusion in education, a child should be able to enjoy their right to education, regardless of their gender, language, ethnicity, religion, disability, socioeconomic status and geographic location, as set forth in the 1990 UN Convention on the Rights of the Child. The vision of the Ministry of Education (MoE) is to ensure significant advancement towards adhering to the terms of the UN Convention. Its aim is also the achievement of the Sustainable Development Goal for Education, namely: *SDG Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.*

The achievement of SDG Goal 4 can be realised through the creation of inclusive, learner-friendly environments at all levels of the Education Degree College. While teacher educators can model inclusive and equitable classroom practices to their student teachers, administrators can also contribute by creating mission and/or vision statements and policies that celebrate inclusion, including a policy against discrimination.

As a teacher educator, actively promoting inclusion and gender equality in the classroom is an essential element of your teaching. Facilitating a safe and positive environment and atmosphere where all student teachers feel that their contributions are equally valued, and have equal access to learning, requires you to be mindful of the teaching and learning strategies and resources you use.

It is your responsibility not only to ensure your student teachers have equal access to learning, but also to ensure that they understand and value the importance of inclusion and gender equality and take that knowledge with them into their own teaching practice. The skills, knowledge, values and attitudes developed in the classroom with regards to creating inclusive, learner-friendly environments, either implicitly or explicitly, can have a long-lasting impact on the future behaviour of your student teachers.

General strategies to facilitate an inclusive classroom

Teachers, as facilitators, are responsible for creating high quality, inclusive learning environments where all students are supported to experience success in their learning.

- Think about each student teacher and consider the barriers they may experience because of their gender, disability, religion, ethnicity, language, geographical context, and socio-economic situation.
- Be aware of your own biases and reflect on your actions and teaching strategies.
- Ensure that all genders are represented and recognised, be aware not to reinforce gender stereotypes.
- Be sensitive to the marginalisation of different ethnic or religious groups experienced or continue to experience.

- Be aware that student teachers from ethno-linguistic groups who may not be as confident in using the language of instruction in the school. Use terms that all students would be familiar with and check for understanding throughout the lesson. If needed, provide translations of key documents and materials for all student teachers.
- Recognise and acknowledge different religious practices and try to represent all in the class and not have a bias towards the most predominant culture or religion in the population.
- Ensure that activities and examples are accessible to student teachers from all socio-economic groups and can all participate. Use local examples relevant to the locality and materials that are easy to acquire, low-cost and are readily available.
- Provide accommodations and adapt lessons for student teachers with disabilities.
- Make sure you present the key learning points of the lesson through visual, auditory and if possible tactile cues – respond to different learning styles.
- Be flexible and offer a variety of activities for different student teachers to explore the same learning competencies and learning outcomes.
- Have high expectations of all student teachers and focus on helping each of them all achieve the learning outcomes.

Ensure gender inclusivity in the classroom

Gender stereotypes are often inadvertently reinforced in the classroom through the use of language, pedagogical approaches and resources that support the preconceived culturally expected norms, roles, and responsibilities of women and men. By promoting a gender-inclusive environment in the classroom, you can support both male and female student teachers in building a healthy understanding of gender equality and further mainstreaming of this gender-sensitive and inclusive practice into basic education classrooms.

- Ensure that there is equal representation of male and female voices, names, quotes and examples.
- Ensure that illustration examples do not reinforce any existing stereotypes.
- Use equitable and gender-inclusive language and ensure that your student teachers do likewise.

- Help and encourage your students to be gender aware, highlight any perceived gender-biased attitudes and encourage your student teachers to reflect on their own actions.
- Ensure that you interact equally with male and female student teachers, addressing and engaging them both to the same degree in your teaching, across different subjects. For example, when asking questions, asking for volunteers, selecting activity leaders, giving complements, giving eye contacts, or even remembering the names of student teachers.
- Arrange the classroom setting in a gender-sensitive and equal manner, in terms of classroom decorations, seating arrangement, and group formation/ division.

Specific guidelines to adapt a lesson according to the different needs of your student teachers

Types of situations	Guidelines
Student teachers not interested in lesson topic	Make relevant connections between topic and their lives
	Show them practical applications of topic
	Use examples related to their interests
	Include games and activities which require the student teachers to collaborate together on the lesson content
Unmotivated student teachers to engage in activities	Provide choices within the classroom
	Increase opportunities for peer-based learning
	Ensure learning tasks are at an appropriate level of difficulty
Student teachers reluctant to participate in class	Provide options for participation
	Be flexible in expectations for participation among peer partners/small groups
	Encourage and support the participation of quieter student teachers
Student teachers who may finish their work more quickly	Develop and prepare extension activities
Student teachers who may take longer time to complete the tasks	Allow more time to complete work if they need it
Student teachers who respond better to visual input (including learners with hearing impairments)	Use objects/pictures, colour-coded information for visual organisation
Student teachers who respond better to auditory input (including learners with visual impairments)	Use lecture or discussion-based learning, peer-based activities, audiobooks, text-to-speech software
Student teachers with learning or attention challenges	Use small chunk of information, frequent repetitions, multiple examples, concrete learning experiences, actual demonstration, hands-on learning

Types of situations	Guidelines
Student teachers who learn better kinaesthetically	Use hands-on learning, touching objects, tactile graphics, frequent movement, project-based learning
Culturally diverse student teachers	Use culturally-relevant materials and instructional methods
Student teachers with disabilities	Group them with student teachers who can offer support and assistance, not with those who are facing difficulties
Student teachers with hearing impairments	Ask them to sit near the front of the room
	Make sure that they can see your lips to be engaged through lip-reading
	Provide written representations of what is being communicated
Student teachers with visual impairments	Ask them to sit near the whiteboard/chalkboard
	Use large-print materials with the contrast enhanced
	Provide instructions verbally as well as visually
	Provide a variety of engaging activities engaging other senses
Student teachers who prefer expressing themselves through printed words (including students with speech difficulty)	Use journaling, fill in the blank activities, essays, stories or poems
Student teachers who are verbally expressive (including students having writing difficulties)	Include discussions in class or “reporting back” to questions
Students teachers who communicate best with drawings, diagrams (including students with speech or writing challenges)	Use visuals, poster making or other artistic formats
Student teachers who express themselves better through demonstration and movement	Use drama/skit, body movements, building models
Student teachers who need time to think before responding (including second-language learners)	Provide time for them to construct responses before sharing with you or their classmates
Student teachers who have limited mobility	If movement is required, adjust the lesson to include variations that allows the student teachers to demonstrate knowledge by using other parts of their body or wheelchair movement.
	Have them demonstrate the competency using a written or oral description
Student teachers with complex physical disabilities	Use of scribe to support writing
Student teachers with learning/ organisational challenges	Encourage peer support
	Use sentence-starters in writing, word banks, pictures, to-do-lists, task checklists

Inclusive, quality assessment to enhance learning

Traditional assessment strategies create barriers for many students. Inclusive assessment allows student teachers to maximise access to learning opportunities, but also considers their individual differences and contributes to improving the quality of education.

- Use formative assessments frequently. Use the data that you get from formative assessments to influence instructional decisions.
- Design and adapt tests so that they are accessible to all student teachers.
- Ensure that all instructions are clear and easy to understand, questions are at the reading level of all students, and diagrams are clear and easy to read.
- Allow student teachers with disabilities to be supported by providing assistance in writing down their answers or understanding the questions as needed (this can be a student teacher from another year group or class or a designated teaching assistant).
- Use assessment rubrics with benchmarks towards the learning goal, using a rating scale such as 'not yet evident', 'beginning', 'developing' and 'independent'. The benchmarks can be adjusted depending on the lesson or individual learning goals. Other alternatives include checklists, personal feedback, student self-assessment, portfolio with selecting highlights and areas for improvement.
- Ensure that there is more than one way for you to check understanding in a lesson. Provide several options for student teachers to express learning through a variety of assessment tasks.

Accommodations for student teachers who may experience barriers in participating in assessment tasks

Types of accommodations	Ideas
Accommodations in presentation	Provide oral reading of the assessment (either by recorded voice or adult reader)
	Use large print for the assessments
	Provide audio amplification to aid in listening (hearing aids of speakers)
	Use computerised screen readers of text
Accommodations in response	Use a computer or a scribe to help with answering of questions
	Circle answers directly in the text booklet rather than a separate book
	Use organisational devices (calculators, organisers, spell checkers, dictionaries)

Types of accommodations	Ideas
Accommodations in setting	Administrate the test in a separate place to minimise distraction
	Test in a small group
	Adjust lighting in a room (more or less light for students who need it)
	Provide noise buffers (headphones, ear plugs, earphones)
Accommodations in timing	Extend time to complete a test
	Allow multiple or frequent breaks
	Change the order of a test (e.g., provide easier subjects first to decrease anxiety)
	Test over multiple days rather than one day

Enhance inclusive teaching through reflective practice

You should constantly reflect on your teaching practice to ensure that you are providing quality education that is accessible and engaging for all of your student teachers, regardless of their background. After every lesson, think about these questions for your reflection:

1. Teaching is planned with all student teachers in mind.

- Do lesson activities take account of student teachers' interests and experiences?
- Are varied teaching strategies and methods used?
- Do the student teachers understand the purposes of lesson activities?
- Does the lesson plan support the achievement of intended learning outcomes?
- What works well and what does not work well for whom? Is there a better way to teach the subject?
- Have I anticipated different learning styles, preferences, abilities, and needs of student teachers and designed activities to cater to their needs?
- How have I considered student teachers' understanding and prior knowledge? How have I adapted my lesson to scaffold understanding and address a range of needs?

2. Lessons encourage the participation of all student teachers.

- Are all student teachers, regardless of gender, addressed by their name equally?

- Are there locally, culturally, and personally relevant materials that engage the interest of the student teachers?
- Do student teachers feel they are able to speak during lessons?

3. Student teachers are actively involved in their own learning.

- Are student teachers encouraged to take responsibility for their own learning?
- Does the classroom environment encourage independent learning?
- Have I designed the lesson to allow student teachers an element of choice in how they learn?

4. Student teachers are encouraged to support one another's learning.

- Do seating arrangements encourage student teachers to interact?
- Are student teachers sometimes expected to work in pairs or groups?
- Do student teachers help one another to achieve the goals of lessons?

5. Support is provided when student teachers experience difficulties.

- Am I watching out for student teachers experiencing difficulties?
- Do students feel able to ask for help?

6. Positive learning behaviour is based on mutual respect.

- Are there established rules for taking turns to speak and listen?
- Do student teachers feel that their voice is being equally heard?
- Are bullying, gender stereotyping and discriminatory biases discouraged?

7. Student teachers feel that they have somebody to speak to when they are worried or upset.

- Are the concerns of all student teachers listened to, regardless of background?
- Do I make myself available for student teachers to talk with me privately?
- Have I created an encouraging and positive learning environment?

8. Assessment contributes to the achievement of all student teachers.

- Have I used assessment to encourage learning?
- Are the assessment techniques inclusive and accessible for all student teachers?
- Are all student teachers actually learning what they are supposed to?
- Are student teachers given constructive feedback on their work?
- Have I supported student teachers for tests or examinations according to their individual needs?
- Do I ensure that diversity is respected, even within one united formal assessment system?

Toolbox for teaching and learning strategies

This Teacher Educator Guide includes suggested learning activities for each lesson in the Student Teacher Textbook. These learning activities are intended to help support you as you plan your lessons but they do not dictate what you must do to help student teachers develop the desired knowledge, skills and attitudes for each lesson. On the contrary, you are encouraged to come up with the lesson activities that will best help the student teachers in your classroom to learn, given their unique backgrounds and needs.

Many of the learning activities listed below are used in this Teacher Educator Guide. You can also use this list to help you plan, or further adapt, your lessons. This is not an exhaustive list of teaching and learning strategies. You may wish to brainstorm additional teaching strategies by visiting http://www.theteachertoolkit.com/index.php/tool/all-tools or other similar websites.

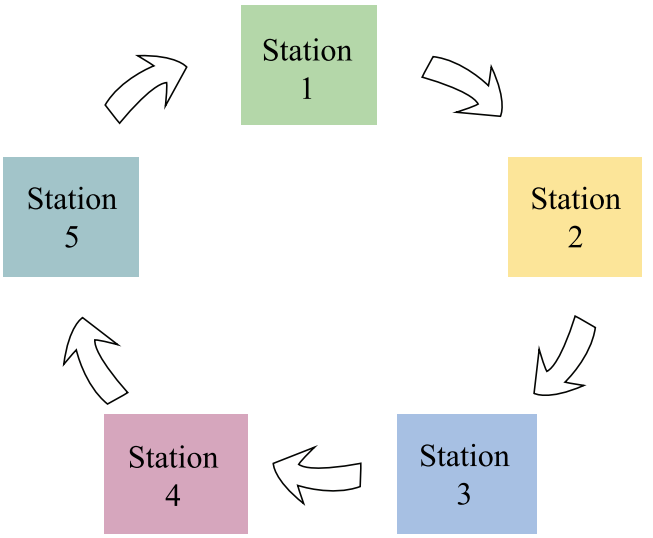
Assignments: The assignments that you give to student teachers might include formal written essays, portfolios and reflection journals. They also might be smaller, developmental tasks – for example, a short homework assignment answering questions about a reading. Assignments can help student teachers to review previously taught materials. They can also help student teachers prepare for future learning – for example, you might assign student teachers to read the Student Teacher Textbook content in advance of the next lesson.

Case studies: Working through case studies can help student teachers to develop their problem-solving and critical thinking skills as they must apply what they are learning to a scenario or story (the 'case'). To complete a case study, student teachers first read the scenario and then discuss and answer one or more open-ended questions about the scenario. Case studies often require student teachers to propose solutions to the problem presented in the scenario.

Directed activities: These are activities set by you, as the teacher educator, but carried out by the student teacher independently. For example, a directed activity might be for a student teacher to interview a basic education teacher during their Practicum school placement, or to independently research a specific teaching method. Directed activities are typically followed up in tutorials, seminars or workshops which provide an opportunity for student teachers to share about what they have learnt and to learn from their peers.

Gallery walk: In a gallery walk, student teachers work in groups to answer questions or complete a task on poster paper at various stations. They then rotate stations and add comments, questions, or further content to the poster at that station.

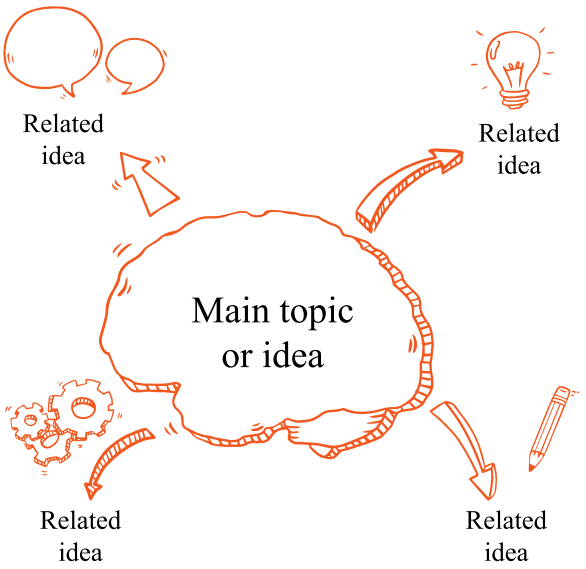
You can also use a version of the gallery walk to display student teachers' work. In this type of gallery walk, posters created during individual or group work are displayed around the room. Student teachers then circulate at their own pace to either simply view the posters, or to add their questions or comments to the poster.



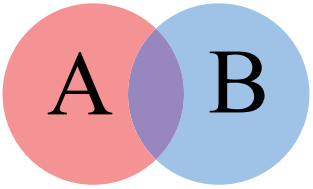
Graphic organisers: Graphic organisers are a simple and effective tool to help student teachers brainstorm and organise their thoughts and ideas in a way that makes it easier for them to understand. Graphic organisers can be used in any lesson for brainstorming, planning, problem-solving or decision-making.

Some of the most popular graphic organisers that you will see in your Teacher Educator Guides include:

- **Concept map (also called a mind map):** Concept maps, or mind maps, can be used to visually show the relationships between concepts or ideas. They are useful for brainstorming and also organising information. Concept maps can be organised in different ways and with different levels of complexity but most start with broad topics first, connected to sub-topics (or more specific concepts) to form a web of connecting ideas. The diagram below shows a very simple concept map.



- **Venn diagram:** Venn diagrams can be used to compare and contrast at least two different things or ideas (A and B). In the Venn diagram below, the overlapped area represents the characteristics belonging to both A and B and the two areas without overlap are for listing the characteristics that belong only to A and those that belong only to B.



- **KWL chart:** KWL charts can help student teachers organise information before, during and after a unit or a lesson. They can be used to engage students in a new topic, activate prior knowledge, share unit objectives and monitor student teachers' learning. KWL charts can be completed as a small group, whole class or by an individual. Before the lesson or unit, student teachers should fill in the first two columns about what they already know and what they want to know. After the lesson or unit, they can fill in the column about what they have learnt.

K What I **K**now	**W** What I **W**ant to know	**L** What I **L**earnt

- **T-chart:** T-charts can help student teachers examine two facets of a topic; for example, the advantages and disadvantages, or facts versus opinions.

Heading 1	**Heading 2**

Group work: Group work refers to any time you ask student teachers to cooperatively work together in groups on a task (for example, see the Jigsaw activity below). Group work can help motivate student teachers and encourage active learning. It requires student teachers to practise key critical thinking, communication and decision-making skills. Student teachers can work in groups to answer questions, create a presentation, write a lesson plan, analyse a case study, conduct a role-play and many more learning activities. You may wish to assign roles to group members – for example, recorder, presenter and team leader – to make sure that everyone is involved in the task.

Jigsaw: In a jigsaw activity, small groups of student teachers become experts on one component of a topic and then 'teach' that component to their peers. This gives student teachers the opportunity to work with others and to see different points of view. The jigsaw technique is especially effective because each student teacher is responsible for another's learning, and student teachers come to realise that each group member has something important to contribute to the group. In a jigsaw, student teachers must practise using many important skills, including communication, problem-solving and critical thinking.

Lecture: Lectures are largely one-way communication between you, as a teacher educator, and a group of student teachers. They can be useful for delivering straightforward new content. Even when giving a lecture, you can involve student teachers more actively by pausing to ask and respond to questions, or by asking a student teacher to reflect or comment on the topic.

Micro-teaching: During a micro-teaching experience, a student teacher, or a small group of student teachers, teaches their peers all or part of a lesson. They then receive feedback on the mini-lesson and reflect on the experience in order to develop practical skills and apply their learning. Micro-teaching is an important opportunity to prepare for the Practicum Lesson Study and school placements. It can also provide a chance to focus on specific core teacher practices; for example, asking open-ended questions or giving students positive feedback.

Modelling: Modelling is an instructional strategy in which the teacher demonstrates a new concept or approach, and students learn by observing. As a teacher educator, you may choose to demonstrate a learning activity or teaching strategy, rather than simply telling the student teachers about it – this is modelling.

Modelling may also be followed by a discussion about how you presented the activity or strategy and what impact that had on the student teachers as learners. This can highlight the role of modelling in teaching and encourage student teachers to reflect on how they might use modelling in their own teaching in the future.

Observation: Student teachers can observe a peer or expert teacher teaching, then participate in structured, reflective discussion to make sense of what was observed. You may also observe a student teacher teaching all or part of a lesson and then follow this with a discussion to explore and develop the student teachers' thinking and practice. This strategy is an excellent opportunity to make links between theory and practice, and to support student teachers in making accurate assessments of their progress.

Practicals: Practicals can include demonstrations by you as teacher educator (for example, showing how to conduct a science experiment) and those led by, or involving, student teachers (for example, having student teachers complete a mathematical investigation and associated worksheet). This strategy can help student teachers to understand how different activities can help students learn. Practicals can also encourage student teachers to connect theory to their developing practice as teachers.

QR Codes: QR codes are a mobile friendly way to enter web addresses or check out links of specific information. Instead of clicking on links, a collection of small black squares, known as a QR code, is scanned.

First, student teachers will need to use their smartphone to download a QR code scanner or reader from the iOS Apple Store or Google Play, using mobile data or available internet connection. After downloading the scanner, connected students can hold up their phone, point their camera, scan the code and be directed to a given location. Teachers should be encouraged to use these codes in their own classrooms and know how to generate them easily and quickly.

These QR codes can be a great tool used for the flipped classroom approach, allowing student teachers to easily access links, websites, and download worksheets. You can also use them in warm up activities, assessments, surveys and other learning activities to include VLE in the classroom.

Please note that you and your student teachers will need mobile data or internet connection for the scanner to work.

Reading groups: A reading group is a small group session focused on the analysis and interpretation of a text, most commonly an academic paper. The paper is usually issued in advance and student teachers are expected to be familiar with its contents before attending the reading group. One student teacher may be asked to present the paper to the group, followed by a discussion to which all student teachers contribute. This strategy helps to familiarise students with academic writing as well as with the ideas within papers. Discussions may focus on the content, presentation or the methodology of the papers presented.

Role-playing: Role-play is a technique that allows student teachers to explore realistic situations as they interact with people and scenarios in a simulated way to try different strategies. This can allow student teachers to work through common challenges, or specific aspects of teaching, in a safe and supportive environment.

Self-study: In a self-study, student teachers must take responsibility for their own learning, with you as a guide. This strategy can supplement face-to-face and Education Degree College-based learning and is important to help frame, supplement, and consolidate new learning. Self-study can take a number of forms, such as reading around topic areas and action planning. Self-study includes time to think about specific areas of education.

Seminars: Seminars are small group sessions where questions can be explored, and views can be debated and analysed. Students usually complete preparatory work or reading before the seminar. While you would lead the seminar as a teacher educator, all student teachers are expected to contribute to discussions. Seminars can be good for developing student teachers' deeper thinking about content with which they are already familiar.

Think-pair-share: Think-pair-share is a simple and collaborative strategy where learners work together to solve a problem or answer a question. To use think-pair-share in your class, you can follow these three steps:

1. Think: Begin by asking a specific question about the text. Ask student teachers to 'think' about what they know or have learnt about the topic.

2. Pair: Each student teacher should pair up with a classmate, or with a small group.
3. Share: With their partner or small group, student teachers should share and discuss their thinking about the question. You can then expand this time of sharing into a whole class discussion about the topic.

Tutorials: Tutorials are one-on-one or small group sessions between you and a student teacher. Tutorials allow for personalised, detailed discussion and exploration of ideas. They may have a pastoral or academic focus and may be used to support student teachers who are struggling with specific academic content, or who have missed out on an in-class learning experience.

Virtual Learning Environment (VLE): This widely-used tool is a teaching strategy to supplement and support learning and self-study. In VLE, activities, study skills and website links are shared with student teachers, and different tools are used to explore understanding, such as wikis, forums and blogs. An e-library is available for student teachers to access teaching and learning resources.

Workshops: Workshops are group sessions in which student teachers engage with new content and skills in order to develop their understanding and practice. This strategy often incorporates a great deal of collaboration and discussion as well as more lecture 'teaching' by you, as teacher educator. Workshops allow for detailed discussions about a topic and for student teachers to practise applying what they are learning.

Toolbox for assessment approaches

There are many different ways you can monitor student teachers' learning before, during, and after a lesson. This Teacher Educator Guide includes many of these assessment approaches. Remember that providing feedback, either written or verbally, is an important part of formative assessment. Your feedback is what will help student teachers to learn and improve on future tasks. You can think of formative assessment as a chance for student teachers to practise before the summative assessment, where they will be asked to show what they have learnt through a larger test, exam or project.

Some of the most popular assessment methods you will see in this Teacher Educator Guide include:

Demonstration: In a demonstration, you may ask a student teacher to show you – or demonstrate – a skill that they have been learning. For example, you may ask a student teacher to demonstrate a dance technique, a step in a science experiment, or a movement in physical education. By observing the demonstration, you can monitor student teacher progress and provide suggestions for improvement. As with all formative assessment approaches, the feedback you provide on the student teacher's demonstration is what will help him or her to improve.

Homework assignments: Checking student teachers' homework assignments, which may include tasks such as reading and answering questions or looking up additional information, is a good way to monitor if they are on the right track. Depending on the homework assignment, you may wish to discuss answers as a class, check for completion, or collect and provide written feedback.

Journal log/reflection papers: These are a detailed log of student teachers' thoughts and feelings about their professional development and growth. The journal log and reflection papers are intended to help student teachers think deeply about their own learning by reflecting on their progress towards becoming a teacher. The process of consciously reflecting on their learning will help student teachers make connections between the content they learnt in a subject and other subjects, solve problems that come up, and learn from their experiences. Teacher educators may provide advice to student teachers on the areas to focus on when preparing the journal logs and reflection papers.

Observation: Informal observation – by circulating the room, listening to groups discuss, and making eye contact – is a good way to get a general sense of whether student teachers understand the material. More formal observation would involve using a checklist or criteria that you are looking for in a student teacher's answers or presentation. You can then provide feedback on the basis of what you have observed.

Peer-assessment: If you ask student teachers to evaluate or judge, the work of their peers, this is called peer-assessment. You will need to have the appropriate peer-assessment tools – either a rubric or a checklist – so that student teachers can provide feedback to their classmates based on established criteria. When student teachers

observe each other during micro-teaching and complete an observation sheet, this is a form of peer-assessment.

Presentation: A presentation may be similar to a demonstration but often involves more preparation on the part of the student teachers. Asking groups or individuals to present their work – perhaps at the end of the lesson – is an excellent opportunity to check for understanding, correct any misconceptions and provide feedback.

Projects: Projects are completed by each student teacher, either individually or collaboratively in a group. This is to demonstrate their understanding in the subject content knowledge and their competencies gained through designing, planning and developing projects. Student teachers work on a project over a certain period of time to investigate a topic or a real-life issue. Teacher educators are requested to provide instructions on completing the projects, including the rubrics of the assessment.

Question and answer: Asking student teachers both closed-ended and open-ended questions is a good way to monitor whether student teachers understand the material. During question and answer sessions, be sure to call on a variety of student teachers for their responses. While you may want to use some closed-ended questions (with one correct answer) to check understanding, you will be able to foster better and deeper discussions through open-ended questions, which have more than one right answer and generally require more thinking on the part of the student teachers.

Quiz: You may wish to use a short quiz to test the knowledge of your student teachers. Quizzes can be graded in class as a whole class activity, or you may wish to collect and check the quizzes outside of class. Quizzes can also be seen as a way to 'practise' for a summative test or exam.

Self-assessment: In a self-assessment, student teachers evaluate their own strengths and weaknesses. This process can help them to understand their own gaps in skills or knowledge and to create a plan to address these gaps. Self-assessments are good ways to encourage student teachers take ownership of their own learning and development. As in peer-assessment, student teachers will need some coaching to understand the assessment criteria and how to apply them to their own work or skill sets.

Written examinations: Written examinations are conducted usually at the end of each semester to test the basic subject content specific knowledge and reflection of related pedagogy discussed during the course.

General tips for facilitating a lesson

Some of the teaching and learning strategies suggested here and throughout this Teacher Educator Guide may be new to you. If so, it is recommended that you spend some time carefully planning out how you will use them in your lessons so that student teachers can achieve the desired learning outcomes.

The following are some additional general tips that you can implement to help your student teachers learn.

Before teaching a class, you may wish to do the following:

- Choose a small amount of content to deliver. Keep in mind that in a given 50-minute class period, you generally do not want more than one-third of the class period should be focused on content delivery. This will enable there to be enough time for student teachers to practise their skills and deepen their understanding of the topic.
- Note down the key points you think are most important for your student teachers to learn from the lesson content. You can refer to these as you deliver the content to the class to make sure you discuss these key points.
- Make sure you are clear on how you will carry out the content delivery and the learning activities. Refer to the suggestions in this guide and discuss with other teacher educators, if needed. Always feel free to change the suggested steps so that the lesson activities work well for your specific classroom situation.
- For each learning activity, prepare clear written instructions for your student teachers describing, step-by-step, how to do the activity. The instructions could be displayed on a presentation slide, printed on a handout or written on the board. Make sure the instructions are large enough to be read by all student teachers.
- You may want to practise explaining the instructions verbally, going slowly and step-by-step. This will help you be ready to explain the instructions to your student teachers before the activity, so they will understand what to do.

You can practise the explanation with a friend or colleague ahead of time and then ask them what needs to be explained more clearly.

- If time allows, prepare to model of what student teachers are expected to do during the activity. This might involve one or two teacher educators doing a short role-play, pretending they are the student teachers doing the activity. This will enable student teachers to *see* exactly what they should be doing.
- If student teachers are expected to produce something at the end of an activity, you may wish to prepare an example, or 'end product,' to show student teachers what they should be aiming to create during the activity.

During class, just before the content delivery or any learning activity, if applicable, it may be helpful to:

- Distribute any materials or learning supplies that student teachers will need to carry out tasks you will ask them to do. Make good use of the e-library to request student teachers to access necessary teaching and learning materials online as appropriate.
- Provide clear verbal and written instructions to student teachers about any task you would like them to do as you deliver the content.
- Model what the student teachers should do using a short role-play.
- Show the example end product to student teachers that you prepared before class.
- Ask one or more student teachers to repeat back to the class how to do the activity, using their own words, to make sure they understand the instructions.
- Tell student teachers how long they have to complete the activity.

Throughout the class, it may be helpful to:

- Look for any signs that suggest whether the student teachers understand the content you are delivering or the task they are working on. If you suspect certain points may be difficult for student teachers to understand, consider explaining the information in a different way or breaking down the information into smaller, more manageable pieces.
- Walk around to all parts of the classroom to:
  - Ensure all student teachers are on task;
  - Answer questions student teachers have;
  - Ensure student teachers have all the materials needed to do the activity; and

  - Assess student teachers' understanding by observing whether they are carrying out the activity as instructed.
- Encourage student teachers to ask questions.
- If you detect a misunderstanding, either talk directly to the student teacher to clarify, or if the whole class may benefit from the clarification, call the attention of all student teachers and explain to everyone.
- Check for **Facilitator's notes** instruction boxes for points to emphasise and to ensure that student teachers are learning effectively before moving forward.

At the end of class, it may be helpful to:

- Consider following the suggested ways to "Check student teachers' understanding" at the end of each lesson. This is an opportunity to summarise the lesson and to briefly assess the student teachers' achievement of the learning outcomes and understanding of how the lesson addressed the Teacher Competency Standards Framework (TCSF).
- Assess student teachers' understanding by asking them to share a point from the content you delivered that they thought was particularly interesting, or that surprised them.
- Encourage student teachers to ask questions and provide comments on what you have just taught them.
- Ask one or two student teachers to share what they produced during the activity. If the activity was not designed to produce an end product, ask one or two student teachers to describe what they learnt from the activity.
- After student teachers share their work or their thoughts, choose one or two aspects of what they shared to emphasise to the class. The point you choose to emphasise should be key points that you would like all student teachers to learn and remember from the activity.

As a teacher educator, you have an important role to play in creating a classroom where all student teachers feel free to ask questions, share their reflections, and practise teaching in a safe supportive environment. It is your feedback and support that will help them grow into teachers who can foster the holistic development and learning of Myanmar's children and youth.

Table B. Year 2, Semester 2, Social Studies content map

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum Requirements	Indicators	
8. Regional Geography	8.1. ASEAN Countries: Indonesia, Laos and Singapore	8.1.1. Physical features and socioeconomics of Indonesia, Laos and Singapore	• Discuss physical features and socioeconomics of Indonesia, Laos and Singapore • Compare the characteristics of landlocked, numerous and scattered islands and small island countries and their development process • Analyse the socioeconomics of the three ASEAN countries	A 5.1 B 1.1 D 1.1	A 5.1.1 B 1.1.1 D 1.1.2	3
	8.2. Regional Geography in Middle School Classrooms	8.2.1. Micro-teaching on Regional Geography	• Develop a lesson plan on Regional Geography for middle school students • Micro-teach a lesson	A 4.1 B 1.1 D 2.1	A 4.1.1 A 4.1.2 B 1.1.1 D 2.1.1	1
9. Practical Geography	9.1. Contour Map	9.1.1. Characteristics of a contour map and creating a contour map	• Identify and interpret landforms on a contour map • Draw a contour map by using key features • Explain the characteristics of contour map	A 5.1 B 1.1 B 2.1	A 5.1.1 B 1.1.1 B 2.1.1 B 2.1.3	2
	9.2. Aerial Photographs	9.2.1. Development of aerial photography	• Discuss the origins and development of aerial photographs • Examine the implication of aerial photograph and its impact on the lives of people • Discuss the applications of aerial photographs in various fields	A 5.1 B 1.1 B 2.1	A 5.1.1 B 1.1.3 B 2.1.1 B 2.1.3	1

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum Requirements	Indicators	
		9.2.2. Types and scales of aerial photographs	• Explore different types of aerial photographs • Identify the characteristics of different types of aerial photographs • Discuss the attributes that affect the scales of aerial photographs	A 5.1	A 5.1.1	1
		9.2.3. Understanding aerial photographs	• Identify essential features required to read and understand aerial photographs	A 5.1 B 1.1	A 5.1.1 B 1.1.1	1
	9.3. Practical Geography in Middle School Classrooms	9.3.1. Micro-teaching on Practical Geography	• Develop a lesson plan on Practical Geography for middle school students • Micro-teach a lesson	A 4.1 B 2.1	A 4.1.1 B 2.1.1 B 2.1.3	1
10. World History	10.1. Beginning of Civilisation	10.1.1. Stone, Bronze and Iron Ages, and ancient civilisations	• Identify the major characteristics of hunter-gatherer societies and agricultural societies • Discuss the origins of the ancient civilisations and analyse the ways in which cultural encounters and cross-cultural exchanges occurred • Evaluate the cultural and civilisational influence of India on Southeast Asia	A.2.1 A.4.1 A.5.1	A.2.1.1 A.4.1.1 A.5.1.1	1

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum Requirements	Indicators	
	10.2. Changes in Europe	10.2.1. Development of early capitalism	• Identify the shift of agricultural-rural to commercial-urban society in early Europe • Assess the impact of newly invented technology to the society • Examine the challenges to Italian city-states by Atlantic seaboard countries	A.4.1 A.5.1	A.4.1.1 A.5.1.1	1
		10.2.2. European expansion (Phase 1 and Phase 2)	• Assess the impact of the geographical conditions in the development of the first phase of European expansion • Examine the advantages and disadvantages of the European expansion • Compare the key features of Phase 1 and Phase 2 European expansion • Identify the main effects of European expansion on Southeast Asia and the Europe itself	A 4.1 A 5.1 B 1.1	A 4.1.1 A 5.1.1 B 1.1.1	1

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum Requirements	Indicators	
	10.3. Industrial Revolution	10.3.1. Development of industry (Phase 1 and Phase 2)	• Analyse the causes and effects of the industrial revolution, including the features of technological invention in Europe • Explain how the industrial revolution was a causal factor in the emergence of new imperialism • Describe how the relationship between economy and society can lead to the emergence of new political thought	A.4.1 A.5.1	A.4.1.1 A.5.1.1	1
	10.4. Rivalries in Europe	10.4.1. World War I	• Identify and examine the causes and the result of World War I • Evaluate the social, economic and political situations of Europe between the two world wars	A.4.1 A.5.1 B.2.1	A.4.1.1 A.5.1.1 B.2.1.3	1
		10.4.2. World War II	• Identify and examine the causes, the course and the result of World War II • Evaluate and discuss the consequences and the impacts of the World War II	A.4.1 A.5.1 B.2.1	A.4.1.1 A.5.1.1 B.2.1.3	1

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum Requirements	Indicators	
	10.5. Post World War II	10.5.1. Post-World War II independence movements	• Examine the emergence of new nations during the Post-World War II era • Outline the independence movements occurred particularly within Southeast Asian countries	A.4.1 A.5.1 D.2.1	A.4.1.1 A.5.1.1 D.2.1.1	1
		10.5.2. International politics	• Assess the origin of the Cold War, Non-Aligned Movement, the collapse of Union of Soviet Socialist Republics (USSR) and the end of the Cold War • Discuss the origins and development of regional and international organisations • Compare the structures and functions of various regional and international organisations	A.4.1 A.5.1	A.4.1.1 A.5.1.1	1
	10.6. World History in Middle School Classrooms	10.6.1. Lesson plan on world history	• Discuss how the study of history can instil 21st century competencies • Identify how the Grades 6–9 History curriculum promotes student-centred learning • Develop a lesson plan on world history • Deliver a micro-teach session on world history	A.2.1 A.4.1 B.1.2 B.1.3	A.2.1.2 A.4.1.2 B.1.2.1 B.1.3.1	2
Total number of periods						**20**

Unit 8

Regional Geography

Regional Geography is the study of Geography by region. Regions can be defined by physical or human characteristics and can vary in size – from small regions within a country to whole continents. When studying Regional Geography, a range of geographical factors can be analysed, including physical, social, environmental, human and economic factors. Regional Geography in the middle school Geography curriculum focuses on the region surrounding Myanmar, particularly Southeast Asia and ASEAN. In this unit, student teachers will study three ASEAN countries with regards to their physical and socioeconomic features. Student teachers will also have the opportunity to practise their lesson planning skills by creating a lesson plan on a lesson from the Regional Geography strand of the middle school curriculum.

Expected learning outcomes

By the end of this unit, student teachers will be able to:

- Discuss physical features and socioeconomics of Indonesia, Laos and Singapore;
- Compare the characteristics of landlocked, numerous and scattered islands and small island countries and their development process;
- Analyse the socioeconomics of the three ASEAN countries;
- Develop a lesson plan on Regional Geography for middle school students; and
- Micro-teach a lesson.

Competencies gained

A4.1 Demonstrate understanding of the structure, content and expected learning outcomes of the basic education curriculum

A5.1 Demonstrate understanding of the subject matter to teach the assigned subject/s for the specified grade level/s

B1.1 Demonstrate capacity to teach subject-related concepts clearly and engagingly

D1.1 Regularly reflect on own teaching practice and its impact on student learning

D2.1 Improve own teaching practice through learning from other teachers and professional development opportunities

8.1. ASEAN Countries: Indonesia, Laos and Singapore

The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967 in Bangkok, Thailand by five member countries: Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei Darussalam joined in 1984, Vietnam in 1995, Laos and Myanmar in 1997, and Cambodia in 1999. Currently ASEAN has 10 member countries.

The physical setting of the region is a collection of fragmented islands and peninsulas surrounded by tropical seas. The most obvious division is between the mainland (Cambodia, Laos, Myanmar, Thailand, and Vietnam), and the insular and archipelagic component (Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Singapore). Among these ASEAN countries, the three countries Indonesia, Laos and Singapore are to be studied in this sub-unit.

8.1.1. Physical features and socioeconomics of Indonesia, Laos and Singapore

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Discuss physical features and socioeconomics of Indonesia, Laos and Singapore;
- Compare the characteristics of landlocked, numerous and scattered islands and small island countries and their development process; and
- Analyse the socioeconomics of the three ASEAN countries.

Competencies gained

A.5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

B.1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes

D.1.1.2 Use information from a variety of sources to improve teaching practice and student learning

Time: Three periods of 50 minutes

Learning strategies: Modelling, group work, presentations, peer-feedback, discussion

Assessment approaches: Observation, strategic questioning, self-assessment, peer feedback, written and verbal feedback from teacher educator, transfer the concept.

Preparation needed: The teacher educator will need to prepare a 10-minute presentation for Learning activity 1. Facilitator's notes (below) offer additional guidance on how to conduct the presentation. Student teachers must read the sections on Indonesia, Laos and Singapore in Lesson 8.1.1 of the student teacher textbook prior to Period 3.

Resources needed: Any additional resources needed for the presentation in Learning activity 1 (e.g. map, diagram), internet access or resources or library access for Learning activity 2 (see the list of online and offline resources given at the end of this lesson).

Period 1

Learning activity 1. Modelling (15 minutes)

1. Briefly introduce the new unit and explain that you will be giving a presentation on one ASEAN country (Singapore). Explain that you are modelling the activity before they research and prepare their own presentations which will be given in the next period.
2. Give the presentation. Encourage student teachers to ask questions during and after. See facilitator's notes for more guidance on the presentation.

Facilitator's notes (guidance for the presentation)

In this activity, you are modelling what a successful presentation on this topic looks like. Ensure you provide a strong example of what you expect from the student teachers, including interactivity, strategic questioning and drawing on a range of sources.

Be sure to include:

1. Strategic questions during and after to check your students' understanding.
2. Diagrams, maps or other resources to hold your students' attention and aid understanding.
3. Links to previous learning or students' own experience of the world if applicable.
4. Relevant and significant information only.

Content

What are the physical features of the country?

Where is it? What terrain? What climate? Temperature? Seasons? Risk of natural disasters? Is it landlocked, coastal or island? Geographical size and spread? Neighboring countries? How near to the equator? Geographical location in relation to the rest of ASEAN? Type of vegetation? Type of soil? How environment supports food production? Impact of human settlement on environment? Environmental issues? Does it have natural resources? Etc.

What are the socioeconomic features of the country?

Population size and density? Distribution between urban or rural? Religion and ethnic demographics? Languages? Levels of peace? Type of governance? How educated are the population? What are the poverty levels? Average income? Developed or developing nation? Health and life expectancy? What are the foundations of the economy? Is there agriculture? Is food imported or exported? What are the main staples? What does it export? What are the main industries/ sources of income? What are the main sources of fuel/power? Etc.

How have the physical features of the country affected it socioeconomically and vice versa?

What is the relationship between location, terrain, climate to population size, economy or main exports?

Presentation and effectiveness

Have you used accessible language? Have you explained key terms that student teachers do not already know? Have you used strategic questions to check understanding? Can you link this topic to their previous learning or experience of the world? Can you use additional resources, such as diagrams or maps, to aid understanding?

Remember – this is an interactive lecture/presentation. You should involve the student teachers and should expect questions from them.

Assessment

This is largely a listening exercise, although the teacher educator should still observe student teachers' reactions to gauge their understanding. Additionally, use strategic questioning to check understanding of the content, and to see if they understand the primary purpose of this activity (modelling it for them to replicate with their own research).

Possible student teachers' responses

This is largely a listening exercise, although student teachers may have questions during and after.

Learning activity 2. Group work (35 minutes)

1. Divide the class into groups and assign each group an ASEAN country.
2. Spend 5 minutes briefly giving instructions and explaining the activity.
3. In their groups, student teachers research their assigned country and begin to prepare a short presentation to be given in the following period (approximately. 5–10 minutes, depending on the number of presentations that will take place).
4. At the end of the period, allow a few minutes to recap and check that all groups are on target to present in the next period (they may need to finish outside of lesson time).
5. See Differentiated learning activity 1 for very large classes (70 student teachers).

Facilitator's notes

Indonesia, Laos and Singapore must all be assigned to at least one group each as these are the focus of the lesson outcomes. However, the teacher educator may choose to assign some groups to study other ASEAN countries if resources are available and if this is appropriate for the class.

These could include:

- Brunei Darussalam
- Cambodia
- Malaysia
- Thailand
- The Philippines
- Vietnam

By adding a couple of additional ASEAN countries into the activity, it will provide more variety for the presentations and student teachers will gain understanding of a larger range of ASEAN countries. Moreover, the task of researching a country not covered in the student teacher textbook is an opportunity to extend student teachers who would benefit from additional challenge.

Assessment

During the explanation, use strategic questions to check that student teachers understand how to complete the activity before they start. E.g. '*what will be the output of the research*?' or *'how will you find the information you need?'*

During the activity, the teacher educator should circulate the room, observing the groups and checking they are on target. Ideally, the teacher educator will have the opportunity to speak with each group individually. If there are any common misconceptions across the class, these can be addressed to the whole class straight away if appropriate.

At the end of the activity, draw student teachers' attention to the checklist in Learning activity 3. They can use this to assess their own work and make improvements in their own time.

Possible student teachers' responses

The output of this activity will be observable in Learning activity 3. By the end of the first period, student teachers should have at least the basic structure of their presentation and have identified any tasks they need to complete prior to the next period in order to give their presentations.

Period 2 and 3

Learning activity 3a. Presentations (75 minutes - concurrent to learning activity 3b)

1. The whole of Period 2 and half of Period 3 will be taken up with presentations and peer feedback. Each group will present one time and give feedback to another group one time.
2. The lesson will follow the format of (i) presentation (approximately. 5-10 minutes) (ii) peer feedback from one other group (3-5 minutes). If feedback is brief, some whole-class discussion can be encouraged (if time allows).
3. Non-participant groups will take notes and ask questions.

Learning activity 3b. Peer feedback (75 minutes - concurrent to learning activity 3a)

1. At the start of the lesson, quickly assign which group will provide feedback to which group.
2. Student teachers should use the checklist to provide constructive feedback. The groups should aim to outline strengths and areas for improvement, with suggestions as to how this can be achieved.

Facilitator's notes

All groups should have the opportunity to present and give feedback. When setting the task, you will need to consider how many groups need to present and tell the groups approximately how long their presentation should be. During the presentations, the teacher educator should act as timekeeper, and if necessary, end presentations that take too long.

Assessment

Each group will give and receive constructive peer feedback using the checklist as a guide.

The teacher educator's role in this lesson is largely to observe, while providing helpful verbal input/feedback/questions where this can support the learning outcomes. This might include asking a student teacher to provide an example to elaborate on their feedback or providing pertinent feedback that has not been covered.

The teacher educator should use the checklist below (also given in the student teacher textbook) as a guide to assess each presentation and to guide input during the activity. The teacher educator may also opt to provide written feedback to each group.

Possible student teachers' responses

See the checklist below.

Checklist for assessing a presentation

Checklist for assessing Regional Geography presentations

Content

Does the content:

✓ *Include information on physical features?*

Such as location, terrain, climate, size etc.

✓ *Include information on socioeconomic features?*

Such as population size and demographics, urban/rural distribution, government, education, development etc.

✓ *Make links between physical and socioeconomic features?*

Has the location, terrain or climate had any impact on socioeconomics?

✓ *Include relevant information that provides a good overview?*

The group will need to prioritise important information rather than trying to fit in too many facts and small disconnected details that will be forgotten quickly.

✓ *Include strategic questions?*

Such as closed or open questions that help them to know if you understand the content.

✓ *Include any effective visual aids?*

Such as diagrams, maps or photos that improve the presentation.

Presentation

✓ *Is the presentation easy to understand?*

Do they use accessible language, explain key terms, use additional materials to support understanding?

✓ *Do the presenters demonstrate that they understand the content?*

Can they answer questions, explain things clearly and elaborate on key points?

✓ *Do the presenters present well?*

Are they audible, using eye contact and appropriate pauses (and not just reading from a script)?

Be sure to note if the group includes links to previous learning or students' own experience of the world.
How effective is this? Does it support and improve the effectiveness of the presentation?

Learning activity 4. Discussion (20 minutes)

1. As a class, discuss; 'How have geographical factors impacted development in the ASEAN countries of Indonesia, Laos and Singapore?'
2. Use the guiding questions:
   - Compare the locations of the three ASEAN countries: Does the country have access to trade routes? Is it strategically important?
   - Compare size and terrain of the three ASEAN countries: Think about types of crops that are able to be grown, how might this affect development?

- Compare the three ASEAN countries characteristics in terms of island, landlocked and coastal countries. How might this have affected their development process?
- Apart from geographic factors, what other factors might have impacted development? Can these be linked back to Geography in any way?

Assessment

Transfer the concept: Observe whether student teachers are able to reorient their learning from these three periods to this new related question.

Possible student teachers' responses

This learning activity is an opportunity for student teachers to apply what they have learnt by comparing some of the geographical features of ASEAN countries and considering how that might have affected their development. Student teachers do not have to give comprehensive answers on the topic – you are just looking to see if they can make some links.

e.g. Laos is a landlocked country – it does not have easy access to maritime trading routes which might have curtailed its trading ability compared to other ASEAN countries. It is also lacking significant natural resources with which to trade.

e.g. Due to the size of Singapore it is not able to grow enough crops to feed its people, let alone trade. However, Singapore has been able to innovate its economy away from reliance on agriculture–relying on industry and transport sectors instead. Singapore's geographical and strategic significance might also have helped its economy to develop.

Differentiated learning activity 1. Group work, presentations, peer feedback (75 minutes)

1. For very large classes the teacher educator may opt to divide the class into two main groups for the group work.

2. In this case, start the presentations with all student teachers together – one presentation and one feedback will take place with the teacher educator providing input. Then divide the two groups so the remaining presentations and peer feedback take place concurrently between the two main groups. All student teachers should hear a presentation on each of the three focus countries; Indonesia, Laos and Singapore.
3. The teacher educator will not be able to observe all presentations but will circulate between the two main groups providing feedback.

Differentiated learning activity 2. Group work (25 minutes)

1. Groups of student teachers who might need additional support to complete the research and presentation writing in Learning activity 2 should be assigned one of the countries given in Lesson 8.1.1 of the student teacher textbook (Indonesia, Laos, or Singapore).
2. In this case, they will already have a structured basis for their research which they can use as the foundation for their presentation. They may still add to it with their own research and will need to condense down the information for the presentation.

Check student teachers' understanding (5 minutes)

Remind student teachers that the outcomes of this lesson were to discuss and analyse the physical and socioeconomic features of ASEAN countries. During this lesson, they have had the opportunity to conduct research on one ASEAN country, present, receive feedback, and listen to presentations other ASEAN countries from their peers and teacher educator. Through the final discussion, they were then able to apply this learning to consider how geographical features affect development.

Plenary learning activity. Think-pair-share

Ask student teachers to refer to the TCSF competencies – ask them in what ways they were able to work towards these during this lesson (3 periods)? Share answers as a class:

- A.5.1.1. Describe key concepts, skills, techniques and applications for the subject covered in the grade levels taught
- B.1.1.1. Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes
- D.1.1.2. Use information from a variety of sources to improve teaching practice and student learning

Instruct student teachers to read the next lesson from the student teacher textbook prior to the next period.

Direct student teachers to review questions for sub-unit to be undertaken in their own time.

Online and offline resources for Learning activity 2

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YUDE. (2013a). Geography of world regions. In *Textbook for Third Year Geography Students*. Myanmar: Department of Higher Education, Ministry of Education.

Expected student teachers' responses for the review questions in TB

Question 1: What are the benefits of teaching students about ASEAN countries? Why is it useful to make comparisons?

Answer: *Teaching about ASEAN relates to one of the overarching aims of the Grades 6–9 curriculum:*

- *Compare the actual conditions of Myanmar with neighbouring countries and ASEAN countries, and then to enable for the development of our country.*

By teaching students about ASEAN, they can learn about some of the nations with whom Myanmar cooperates with through ASEAN, they can learn about the similarities and differences between Myanmar and other countries who are nearby, Students can begin to build pride and affinity with the Southeast Asian region. Making comparisons is a great way to build critical thinking as it helps students to begin to understand why things are the way they are – for example understanding some of the factors that mean one country is more economically developed than another. Learning about ASEAN can also help students to understand Myanmar better, by placing it within a wider geographical context. This way, students can begin to understand some of the issues that affect Myanmar, as well as contributing to Myanmar's development in the future.

Indonesia

Summarise the physical characteristics of Indonesia.

Indonesia is composed of 17,504 islands, the fifth largest Asian countries, and it is the largest in ASEAN countries. The Indonesian archipelago consists of three main groups. Large island have central mountain ranges, lowlands and coastal plains. There are many inactive and active volcanoes scattering around Indonesia. It has tropical climate. Natural vegetation is evergreen rainforest, but most vegetation has been cleared in the thickly populated islands. The ash from volcanoes has made the soil rich and productive.

Give an account of the human factors of Indonesia.

It is the fourth largest population country in the world after China, India, and United State and it has over 269 million people in 2019. Java island has 60% of the nation's population. Indonesia has various ethnic groups. Bahasa Indonesia is the official language, most of the people are Muslims.

Give an assessment of the economy of Indonesia.

About 50 percent of Indonesian workers are engaged in agriculture. The raised animals are cattle, sheep, hogs, horse, buffaloes, chickens and ducks. Commercial fishing is confined to a narrow belt of inshore water. Forests are vast source of wealth in Indonesia: Timber is Indonesia's leading export earner after petroleum. Indonesia is one of the world's leading suppliers of oil, and the world's second largest producer of tin. Indonesia possesses sizeable quantities of various minerals. Natural gas production is also increasing. Industry expansion is given high priority.

Laos

Summarise the physical characteristics of Laos.

Laos is one of the mainland ASEAN countries and the only one landlocked country. It is bordered by Myanmar, Thailand, China, Vietnam and Cambodia. It has an area of 237,955 square kilometers (91, 875 square miles). Laos has a rugged mountainous in the north and along the border with Vietnam. The main drainage is Mekong and its tributaries. Floods are usually common in rainy season. Climate is tropical monsoon. Forests cover about 47 percent of the country. Fertile alluvial soils are found along the edge of the country which bordered Mekong River.

Give an account of the human factors of Laos.

Population in 2015 was 7.1 million, with 22 percent in urban residence. Mekong River plains along the Thai border are the most populated areas. About half of Laotians are Lao-Lum or lowland Lao. Most of the people are Buddhists and the Official language is Lao.

Give an assessment of the economy of Laos.

More than 80 percent of population lives by subsistence agriculture and rice is the main crop.

Cattle raising is important in the southern plains and valleys. Timber is the major resource and the most valuable export. There are few minerals mined. Industry is limited, and very few roads are usable the whole year round. Exports are tin, teak, coffee and agricultural products.

Singapore

Summarise the physical characteristics of Singapore

Singapore is located at the southern tip of Malay Peninsula, together with one large island and many islets. It has an area of 618 sq. km. (238.7 sq. mi.), the smallest size in ASEAN. Despite its small size, the location of Singapore is advantageous. Singapore island has generally flat land. The climate is equatorial climate with rain and sunshine throughout the year. Only 4.8% of the land area is forested and being preserved.

Give an account of the human factors of Singapore

Total population of Singapore was 5.70 million in 2019. All of them are urban inhabitants. Population density was 8,072.79 people per square kilometer. The bulk of population is concentrated around the main business areas. In Singapore, 76.9 percent of population is Chinese. Malays account for 13.9 percent, Indians for 7.9 percent and mixed or other people account for 1.4 percent. Singapore's people are religiously diverse: 42 percent are Buddhist, 18 percent are Christian, 16 percent are Muslim, and 5 percent are Hindu, and the rest include Sikhs, Jews etc.

Give an assessment of the economy of Singapore

Singapore has a very strong economy. Only 1.5 % of land area is arable, and agriculture is much less important than commerce and industry. Fishing is carried out in coastal waters and nearby sea and ocean. The light industries are well established, and heavy industries have also been developed recently. Tourism is also an important business due to the many attractions. Singapore's wealth is owing to its focal point position in the Southeast Asia, and its excellent harbor. Its free trade and free port policy have also made it popular for international trade. Facilities for trade are abundant and efficient. International airport of Singapore is also becoming a centre of regional and international aviation.

8.2. Regional Geography in Middle School Classrooms

In this sub-unit, student teachers will have the opportunity to practise lesson planning and micro-teaching, with a particular focus on Regional Geography. Student teachers will also have an opportunity to view the work of their peers and provide constructive feedback using a checklist.

8.2.1. Micro teaching on Regional Geography

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Develop a lesson plan on Regional Geography for middle school students; and
- Micro-teach a lesson.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A4.1.2 Prepare lesson plans reflecting the requirements of the curriculum and include relevant teaching and learning activities and materials

B1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes

D2.1.1 Discuss teaching practices with supervisors and colleagues, and willingly seek constructive feedback

Time: One period of 50 minutes

Learning strategies: Micro-teaching, peer assessment, reflection

Assessment approaches: Peer assessment

Preparation needed: Student teachers should read Lesson 8.2.1 of the student teacher textbook and complete Learning activity 1 (prepare a lesson plan). To do so, they will need access to at least one Regional Geography lesson from the lower secondary Geography curriculum. Student teachers will be micro-teaching in groups of three and may need additional space for this activity to work effectively.

Resources needed: Student teachers will need to bring their lesson plans and all equipment needed in order to micro-teach their lesson.

Learning activity 1. Micro-teaching (10 minutes per student teacher – 30 minutes in total)

1. Divide the class into groups of three.
2. Prior to the lesson, student teachers prepare a full lesson plan on one Regional Geography lesson from the Grades 6–9 lower secondary Geography curriculum.
3. Student teachers share their lesson plan with the other members of their group and micro-teach a 8 to 10-minute segment.

Assessment

Peer-assessment: Student teachers assess their peers lesson plan and micro-teaching using the checklist. The teacher educator should also provide verbal feedback throughout the activity, as appropriate.

Possible student teachers' responses

See the checklist given under possible student teachers' responses for Learning activity 2.

See the example student teacher lesson plan in Annex 3.

Learning activity 2. Peer-assessment (5 minutes per student teacher – 15 minutes in total)

1. During the micro-teaching, student teachers use the rubric to record constructive feedback for the 'teacher'. This is based on the lesson plan and the teaching itself.
2. Immediately after a micro-teaching has taken place, student teachers provide feedback to the 'teacher' using the rubric.
3. This is repeated for each student teacher in the group of three.

Assessment

Peer-assessment: Student teachers assess their peers lesson plan and micro-teaching using the checklist given in Learning activity 2 in the student teacher textbook (see below). The teacher educator should also provide verbal feedback throughout the activity, as appropriate.

Checklist and feedback form for assessing the micro-teaching

Planning	
Does the lesson plan meet the learning objectives?	
Are the learning activities used appropriate for the grade?	
Do the learning activities cater to a range of learning styles?	

Have they considered the preparation and materials needed? Do you think there is anything they have overlooked?	
Have they considered what support children will need to be able to complete the task?	
Presenting	
Were they able to 'teach' the activity?	
Did the lesson make sense?	
Did they present the activity and reflections clearly? (clear phrasing, audible, etc.)	
Reflection	
What did the teacher do well?	
What could the teacher improve?	
Do you have any questions for the teacher?	

Possible student teachers' responses

The student teachers providing feedback should be able to provide specific constructive feedback to their peer that includes ways that the 'teacher' can improve. The checklist above provides the format to help them to do this.

For example, feedback might sound something like this:

'The way you presented during the micro-teaching was excellent. You were easy to understand, engaging and the way you explained the key concept with a diagram was very effective. I also thought that asking us to label the diagram was good way to quickly check our understanding.

However, looking at the lesson plan, it is not clear how you would ensure students achieve all of the learning outcomes. The learning activities do not quite match up with learning outcomes. I think you could address this by checking that the learning outcomes, success criteria and then the learning activities all match up/support each other.'

Facilitator's notes

Learning activity 1 and Learning activity 2 take place concurrently. Timings are a guide that the teacher educator can use to help ensure all student teachers have the opportunity to teach and receive feedback within the 40-45 minutes. If a group finishes early, they can begin to consider the question given in the plenary, or begin Extended learning activity 1.

By the end of this lesson, student teachers will have the following:

- a full lesson plan for one Regional Geography lesson from the lower secondary curriculum;
- two pieces of constructive peer feedback on that lesson; and
- a personal reflection on how they can improve.

Extended learning activity 1. Reflection (20 minutes)

This could be set as an assignment for some/all student teachers. Alternatively, it could be used with student teachers who complete Learning activities 1 and 2 quickly.

1. Student teachers use the feedback given by their peers to edit their original lesson plan, including justifications for the changes made.
2. The teacher educator may opt to assess this activity by having student teachers submit their edited lesson plans for marking.

3. See the 'Lesson Plan Checklist' in Annex 4. See also the example student teacher lesson plan in Annex 3 for an example of student work for this activity.
4. Alternatively, the teacher educator could ask each student teacher to write a brief note identifying one important change they made and why.

Differentiated learning activity 1. Individual work (30 minutes)

If it is not possible for student teachers to complete the lesson plan as an assignment activity outside of the lesson, student teachers can use some time during the lesson to do so.

1. Student teachers create the lesson plans during the first 30 minutes of the lesson. See the example student teacher lesson plan in Annex 3 for an example of student work for this activity.
2. When the lesson plans are completed, proceed to Learning activity 2. However, students will peer mark and offer feedback on the lesson plan only. No micro-teaching will take place in class time.
3. Share feedback together as a class.

Check student teachers' understanding (5 minutes)

Remind the student teachers that the learning outcomes for this lesson were to develop a lesson plan and micro-teach a lesson. The competencies that they were working towards were describing key concepts and content for the level, and preparing lesson plans with further aids that reflect the requirements of the curriculum.

During this lesson, they have worked towards both the learning outcomes and TCSFs by preparing a lesson, micro-teaching it and receiving constructive feedback from their peers using a rubric. By giving feedback, they have begun to internalise the standards that will be required in their teaching.

Plenary learning activity. Reflection

- Based on the feedback they have received from their peers, student teachers identify one key area for improvement and record what they will do to work towards it.

Direct student teachers to review questions for sub-unit to be undertaken in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Why is it important to understand the learning needs of your students?

Answer: *An important part of inclusivity is to understand the learning needs of your students. In order to be able to adapt teaching to the needs of the students in your class, to ensure that all students are able to achieve meaningful outcomes, the teacher must have an understanding of the students.*

Question 2: What are some of potential barriers to learning? Provide 1-2 specific examples.

Answer:

Barriers to learning include:

- *Language barriers*
- *Learning difficulties*
- *Physical disabilities*
- *Social and cultural barriers*
- *Emotional or personal problems*
- *Economic barriers*

E.g. for one student, their home language may be different to the language of instruction, another student may have dyslexia and another student may be experiencing problems at home. Each of these can be a potential barrier to learning. Teachers can adapt teaching and learning strategies to help ensure these students are still able to participate and achieve meaningful learning outcomes alongside their peers.

Question 3: How does Regional Geography strand support the wider aims of the Grades 6–9 curriculum?

Answer: *Regional Geography plays a significant role in supporting the wider aims of the Geography curriculum. In the first instance, it is integral to two of the five overarching outcomes of the curriculum:*

- *To analyse the socio-economic development and changing pattern of Myanmar;*
- *To compare and correlate the actual conditions of Myanmar with the neighbouring countries and ASEAN countries, and then to enable for the development of our country.*

Question 4: What have you learnt from the micro-teaching experience? Set yourself one area for improvement for the next micro-teaching session that will take place in Lesson 9.3.1. How will you work towards this goal?

Answer: *Student teachers will use the peer feedback to set themselves one area for improvement to aim for the next micro-teaching session. They should also outline how this will be achieved.*

Unit Summary

Key messages

- Association of Southeast Asian Nations – ASEAN, has 10 member countries.
- The two physical settings of the region are mainland (Cambodia, Laos, Myanmar, Thailand and Vietnam) and, the peninsular and archipelagic component (Brunei Darussalam, Indonesia, Malaysia, the Philippines and Singapore).

Indonesia

- Indonesia is composed of some 17,504 islands. It is the fifth largest Asian countries, and largest of the ASEAN countries.
- The five principal islands are Sumatra, Java, Borneo (Kalimanton), Sulawesi, and Irian Jaya (western portion of New Guinea). Java Island has 60% of the nation's population.
- Indonesia has various ethnic groups, most of the people are Muslims.
- About 50 percent of Indonesian workers are engaged in agriculture.
- Indonesia is one of the world's leading supply of oil, and the world's second largest producer of tin. Natural gas production is also increasing.
- Industry expansion is given a high priority, and manufacturing various items.

Laos

- Laos is one of the mainland ASEAN countries, it shares borders with the ASEAN countries of Myanmar, Cambodia, Thailand and Vietnam. It also borders China.
- Population in 2019 was 7.2 million, the capital is Vientiane.
- Most of the people are Buddhists.
- More than 80 percent of population lives by subsistence agriculture and rice is the main crop.
- Timber is the major resource and the most valuable export.

- Few minerals are mined, industry is limited, and very few roads are usable the whole year.

Singapore

- Singapore is located at the southern tip of Malay Peninsula. It is one large island and many islets.
- Singapore is a city state with an area of only 618 sq. km. (238.7 sq. mi.), the smallest in ASEAN.
- The location of Singapore is advantageous.
- Only 4.8% of the land area is forested and are being preserved.
- Total population was 5.70 million in 2019, and 76.9% of population is Chinese.
- The light industries are well established, and heavy industries have been also developed recently.
- Tourism is an important business due to the many attractions.
- Singapore's wealth is owing to its focal point position in the Southeast Asia, and its excellent harbour.
- Its free trade and free port policy made it popular and facilities for trade are abundant.

Unit reflection

Reflection questions for student teachers.

1. How can learning about ASEAN help students to better understand the socioeconomics and development of Myanmar?
2. To what extent do you agree that Singapore's development is due to locational advantages? What other factors have contributed to Singapore's wealth?
3. Considering the three countries that have been studied during this unit, are there any similarities between the three countries?
4. What similarities can you identify between these countries and Myanmar?
5. Write about this unit in your self-reflective learning journal. You may also wish to refer to the following review questions.
    a. Are there any links you can make between what you have learnt in this sub-unit and elsewhere in this education course?

b. Has this sub-unit challenged any previously held assumptions? How will this affect your approach to teaching?
c. Are there any gaps in your understanding? Is there anything you find puzzling, difficult or contradictory? How can you find out more/reach a better understanding?
d. What do you think about the issues raised in this sub-unit? What new knowledge, skills or understanding have you gained?
e. Did anything in this sub-unit particularly interest or inspire you?
f. How do you feel about the way you have approached the issue/topic so far?
g. How can the lesson help you become a more inclusive teacher?
h. How will this sub-unit help you improve your teaching skills?
i. Is there anything you will do differently as a result of what you have learnt in this sub-unit?

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Unit 9

Practical Geography

Practical Geography is one of the five key strands of the Grades 6–9 Geography curriculum that students will engage with in all four years of their middle school education. Practical Geography in the middle school curriculum is concerned with equipping students with the skills to interpret maps and other important geographical data. By giving them the tools that they need to interpret important information, Practical Geography can enhance students geographical understanding across the full spectrum of geographical study. In this unit, student teachers will learn about contour maps and aerial photographs, which appear in the Grades 8 and 9 curriculum. Student teachers will also have the opportunity to discuss the benefits of using practical activities in their teaching, and to put their understanding from the unit into practice by creating a Practical Geography lesson plan.

Expected learning outcomes

By the end of this unit, student teachers will be able to:

- Identify and interpret landforms on a contour map;
- Draw a contour map by using key features;
- Explain the characteristics of contour map;
- Discuss the origins and development of aerial photographs;
- Examine the implication of aerial photograph and its impact on the lives of people;
- Discuss the applications of aerial photograph in various fields;
- Explore different types of aerial photographs;
- Identify the characteristics of different types of aerial photographs;
- Discuss the attributes that affect the scales of aerial photographs;
- Identify essential features required to read and understand aerial photographs;
- Develop a lesson plan on Practical Geography for middle school students; and
- Micro-teach a lesson.

Competencies gained

A4.1 Demonstrate understanding of the structure, content and expected learning outcomes of the basic education curriculum

A5.1 Demonstrate understanding of the subject matter to teach the assigned subject/s for the specified grade level/s

B1.1 Demonstrate capacity to teach subject-related concepts clearly and engagingly

B2.1 Demonstrate capacity to monitor and assess student learning

9.1. Contour Map

One of the aims of the middle school Geography curriculum is to equip students with skills to interpret maps, of which understanding contour maps is an important element. In this sub-unit, student teachers will learn about contour maps and have the opportunity to practise interpreting them.

9.1.1. Characteristics of a contour map and creating a contour map

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Identify and interpret landforms on a contour map;
- Draw a contour map by using key features; and
- Explain the characteristics of contour map.

Competencies gained

A.5.1.1 Describe key concepts, skills, techniques and applications for the subject covered in the grade levels taught

B.1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes

B.2.1.1 Use assessment techniques as part of lessons to support students to achieve learning outcomes

B.2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback

Time: Two periods of 50 minutes

Learning strategies: Interactive lecture, group work, starter exercise, demonstration, practical, reflection and discussion

Assessment approaches: Strategic questions, peer-explanation, practice

Preparation needed: Teacher educators will need to prepare a short interactive lecture on contour maps, the main types of landforms and how to identify them. Guidance is given in facilitator's notes, and content is given in Lesson 9.1.1 of the student teacher textbook. The teacher educator will also need to prepare a 3D model of a contour map for the demonstration in Learning activity 4.

Resources needed: Trace paper and pencils for Learning activity 2. Corrugated card (or other suitable medium to depict elevation e.g. foam), photocopies of the contour maps from Annex 5, scissors and glue – enough to make 12 3D contour maps.

Learning activity 1. Interactive lecture (Period 1 - 20 minutes)

1. Give an interactive lecture on contour maps.
2. The lecture must be interactive and visual – including diagrams, strategic questions and other opportunities for student teachers to demonstrate their understanding.
3. Use the information in Lesson 9.1.1 of the student teacher textbook to support your lecture.

Facilitator's notes

Remember, when you are teaching you are modelling good teaching practice to student teachers. During the interactive lecture you are demonstrating to them how to explain the material in a clear and engaging way – this is often more effective than simply telling them how to teach.

You should use a variety of different ways to explain the subject matter, concepts and ideas:

Visual aids

Given the visual nature of this topic, visual aids will be an essential part of the lecture. Drawing diagrams on the board or drawing student teacher attention to the diagrams in the book are two easy ways to incorporate visual aids with few resources. Pre-drawn diagrams can also be a useful aid, especially for more complex descriptions; these can be prepared in advance and added to or labelled by teacher educator or student teacher during the lesson.

For many students, studying something that is 3D in 2D is inherently difficult. Photographs, physical 3D models or online 3D models can help student teachers to make the cognitive leap between the abstract lines on the page and the 3D reality. Photos and online 3D models can be accessed via the internet and shared via projector or phone. Physical 3D models do not have to be complex (see Learning activity 4) and can be made cheaply and easily.

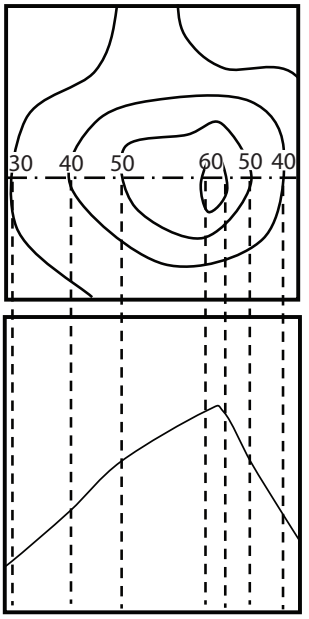
Strategic questions

Strategic questions are also essential and should be incorporated throughout the lecture to check understanding.

For example, after explaining how to determine how steep a slope is by looking at how close the lines fall you can ask *'Where is the hill steepest? Flattest? Why?'*

You might also want to use strategic questions with the whole class; by asking them to answer closed questions that address common misconceptions on the topic, you can quickly gauge understanding.

e.g. Ask student teachers to give thumbs-up for 'true' and thumbs-down for 'false' and give the statement; *'if the contour lines are close together we are always looking at a steep hill or mountain'* followed by *'Why?'* (False – it is true that this means the slope is steep, however, it could be a valley depending on whether the altitude increases or decreases)

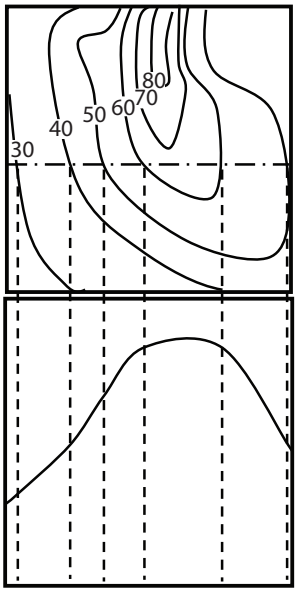


Contour map and cross section depicting gentle (left) and steep (right) slopes

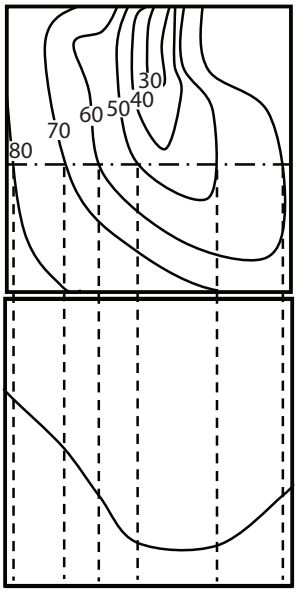
Note

If contours are far apart, the hills slope will be gentle. If contours are close together, the slope will be steep. The diagram shows a gentle slope to the left with a steep slope to the right. Student teachers should be able to decipher these basic characteristics from looking at drawings like these.

If contours are increasing in number, the slope is going up and may be a hill, a ridge or a spur. If contours are decreasing in number, the slope is going down and may be a gorge, a valley, a saddle or a pass. Student teachers should be able to decipher these basic characteristics from looking at drawings like these.



A contour map and cross section depicting a hill



Contour map and cross section depicting a valley

Incorporates movement

Draw some very simple examples on the board or printed on A4 paper. Ask student teachers to stand up if they show a hill or sit down if they show a valley. Follow-up by asking *'why?'* to gain greater insight of understanding.

Practice

Student teachers need to have the opportunity to put what they are learning into practice in order to cement their understanding. This can start with simple exercises throughout the lecture that a) help student teachers to gain understanding b) check understanding c) act as scaffolding exercises before Learning activity 2.

e.g. Give student teachers 2-3 pieces of scrap paper (or mini whiteboards if available). At various points in the lesson, ask them to roughly draw a depiction of a type of contour map.

Peer explanation and demonstration

The teacher certainly is not the only person in the room who can explain key ideas and concepts. Giving students the opportunity to explain things in their own words to their peers has a myriad of benefits; the teacher can check student understanding, students can hear/see a different explanation given by a peer, and the student giving the explanation reinforces their learning (as well as other skills, like communication).

This method can easily be incorporated into this lecture. For example, by asking a student teacher to come to the board to demonstrate, explain and label a plateau. Even by asking student teachers to justify their answers you are exposing other members of the class to other ways of explaining.

Assessment

This will depend on the lecture given; however it should at least include strategic questions, peer-explanation, and some basic practice to check individual and whole class understanding. Some further information on this can be found in facilitator's notes.

Possible student teachers' responses

Again, this will depend on the lecture given. The interactive nature of the lecture means that students will be responding individually and as a class throughout.

Learning activity 2. Group work (Period 1 - 30 minutes)

1. Divide the class into study groups.
2. Each group will work together to answer the questions in Part A and Part B of the worksheet.
3. Review the answers as a class.

Facilitator's notes

It is important to consider inclusivity when assigning groups. Are the groups gender balanced (to the extent that this is possible)? Are you able to encourage more diversity within the groups? Should you assign roles to ensure that less confident students get an equal chance to contribute and develop important skills?

Assessment

During the activity, student teachers will receive feedback from their peers in their group as they work through the activity solving the problems together. The teacher educator should also circulate the room to check understanding, provide feedback and offer assistance.

When reviewing the answers as a class, groups can mark their own answers, or those of another group. The teacher educator can ask groups to inform if they did not get an answer right so that any misunderstandings can be addressed. In this case, another group who did get the correct answer explains or demonstrates why that answer is correct.

Optional: At the end of the period, ask student teachers to apply their understanding without the assistance of their group.

Possible student teachers' responses

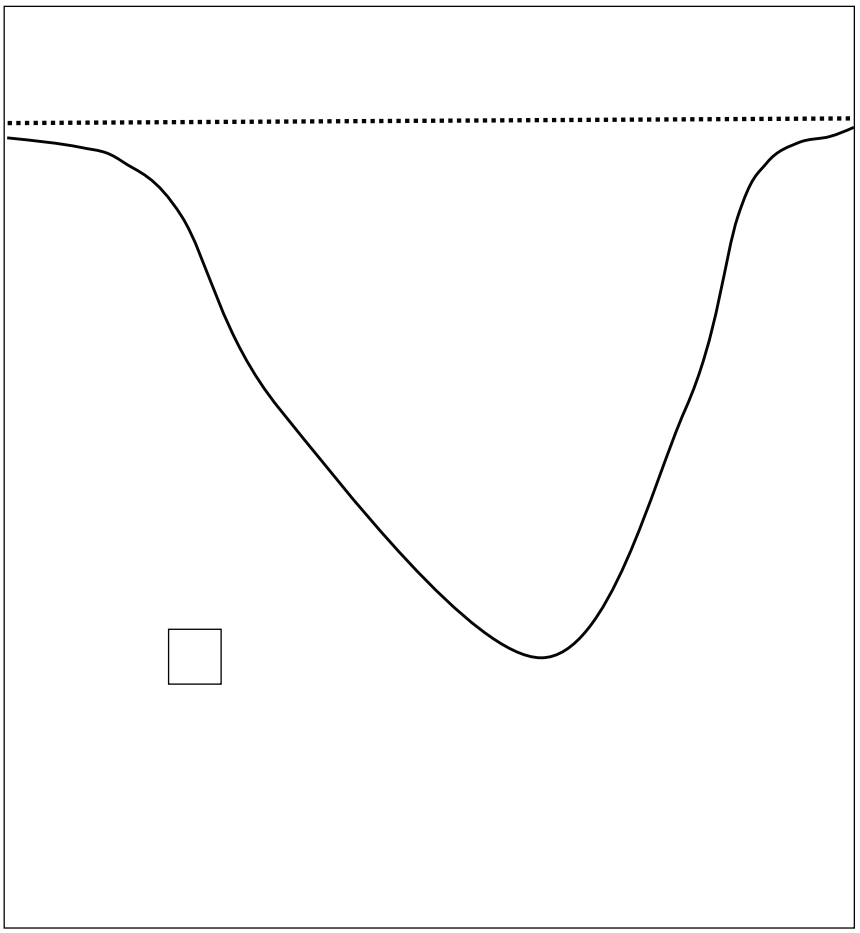
Part A

1. CvS Convex Slope
2. CcS Concave Slope
3. VS Valley Slope
4. HS Hill Slope
5. Sd Saddle
6. Ps Pass
7. R Ridge
8. Pt Plateau
9. Ws Watershed
10. G Gorge
11. Sp Spur

Contour map with marked features

Part B

You are working for a civil engineering company who has been asked to rebuild the train bridge over the river. The Project engineer has asked you to produce a clear section showing the depth of the valley the train track passes over. The existing bridge is at a height of +122m above sea level, the riverbed is +103m above sea level. The map is drawn at a scale of 1:10,000. The section should have a horizontal scale of 1:1,00 and a vertical scale exaggerated by a factor of 5.



Section through river valley adjacent train track

Learning activity 3. Starter activity (Period 2 - 10 minutes)

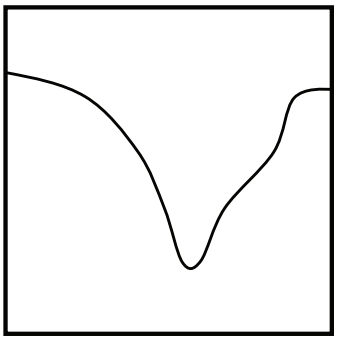
1. Ask student teachers to roughly draw a depiction of each of these using the gridded paper in the student teacher textbook, holding them up for you to see after each one:
   - A contour map of a plateau (this one has been given in their books as an example)
   - A contour map of a concave sloped hill
   - A cross-section of a steep valley
   - Add/Use your own questions as you see fit.
2. Call on a couple of student teachers to justify their answer.

Assessment

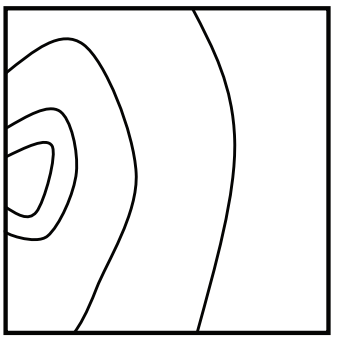
This is a brief starter activity to activate student teachers prior learning at the beginning of Period 2.

It is also an indicator to the teacher educator of levels of understanding – most student teachers should get most answers correct. If not, it may be necessary to revisit some of the content from Period 1.

Possible student teachers' responses



Contour map of a concave sloped hill



A cross section of a steep valley

Learning activity 4. Demonstration, practical (Period 2 - 20 minutes)

1. Divide the class into 12 groups and assign each one of the main landform types listed in Lesson 9.1.1 of the student teacher textbook.
2. Demonstrate how to create a 3D contour model.
3. Each group will create a 3D model of a type of landform and generate an explanation for how it relates to the 2D contour map.
4. Ask a couple of student teachers to explain to the class how the 3D model relates to the 2D contour map.

Facilitator's notes

Instructions for creating 3D models from contour maps:

1. Prepare the materials needed; corrugated card (or other suitable medium to depict elevation e.g. foam), photocopy of contour map from Annex 5, scissors and glue.
2. Cut out the relevant contour map from Annex 5.
3. Place the contour map on a piece of card (or whatever medium is being used), draw around it and then cut out the shape from the card. This is the first level of elevation.
4. Remove that layer from the contour map by cutting it out.
5. Place the contour map on the next piece of card, draw around it and then cut out the shape from the card. This is the second level of elevation.
6. Stick it on top of the first level of elevation, being sure to get the angle right.
7. Repeat for the rest of the levels of elevation.[3]

3 Adapted from Kelly, U.B. (2016). How to make a topographic model. *Instructables*. Retrieved May 30, 2020, from https://www.instructables.com/id/How-to-Make-a-Topographic-Model/

Figure 9.23. 3D model of a contour map

Source: Kelly U. B / instructables.com

Assessment

The groups should not find this activity overly challenging to complete. However, it is a good way to reinforce the learning for student teachers who are not visual-spatial learners and find it hard to visualise what the contour maps depict. The activity also introduces the class to a practical way of teaching the topic. By asking the group to explain the relationship between the map and the model, you are checking both their understanding and their ability to explain the topic to students. This activity offers the opportunity for student teachers to demonstrate their understanding through both the practical activity and verbal explanation.

Possible student teachers' responses

Each group will construct a 3D model based exactly on the dimensions of the contour map that they are using.

e.g.

3D and 2D contour maps

Source: Science Matters, 2010

Each group will also be able to explain the relationship between the 2D contour map and the 3D model.

e.g. *'The contour map depicts a saddle and pass which is represented by an area of lower altitude in between two areas of higher altitude. On the 3D model, we can see the saddle shape where there is a lower area between the two hills/peaks. On the contour map, we are also able to tell that the hill is steep because the spacing between each contour line is small. On the model, we are also able to see this in a 3D way as the incline happens very quickly on this side.'*

Learning activity 5. Reflection and discussion (Period 2 - 15 minutes)

1. Individually student teachers consider: 'How could I use this 3D model in a secondary Geography classroom?'. Use the guiding questions:
   - How would I explain the concept of contour maps using this visual aid?
   - How would I use this visual aid to support an explanation of how [type of landform] is depicted on contour maps?
   - How could I check student understanding of these concepts (provide specific examples)?
   - How could I use 3D model-making activity to support student learning?

2. Student teachers discuss their answers in the same groups from Learning activity 3, adding to their own responses.
3. Review responses as a class.

Assessment

Provide verbal feedback and facilitate the discussion throughout. You should encourage a wide range of student teachers to contribute answers.

Use the possible student teacher responses below to help you elicit a rich discussion if needed. E.g. *'What would be the benefit of using a 3D model-making activity early in the topic?'*

Or *'How could you use the 3D models as part of a group presentation activity?*

Or *'Do you think it would be possible to use the 3D models multiple times during the topic?'*

You may choose to ask student teachers to write either a brief summary of possible ways to use 3D models when teaching the topic or to choose one way that they will endeavour to use the 3D models in their own teaching practice.

Possible student teachers' responses

There are a broad range of possible responses that the class will give during this discussion. The answers below are just <u>some</u> possible answers, but these are not exhaustive.

The main point of the discussion is for student teachers to share their ideas of some valid and interesting ways of using this activity to teach the topic. In the process, student teachers will also demonstrate their pedagogical knowledge and share ideas with their peers/ colleagues.

The guiding questions are a prompt for the discussion only and the teacher educator can adjust these according to the needs of the class. It is not necessary to discuss each question in detail in order – a valuable discussion is more important.

How could I check student understanding of these concepts? (provide specific examples)

I would check student understanding of the concepts using the 3D models by asking students:

- To label the characteristics/formations and then match the 3D model to the correct contour map;
- To make a poster using the 3D model showing how it relates to the contour map;
- To give a brief demonstration of the 3D model; and
- To match the contour map to the 3D model.

How could I use a 3D model-making activity to support student learning?

I would use the 3D model-making activity:

- To help students make connections between the 2D contour maps and what these hills/valleys etc. look like in real life.
- Early in the topic so that all students could quickly visualise the shapes they are learning about.
- Towards the end of the topic as a way of reviewing student understanding.
- To encourage peer learning. Students who grasped the concepts more could use the 3D models to explain the concept to other students in their own words.

After completing the activity, I would keep the 3D models of the different formations in the class so that we could refer to them later. I could use them later in lots of different ways: to clarify something if a student was struggling to understand, to check understanding, or as part of other activities, such as group work posters or a student demonstration/presentation.

Differentiated learning activity 1. Discussion (10 minutes – Period 2)

1. Ask student teachers to think back to your interactive lecture from the previous period and identify some of the different teaching strategies used. Write them on the board and prompt them for further relevant answers if necessary.
2. Then briefly discuss:
   - Why were these strategies used?
   - How did they support learning?

Differentiated learning activity 2. Micro-teaching (25 minutes – Period 2)

1. Divide the class into small groups. Each person will choose a couple of key concepts to explain.
2. Individually, student teachers consider how they would explain the concept to a class of secondary school pupils, incorporating; clear explanations, visual aids, concept-checking.
3. Student teachers micro-teach the concepts in their groups and provide feedback.
4. Have a few student teachers present their explanations to the class.

Check student teachers' understanding (5 minutes)

Remind student teachers of this lessons learning outcomes:

- Identify and interpret landforms on a contour map;
- Draw a contour map by using key features; and
- Explain the characteristics of contour map.

In Learning activity 2, student teachers worked together to identify and interpret landforms on contour maps, and draw cross sections of contour maps.

During Learning activity 1, the teacher educator gave an interactive lecture which also acted as an example/model for explaining the characteristics of contour maps. In Learning activities 4 and 5, they then had the opportunity to practise explaining one type of landform and reflect on how a 3D visual aid could be used to support their teaching of this subject.

This also supported their development in terms of the TCSFs by giving them the opportunity to; describe key concepts (A 5.1.1), use different ways to explain the subject matter (B 1.1.1) and to consider how to check student understanding (B 2.1.1, B 2.1.3).

Instruct student teachers to read the next lesson from the student teacher textbook prior to the next period.

Direct student teachers to review questions for sub-unit to be undertaken in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Summarise what a contour line shows.

Answer: *A contour is a line on a map joining places of equal heights above sea level. It depicts different 3D geographical features on 2D maps. Contour lines are used for presenting physical features of the earth's surface*.

Question 2: Explain the difference between how a valley and a mountain would be depicted on a contour map.

Answer: *The altitude of each line would increase towards the centre for a mountain. The altitude of each line would decrease for a valley.*

Question 3: Define the terms 'relief' and 'topography'.

Answer: *Relief is the shape of the ground surface of uneven landforms.*

Topography refers not only to the physical features but also the human factors such as settlement, economic activities and communications.

A map which shows these features in detail is known as a topographical map. Contours are essential for the production of topographic map.

Question 4: What is the difference between map making in the past and today?

Answer: *In the past, maps were drawn by hand. Making a map was slow process and took a long time. Many maps were not very accurate. Today, most maps are produced operating by computers, and using aerial photographs and satellite images. Computer allows to make maps quickly and easily. Through advances in cartography, which is a subject of maps making, cartographers can make accurate maps on almost any scale, from the whole world to a single neighbourhood; and fulfil them up to date.*

Question 5: What was your experience of learning about contour maps? Relative to the other topics in this Year 2 EDC Geography course, how difficult did you find it? Why do you think that is?

Answer: *Some student teachers will have found this topic more challenging than others. Some student teachers will find it easier to visualise shapes and spaces than others. Student teachers should reflect on what this shows them about their learning styles and strengths.*

9.2. Aerial Photographs

Aerial photographs are taken from a station above the ground such as an aircraft, but it might also include the images recorded from an orbiting satellite. Aerial photographs can be used for mapping and for the general study of landforms and landscape change. Aerial photography has been used to provide spatial data for a wide range of applications and nowadays, almost all topographic maps are based on aerial photographs (YUDE, 2012b). Aerial photography is a useful source of information. In Grade 9 of the middle school curriculum, students learn about aerial photographs and their relationship to maps. In this sub-unit, student teachers will learn about the history of aerial photography, its modern day uses and a variety of techniques for interpreting aerial photographs.

9.2.1. Development of aerial photography

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Discuss the origins and development of aerial photographs;
- Examine the implication of aerial photograph and its impact on the lives of people; and
- Discuss the applications of aerial photograph in various fields.

Competencies gained

A.5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

B.1.1.3 Encourage student's awareness of their own thought processes and use of reflection to build new understanding

B.2.1.1 Use assessment techniques as part of lessons to support students to achieve learning outcomes

B.2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback

Time: One period of 50 minutes

Learning strategies: Timeline, discussion, modelling, pair work

Assessment approaches: Verbal feedback, observation, follow-up questions

Preparation needed: Student teachers should read Lesson 9.2.1 in the student teacher textbook and complete Learning activity 1 prior to the lesson.

Resources needed: Board and markers

Learning activity 1. Timeline (10 minutes)

1. Prior to the lesson, student teachers create a timeline of the development of aerial photography. This does not need to be to scale, but it should be in chronological order. From this, they will then create a smaller timeline of 5-10 'key events'.
2. Review the activity as a class by creating a class 'key events' timeline. Student teachers suggest their choices and explain why they included it.

Assessment

This is a short starter activity. Student teachers complete the initial timeline prior to class. By creating a more concise timeline of key events, the teacher educator is able to check that the class has engaged with the activity and the text. Can student teachers take the information in their timeline and provide opinions about which events are 'key events'? Ask student teachers to justify their answers where appropriate.

Possible student teachers' responses

The answers below are an example only. Student teachers may decide on a different set of events; however, they should be able to justify their answers. Encourage the class to include WWI and WWII in some way – both of these events had a big impact on the development of aerial photographs.

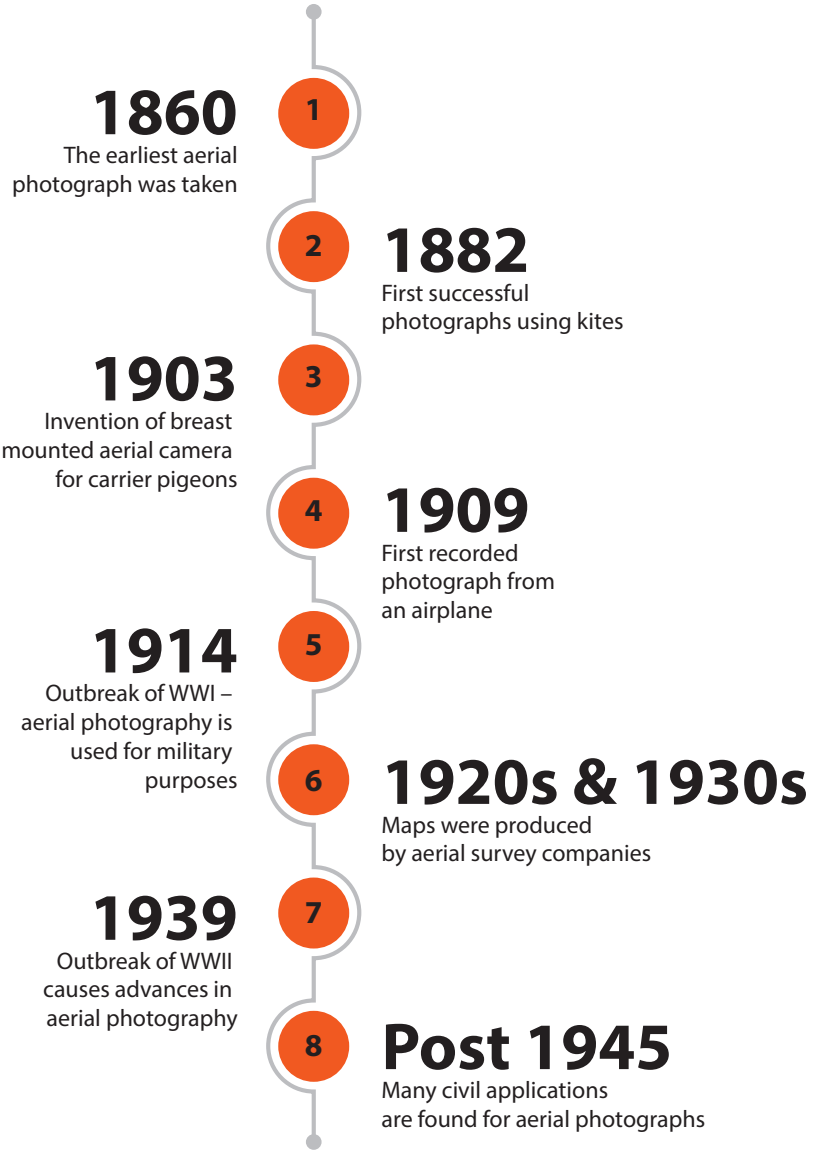


Figure 9.25. Key events in the development of aerial photography (example answers)

Learning activity 2. Discussion (10 minutes)

1. Pose the question: What impact has aerial photography had in the past and today? Use the guiding questions:
   - Can you think of any times in the past when aerial photographs have played a significant role in shaping events?
   - How have aerial photographs been used for military purposes in the past?
   - What impact did this have on the development of aerial photography?
   - How do aerial photographs impact our daily lives today?
   - What other modern-day uses are there for aerial photographs?
   - What is the overall impact of aerial photography?
2. Discuss as a class.

Assessment

During the discussion, observe the class and try to draw on a range of student teachers to offer responses. Provide verbal feedback and ask follow-up questions as part of the facilitation of the discussion.

Possible student teachers' responses

Answers will vary during the discussion. Bear in mind that the discussion may cover some areas not discussed in the guiding questions – that is fine so long as the discussion is still on topic. Some key points related to the guiding questions have been included below.

Can you think of any times in the past when aerial photographs have played a significant role in shaping events?

This is an initial scaffolding question which is useful for starting the discussion, getting student teachers feeling confident about discussing the question.

- Yes, during WWI and WWII.

How have aerial photographs been used for military purposes in the past?

This is a specific question which helps student teachers to think about the overall question in a bite-size way. Student teachers should be able to discuss some of the way that aerial photographs have been used for military purposes. They should be able to discuss that aerial photographs were used in WWI and WWII and played an important role. Student teachers may give some specific examples.

- In the past, aerial photographs have been used for military purposes.
- Two important examples where aerial photographs played an important role were WWI and WWII.
- During these wars, aerial photos were used in a variety of ways, such as aerial reconnaissance, gathering information on enemy's activities, mapping areas in order to carry out military activities and understanding the terrain in an area, etc.
- Aerial photographs have played an integral part in these conflicts. For example:
  - 'In 1940, the British were cut off from their source of military intelligence and had to rely on aerial photography and photo interpretation.'
  - 'The Russians had also made extensive use of aerial reconnaissance during the war. They supplied the information on German defenses and the location of German airfields.'

What impact did this have on the development of aerial photography?

This is a specific question which helps student teachers to think about the overall question in a bite-size way. Student teachers should be able to identify that the use of aerial photography during WWI and WWII caused the technology to develop more rapidly than it might otherwise have done. Civilian uses were then further developed between and after each war. Student teachers may give specific examples from the text.

- War meant the increase in the number of people trained to use aerial photographs.
  - 'Thousands of geographers, geologists, engineers, foresters and others received both training and experience in photo interpretation while they were serving in the military services. When returning to their professional activities after the war, they found many civil applications of photo interpretation.'
- The wartime usefulness of aerial photographs meant the technology developed more rapidly.
  - 'Many improvements in the quality of photographic images are attributable to wartime developments in aerial photographic equipment.'

How do aerial photographs impact our daily lives today?

This is a specific question which helps student teachers to think about the overall question in a bite-size way. Student teachers may struggle to identify ways that aerial photographs influence their daily lives, but there are many things we take for granted in modern life that would not be possible without aerial photographs. Try to encourage student teachers to think of a couple modern everyday applications to help them understand the relevance of this technology to their own life.

- Some examples which are only possible through technology based on aerial photography are:
  - Using a mapping app (such as Google Maps) to find the location of a place.
  - 'Checking-in' to a place on Facebook.
  - Using a paper map.

What other modern-day uses are there for aerial photographs?

This is a specific question which helps student teachers to think about the overall question in a bite-size way.

- Monitor progress on construction sites.
- Survey powerlines or dangerous to access structures and commercial advertising.
- Archaeology.
- Explore over oceans or into deserts and jungles.

- Environmental monitoring related to climate change. E.g. to observe the effects of flooding and coastal degradation.
- Monitor ocean waste, illegal logging or forest fires.
- Natural resource management.

What is the overall impact of aerial photography?

This is a concluding question that is asking student teachers to summarise the discussion and give their opinion. It requires students to engage soft skills such as critical thinking and summarising. Encourage student teachers to share their opinions.

- Aerial photographs have had a significant impact over the last century.
- They have played a significant role in important historical events.
- Aerial photographs continue to impact our everyday lives.
- Aerial photographs are a lot more significant that I thought – I did not realise they were used in so many of the technologies that I use in my daily life.
- Aerial photography has developed a lot over the last century.
- Aerial photography is really important for the study of Geography and has been important for the advancement of geographical knowledge.

Learning activity 3. Pair work and discussion (25 minutes)

1. Briefly explain the activity. In pairs, student teachers will prepare guiding questions and follow-up questions that would help them to facilitate a discussion on the question 'what are the applications of aerial photographs in various fields?' Explain that the questions should scaffold students towards more complex answers. To help them achieve this, student teacher will write 1-2 questions for each of the categories: initial questions, main questions, and concluding questions. An explanation for the purpose of each is given in the student teacher textbook.
2. The pairs should spend 5-10 minutes writing their guiding questions and follow up questions.
3. Afterwards, divide the class into larger groups. One pair within each group will be nominated to lead the discussion using their guiding questions (5-10 minutes). See Differentiated learning activity 1 for an alternative way of leading this activity.

4. Briefly review the discussions and 'answers' together as a class. If time allows, include feedback on the guiding questions used (5-10 minutes).

Assessment

During the activity, circulate the room to observe the pairs working. If individual pairs are struggling to generate questions provide support. For example, work with them to come up with the first question, or pair them up with another pair who understands the task. If the whole class is struggling, work together as a class to generate the first question.

Peer feedback: See Extended learning activity 1 for a way that this activity can incorporate peer feedback.

Possible student teachers' responses

A good set of guiding questions will help to elicit a valuable discussion. Often guiding questions provide a scaffold which supports students to develop from more simple answers towards more complex answers. Student teachers should have 1-2 questions in each of the categories: initial questions, main questions and concluding questions.

Guiding questions (examples)

What are the applications of aerial photographs in various fields?

Initial questions:

Questions like these will be useful for starting the discussion, getting students talking and feeling confident.

- What is meant by 'fields'?
- What different 'fields' are aerial photographs used in?

Main questions:

These more specific questions will help students to think about the different elements of the overall question so that they can tackle it in a bite-size way.

- What are some of the ways that aerial photographs are used militarily / [insert other relevant industry here] now and in the past?
- What are some of the ways we use aerial photographs to advance the study of Geography?
- How are aerial photographs used in the study of Geography?

Concluding questions:

These concluding questions ask students to summarise the discussion and give their opinion. It encourages them to engage soft skills such as critical thinking and summarising.

- Why are aerial photographs important?

Differentiated learning activity 1. Pair work and discussion

This activity could be used as an alternative way of conducting Learning activity 3.

1. In pairs, student teachers prepare guiding questions and follow-up questions that would help them to facilitate a discussion on the question 'What are the advantages of aerial photographs?' (15 minutes).
2. Bring the class back together. Nominate one pair to come to the front of the classroom to facilitate the discussion using their guiding questions.
3. If time allows, provide verbal feedback on the facilitation of the discussion.

Check student teachers' understanding (5 minutes)

Review the learning outcomes:

- Discuss the origins and development of aerial photographs;
- Examine the implication of aerial photograph and its impact on the lives of people; and
- Discuss the applications of aerial photographs in various fields.

During this activity, student teachers have had the opportunity to show their understanding of the origins and development of aerial photographs by creating a timeline. They have also had the opportunity to discuss the impact that aerial photographs have had and continue to have on their lives.

Review the aligned teacher competencies:

- B.2.1.1. Use assessment techniques as part of lessons to support students to achieve learning outcomes
- B.2.1.3. Use questioning and discussion techniques to check students understanding and provide feedback

Student teachers have had the opportunity to practise the use of assessment techniques and discussion by creating guiding questions for a discussion.

Instruct student teachers to read the next lesson from the student teacher textbook prior to the next period.

9.2.2. Types and scales of aerial photographs

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Explore different types of aerial photographs;
- Identify the characteristics of different types of aerial photographs; and
- Discuss the attributes that affect the scales of aerial photographs.

Competencies gained

A.5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

Time: One period of 50 minutes

Learning strategies: Think-pair-share, T-chart, group work

Assessment strategies: Verbal feedback, strategic questions, peer feedback, informal observation, self-assessment

Preparation needed: Student teachers should read Lesson 9.2.2 prior to the lesson, the teacher educator should prepare an interactive lecture on how to work out the scale of an aerial photograph.

Resources needed: Board and markers, aerial photography worksheet in student teacher textbook

Learning activity 1. Think-pair-share, T-chart (10 minutes)

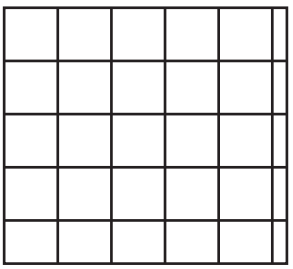
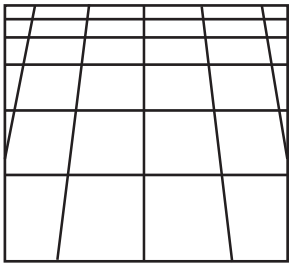
1. Think-pair-share, ask student teachers to think about the two main types of aerial photograph - what are their characteristics?
2. Student teachers share their thoughts with their partner.
3. Draw a T-chart on the board to record the answers as a class.

Assessment

Provide verbal feedback to responses where necessary. Student teachers will also be able to gain feedback on their own answers by comparing to the answers shared by their peers and written on the board.

Possible student teachers' responses

Characteristics of vertical and oblique aerial photographs.

Vertical	Oblique
• Photo taken from directly above • Distance of objects is equal across the entire image • If shown as a grid, this means the grid lines are equal  • Image appears flat – elevation can be difficult to detect • Multiple images can be taken, with overlapping edges, to create a larger aerial photo • Easier to plot on a map	• Photos are taken from an angle • Distance of objects is not equal, their relative size decreases towards the background • If shown as a grid, this means grid lines are inverted  • Elevation of terrain and objects can be easier to decipher • Deadground (areas which are obscured) can be created by larger objects in the foreground • It is more difficult to determine scale

Learning activity 2. Interactive lecture (20 minutes)

1. Give an interactive lecture on 'how to work out the scale of an aerial photograph'.
2. Use the information in the student teacher textbook as a guide to explain the process step by step, but do not simply read out the text. Use strategic questions and concept checking throughout.
3. Conclude the lecture by solving two problems together as a class. You should take them through the problems step by step.

Facilitator's notes

Although this is a teacher-led activity, the teacher educator should still aim to incorporate interactivity into the lecture. This includes using strategic questions and concept checking to check student teacher understanding.

e.g.

'What does a scale on an aerial photograph tell us? Why is this important?'

The scale on an aerial photograph tells us what the actual distance on the ground is, compared to the distance in the photograph. It is important because without this information we would not know the actual distances from looking at the aerial photograph.

'What is the first step in order to work out the scale of an aerial photograph? Why is this important?'

The first step is to identify what information is available and what is missing. This is important as it helps us to know what is the correct maths to apply to the problem.

'In what situation might you know the elevation of the camera and focal length, but not the scale of the photo?'

If you were creating aerial photographs yourself, you would not have a scale on the photograph. However, you would have the other information needed to create a scale.

'What is the most common way you will use scales in aerial photography/ Geography?'

Student teachers are more likely to be working with aerial photographs that already have a scale printed on them. They will most likely use this topic to work out the distance between landmarks, or the size of landmarks, on aerial photos.

Scale problem 1

On a vertical photograph, the length of an airport runway is measured 5 inches. On a 1:20,000 scale topographic map, the runway is 4 inches in length. What is the scale of the photograph?

Step 1: First, student teachers need to identify what information they have and what information they do not.

Answer: They know the scale of the topographic map, the length of the runway on the map and the length of that same runway on the aerial photograph. They do not know the scale of the aerial photograph.

Step 2: Next, student teachers need to identify which equation to apply to the problem.

- Highlight to students what data is provided in the question.
- The available data allows us to use the 4th method to calculate the scale.

Step 3: Finally, student teachers need to find the solution using the selected equation to the problem (i.e. do the maths).

- Using the equation in method 4, input the available data to find the photos scale.

Answer:

PD = 5 inches, distance of runway on photo

MS = 1:20,000, map scale

MD = 4 inches, distance of runway on the map

$$S = \frac{PD}{MD} \times MS = \frac{5\ inches}{4\ inches} \times \frac{1}{20{,}000} = \frac{1}{16{,}000} \quad or\ 1{:}16{,}000$$

Scale problem 2

Aerial photograph of two villages, which was taken in 1955, has a scale of 1:20,000. The distance between two villages is measured 2 inches on that photograph. Twenty years later, air photographs of the same area were taken again, and the two villages are measured 4 inches. Calculate the scale of recently taken aerial photograph.

Step 1: First, student teachers need to identify what information they have and what information they do not.

Answer: They know the scale of a previous aerial photograph and the length of the distance between the two villages on the original aerial photograph. They also know the length of the distance between the two villages on the new photograph, but do not know the scale of the new photograph.

Step 2: Next, student teachers need to identify which equation to apply to the problem.

- Highlight to students what data is provided in the question.
- The available data allows us to use the 5th method to calculate the scale.

Step 3: Finally, student teachers need to find the solution using the selected equation to the problem (i.e. do the maths).

- Using the equation in method 5, input the available data to find the photos scale.

Answer:

S = *1:20,000, known photo scale*

PD = *2 inches, photo distance on known scale photo*

PD_1 = *4 inches, photo distance on unknown scale photo*

S_1 = *? (unknown photo scale)*

$$S_1 = \frac{PD1}{PD} \times S = \frac{4 \text{ inches}}{2 \text{ inches}} \times \frac{1}{20{,}000} = \frac{1}{10{,}000} \text{ or } 1:10{,}000$$

Assessment

Although this is largely a listening exercise, student teachers should be encouraged to ask questions. The teacher educator should also involve the student teachers by asking strategic questions during the lecture. See example strategic questions and answers in facilitator's notes.

Possible student teachers' responses

This is largely a listening exercise, nevertheless, you will be encouraging student teachers to participate by asking and answering questions. See example strategic questions and answers in facilitator's notes.

The answers to the two problems to be completed together as a class and the 3 steps to answering the question are given above.

Learning activity 3. Group work (20 minutes)

1. Divide the class into groups.
2. Student teachers work together to solve the problems in the worksheet given in Lesson 9.2.2 of the student teacher textbook. If some or all student teachers complete the worksheet early, they can begin to complete the starter activity for the next period (Learning activity 4).
3. Review answers as a class; call on student teachers to explain their answers.
4. Conclude with a brief discussion on the scales of aerial photographs.

Assessment

During the activity, student teachers will receive peer feedback and peer learning by working together to answer the questions. The teacher educator can also circulate the room, informally observing the groups to provide support where needed.

When reviewing the answers as a class, the groups can check their own answers (self-assessment). The teacher educator can also use this as an opportunity to provide verbal feedback where appropriate. If there are any questions that many or all groups struggled to answer, revisit that section.

Possible student teachers' responses

Figure 9.36. Aerial photo of Shwedagon Pagoda (including annotated answers)
Source: Google Earth

Worksheet answers and working:

Using a map or local knowledge determine which direction is north in the aerial photograph.

- As shown on image.

The distance from Shwedagon Pagoda Road to U Wisara Road is approximately 393m (labeled A). Approximate the scale of the photo based on this known distance?

Given distance A = 393m

Length of line A = 5.9cm = 0.059m

- $Scale\ factor = \frac{Length\ of\ line\ A}{Given\ distance\ A} = \frac{0.059}{393} = 0.00015$
- To convert to a ratio, divide 1 by the scale factor
- Scale can be written as 1:6,661
- NOTE: Scale may vary depending on printout size.

Estimate the width of Shwedagon Pagoda located at the center of the photo.

Measure width = 1.2cm = 0.012m

Approximate width of base = 0.012m × 6,661 = 79.9m

Your Aunty has won the lottery and wishes to rent an uninhabited island in Myeik for resort business. She has sent you drone photography showing the island. She has been told by the agent the island is 3.42km^2 and 3.55km long east to west.

The drone was flying at a height of 762m. The variable focal length of the drone camera was set to 18mm. The image was taken vertically directly over the center of the island.

The island length measures 8.38cm on the photo provided.

1. Calculate the scale of the photo?

   Focal length = 18mm = 0.018m

   Flying height = 762m

   - $Scale\ factor = \frac{Focal\ length}{Flying\ height} = \frac{0.018}{762} = 0.0000236$
   - To convert to a ratio, divide 1 by the scale factor $\frac{1}{0.0000236} = 42{,}333$
   - Scale can be written as 1:42,333

2. Does the 8.38cm measured length of the island confirm the agents statement that the island is 3.55km long?

   - Measure length = 8.38cm = 0.0838m
   - $Aproximate\ length\ of\ island = 0.0838m \times 42{,}333 = 3{,}547m = 3.547km$
   - Measurement is suitably accurate.

Check student teachers' understanding

This lesson will be reviewed at the end of Lesson 9.2.3.

9.2.3. Understanding aerial photographs

Expected learning outcome

By the end of this lesson, student teachers will be able to:

- Identify essential features required to read and understand aerial photographs.

Competencies gained

A.5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

B.1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes

Time: One period of 50 minutes

Learning strategies: Pair-work, gallery walk

Assessment strategies: Verbal feedback, strategic questions, peer feedback, informal observation, self-assessment

Preparation needed: Student teachers should read Lesson 9.2.3 prior to the lesson.

Resources needed: Board and markers, map or local knowledge of Yangon

Learning activity 1. Starter activity (10 minutes)

1. Individually, student teachers identify different objects on aerial photographs.
2. Review the answers as a class by asking student teachers to present their answers and explain how they came to those conclusions.

Assessment

This activity checks whether student teachers can identify some common landmarks on two aerial photographs. A degree of deduction (guesswork) is required, but using their understanding of these common landmarks, combined with the information in the student teacher textbook student teachers should be able to identify most of the landmarks.

Asking student teachers to stand up and share/present their answers further checks understanding. Peer learning can take place as student teachers hear the explanations of their peers, and student teachers can mark (self-assess) their own answers in the process.

Possible student teachers' responses

- A main road
- A river
- Fields
- A hill or mountain

Mountains are easier to see when against the skyline. Sometimes they can be spotted by identifying the shadow they cast or an area of snow at the peak.

Fields can be seen all over the photo, often green in colour and forming a patchwork covering over the ground.

Rivers generally appear very dark blue or if they are reflecting the sun, white. They have natural curving shapes.

Main roads tend to be very straight or with only slight curves. They tend to point towards urban areas and have lots of attaching roads forming a spider web.

Aerial photograph 1

Source: Dicklyon / Wikimedia Commons / CC-BY-SA-4.0

- The main road
- A smaller road
- A football field
- Skyrise buildings
- A large body of water
- A wooded area

Wooded areas are typically dark green. Tall tees may obstruct the view of other structures.

Skyrise buildings clearly obstruct structures behind them and may cast visible shadows.

Large bodies of water appear even shades of blue. They will appear comparatively smooth and flat.

The football field can be seen by its shape and markings.

The main road can easily be made out as you can even see the traffic and lanes.

Small roads can be made out connecting urban areas together.

Aerial photograph 2

Source: Antonio199cro / Wikimedia Commons / CC-BY-SA-4.0

Figure 9.44: Aerial photographs (with annotations)

Learning activity 2. Pair-work (15 minutes)

1. In pairs, student teachers create a problem (question) based on the content from the lesson.
2. The teacher educator can use the example given in 'possible student teachers' responses' (also given in the student teacher textbook) to demonstrate the activity.
3. The problem must;
   - Be suitable for middle school pupils
   - Be based on a real world situation
   - Require problem solving to answer it
   - Use an image (this can be hand drawn)
   - Written out clearly for other student teachers to answer

Facilitator's notes

This activity would be enhanced if student teachers have the opportunity to use ICT when creating the question. If access to an ICT suite is not available, students might use their smartphones to find a real image to copy.

Alternatively, if internet access is not possible, the teacher educator might photocopy some images that the pairs could use to create their questions. As the example answer shows, it is possible to complete this activity with hand drawings only.

Assessment

When explaining the activity, check student teacher understanding by using strategic questions. The teacher educator should also refer student teachers to both the example answer and the criteria for what the question must include.

- Be suitable for middle school students
- Be based on a real-world situation
- Require problem solving to answer it
- Use an image (this can be hand drawn)
- Be written out clearly for other student teachers to answer

e.g. The teacher educator could refer to the example answer and ask questions such as;

- Is this question based on a real world problem?
- Explain how?
- Has the question met all criteria?
- What would student need to do to answer this question?
- Etc.

During the activity, the teacher educator should also circulate the room offering support where needed. Again, the teacher educator and student teachers can use the checklist above as a guide.

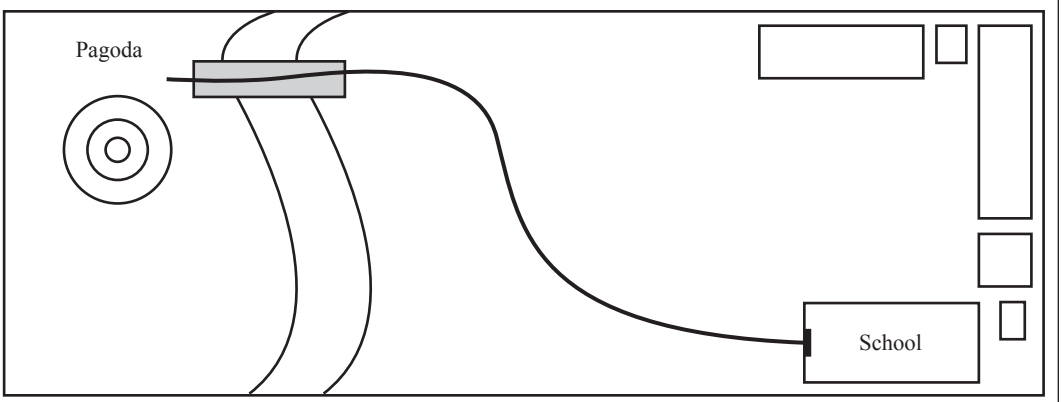
Possible student teachers' responses

Each pair should be able to create a simple question that would test a students' understanding of scales on aerial maps. Both the image and the question should be clear.

Most questions will probably provide a distance and ask the student to work out what the scale is or provide a scale and ask students to work out a given distance.

Strong questions will provide context to the question for real life relevance.

Map of road from School to Pagoda (including answers)



1 square = 100 meters

There is a small village on the opposite side of the river from a pagoda. There is only one bridge in order to get to the pagoda from the village. Tomorrow morning, children from the school will visit the pagoda to pay their respects and offer alms to the monks. They will take the route marked on the map.

Approximately, how far will the children need to walk in the morning to get to the pagoda?

Answer: *Approximately 900m (this is an approximation only and other similar answers are acceptable).*

Figure 9. 45. Example aerial photograph question

Learning activity 3. Gallery walk (20 minutes)

1. Divide the class into groups of pairs (ideally there will be about 5 problems per group = 5 pairs or 10 student teachers).
2. Student teachers circulate their group, solving the problems written by the other pairs, writing the answers as they go.
3. As a group, the student teachers will then review the answers to the problems and use the checklist below (also given in the student teacher textbook) to assess how effective the problems written by their peers were.
4. Ask a pair from each group to present their problem to the class, explaining the answer and providing a review using the checklist.

- ✓ Could all or most of the group correctly answer the question? (If not, why not? What does it tell you about the effectiveness of the question?)
- ✓ Did the question use a real-life situation? And did the situation make sense?
- ✓ Would the question be suitable for middle school students to answer? Was language accessible?

Assessment

Each pair will receive peer feedback on their question from the other members of their group. The teacher educator may also provide some verbal feedback when each group presents a problem at the end of the activity.

Possible student teachers' responses

See possible student teacher responses for Learning activity 2 for an example of the types of problems to be produced. During this activity, the groups should also provide constructive feedback to their peers using the checklist.

Check student teachers' understanding (5 minutes)

Review learning outcomes:

By the end of this lesson, you will be able to:

- Explore different types of aerial photographs and identify their characteristics;
- Discuss the attributes that affect the scales of aerial photographs; and
- Identify essential features required to read and understand aerial photographs.

Student teachers have had the opportunity to engage with an interactive lecture on aerial photographs, in particular, scales and how to interpret aerial photos. They have then had the opportunity to put their understanding into action while working with their peers to solve problems. Student teachers have built upon this understanding by writing their own problems using real world situations.

Instruct student teachers to read the next lesson from the student teacher textbook prior to the next period.

Direct student teachers to review questions for sub-unit to be undertaken in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Define the terms 'aerial photograph' and 'photogrammetry.'

Answer: *Aerial photographs are taken from the station above the ground such as an aircraft, but may also include the images recorded from an orbiting satellite. Photogrammetry is the science and technology of obtaining precise measurements and information from photo images.*

Question 2: In what ways was WWI and WWII significant to the development of aerial photography? Why do you think this is?

Answer: *WWI and WWII were the two periods in which a lot of developments in aerial photography took place. This was because aerial photography was a very useful tool during the times of war, and so funding and research was given so that it could develop further.*

Question 3: Explain the characteristics of vertical aerial photos.

Answer: *Vertical aerial photograph is the most common type used in photo interpretation. It is made with the camera axis in a truly vertical or nearly vertical. Its advantage is that photos produced by this method are easier to plot on the map and scale is uniform for one level.*

However, it has less coverage than oblique, and presents the land surface from an unfamiliar angle (from above).

Question 4: What is the difference between high oblique and low oblique?

Answer: *The difference between these is related to the angle. For low oblique, the angle faces more towards the ground, whereas in high oblique the camera is faced more towards the horizon.*

Question 5: What is aerial photo scale? How can it be expressed?

Answer: *Aerial photo scale is the ratio of a distance on the photograph to the same distance on the ground. It can be expressed in unit equivalent, representative fraction, and ratio.*

Question 6: Problem

(a) Calculate the scale of an aerial photograph taken with a focal length of 153 mm from an altitude of 9,000 meters above the ground. The altitude of the terrain is 5,000 meters.

f = 153 mm (focal length)

H = 9,000 m (altitude of aircraft above the ground)

h = 5,000 m (altitude of the terrain)

S = ?

$$S = \frac{f}{H}$$

$$S = \frac{153\text{ mm}}{9{,}000\text{ m} \times 1000\text{ mm}} = \frac{153\text{ mm}}{9{,}000{,}000\text{ mm}}$$

$$S = \frac{1}{58823.53} \quad \text{or} \quad S = 1: 58823.53$$

(OR)

$$\text{Scale factor (S)} = \frac{153\text{ mm}}{9{,}000\text{ m} \times 1000\text{ mm}} = \frac{153\text{ mm}}{9{,}000{,}000\text{ mm}} = 0000.17$$

To convert to a ratio divided 1 by,

$$\text{the scale factor} = \frac{1}{0000.17} = 58823.53$$

∴ Scale can be written as 1: 58823.53

(b) An airplane, which was flying at an altitude of 12,000 feet above sea level, took aerial photographs of a town which is located on a hill 2,000 feet high. Determine the scale of photograph with focal length of (i) 8 inches, (ii) 6 inches, (iii) 4 inches. Mention the correlation between the scale and the focal length.

A = 12,000 feet (altitude of airplane above sea level)

h = 2,000 feet (height of the hill)

(i) f = 8 inches (ii) f = 6 inches (iii) f = 4 inches

- S = ?
- Correlation between the scale and the focal length?

(i) f = 8 inches

- $S = \frac{f}{A-h}$

$$S = \frac{8 \text{ inches}}{12{,}000 \text{ feet} - 2{,}000 \text{ feet}} = \frac{8 \text{ inches}}{10{,}000 \times 12 \text{ inches}}$$

$$S = \frac{1}{15{,}000} \quad \text{(or)} \quad S = 1:15{,}000$$

(ii) f = 6 inches

- $S = \frac{f}{A-h}$

$$S = \frac{6 \text{ inches}}{12{,}000 \text{ feet} - 2{,}000 \text{ feet}} = \frac{6 \text{ inches}}{10{,}000 \times 12 \text{ inches}}$$

$$S = \frac{1}{20{,}000} \quad \text{(or)} \quad S = 1:20{,}000$$

(iii) f = 4 inches

- $S = \frac{f}{A–h}$

$$S = \frac{4 \text{ inches}}{12{,}000 \text{ feet} – 2{,}000 \text{ feet}} = \frac{4 \text{ inches}}{10{,}000 \times 12 \text{ inches}}$$

$S = \frac{1}{30{,}000}$ (or) S = 1:30,000

Correlation between the scale and focal length –

The smaller focal length, the smaller the scale

(or)

If the focal length is small, the scale is small.

(or)

The larger focal length, results the larger scale.

(c) Aerial photographs were taken from a camera with a focal length of 12 inches. The aircraft was flying at an altitude of 9,000 feet above sea level. If the scale of these photographs is 1:7,000, what is the altitude of the terrain?

- f = 12 inches (focal length)
- A = 9,000 feet (altitude of aircraft above sea level)
- S = 1:7,000 (scale of photographs)
- h = ? (altitude of terrain)

$$S = \frac{f}{A\text{-}h}$$

$$\frac{1}{7{,}000} = \frac{12 \text{ inches}}{9{,}000 \text{ feet} - h}$$

9,000 feet – h = 84,000 inches (7,000 feet)

– h = 7,000 feet – 9,000 feet

h = 2,000 feet (altitude of terrain)

—·—·—·—·—·—·—·—·—·—·—·—·—

(d) Two cross-roads are situated on a hilltop which has an elevation of 480 meters. The distance between them is measured 2,400 meters and they are measured 20 mm on the aerial photograph. A focal length of 153 mm was used while taking the photograph. What is the altitude of the aircraft above the terrain.

- h = 480 m (elevation of a hill top)
- GD = 2,400 m (distance between two cross-roads)
- PD = 20 mm (distance on aerial photograph)
- f = 153 mm (focal length)
- H = ? (altitude of aircraft above the terrain)
- $S = \frac{PD}{GD} = \frac{20 \text{ mm}}{2{,}400 \text{ m}} = \frac{20 \text{ mm}}{2{,}400 \times 1{,}000 \text{ mm}} = \frac{1}{120{,}000}$
- $S = \frac{f}{H}$

  $\frac{1}{120{,}000} = \frac{153 \text{ mm}}{H}$

- H = 18,360,000 mm (or) H = 18,360 m (altitude of aircraft above the terrain)

—·—·—·—·—·—·—·—·—·—·—·—·—

(e) Aerial photographs of a town which was taken in 1953 have a scale of 1:24, 000. The distance between two road-junctions is measured 2 inches on the photograph. Thirty years later, air photographs of the same area were taken again, and the above mentioned road-junctions are measured 3 inches. Determine the scale of the recently taken air photograph.

- S = 1:24,000 (known scale of 1953 photographs)
- PD = 2 inches (distance between two road-junctions on photograph)
- PD_1 = 3 inches (distance between above mentioned road-junctions on recently taken air photo)
- S_1 = ? (scale of recently taken air photograph/unknown scale)
- $S_1 = \frac{PD1}{PD} \times S$
- $S_1 = \frac{3 \text{ inches}}{2 \text{ inches}} \times \frac{1}{24,000} = \frac{1}{16,000}$ (or) $S_1 =$ 1:16,000

—·—·—·—·—·—·—·—·—·—·—·—·—

(f) The distance on a map between two villages on a flat terrain is measured 5 inches. The distance between the same two points is measured 3 inches on a vertical aerial photograph. If the scale of the map is 1:24, 000, what is the scale of the photograph.

MD = 5 inches (distance between two villages on a map)

- PD = 3 inches (distance on vertical aerial photograph)
- MS = 1:24,000 (map scale)
- PS = ? (photo scale)
- $PS = \frac{PD}{MD} \times MS$
- $PS = \frac{3 \text{ inches}}{5 \text{ inches}} \times \frac{1}{24,000} = \frac{1}{40,000}$ (or) PS = 1:40,000 (photo scale)

—·—·—·—·—·—·—·—·—·—·—·—·—

(g) On an aerial photograph which has a scale of 1:24, 000, the two villages are apart 4.5 inches from each other. Determine the distance (mile) of the above two villages on the ground.

- S = 1:24,000 (photo scale)
- PD = 4.5 inches (distance of two villages on photo)
- GD = mile? (distance of two villages on the ground)
- $S = \frac{PD}{GD}$

$$\frac{1}{24{,}000} = \frac{4 \text{ inches}}{GD}$$

$$GD = 108{,}000 \text{ inches} \times \frac{1 \text{ mile}}{63360 \text{ inches}} \text{ (1 mile = 63360 inches)}$$

= 1.7 mile (distance of two villages on the ground)

(h) Discuss about the essential elements, required to read and understand the various features on the aerial photograph.

The essential elements which required to read and understand various features on the aerial photograph are tone, texture, pattern, shape, size, shadow, and site (topographic) and association. (**Aerial Photography Worksheet**)

(1) To determine ***north direction*** using a map or local knowledge.

(2) GD = 393 m (distance from Shwedagon Pagoda Road to U Wisara Road)

- PD = 4.4 cm (distance of labeled A/distance from Shewdagon Pagoda Road to U Wisara Road on photo)
- S = ? (the scale of the photo)

$S = \frac{PD}{GD}$

$$S = \frac{4.4 \text{ cm}}{393 \text{ cm}} = \frac{4.4 \times 10 \text{ mm}}{393 \times 1{,}000 \text{ mm}}$$

$$S = \frac{44 \text{ mm}}{393{,}000 \text{ mm}}$$

$$S = \frac{1}{8931.8} \text{ (or) } S = 1{:}8931.8 \text{ (or) } S = 1{:}8932$$

(OR)

$$\text{Scale factor (S)} = \frac{44 \text{ mm}}{393{,}000 \text{ mm}} = 0.0001119592$$

To convert to a ratio divided 1 by,

$$\text{the scale factor} = \frac{1}{0.0001119592} = 8931.8 \text{ (or) } 8932$$

$\therefore$ Scale can be written as 1: 8931.8 (1:8932)

Note: Scale may vary depend on printout size.

9.3. Practical Geography in Middle School Classrooms

In this sub-unit, student teachers will have the opportunity to apply their learning from the unit, and their understanding of how students learn, to create a lesson plan on Practical Geography that is suitable for middle school students.

9.3.1. Micro-teaching on Practical Geography

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Develop a lesson plan on Practical Geography for middle school students; and
- Micro-teach a lesson.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

B2.1.1 Use assessment techniques as part of lessons to support students to achieve learning outcomes

B.2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback

Time: One period of 50 minutes

Learning strategies: Micro-teaching, peer assessment, reflection

Assessment approaches: Peer assessment, observation, verbal feedback

Preparation needed: Student teachers should read Lesson 9.3.1 of the student teacher textbook and complete Learning activity 1 (prepare a lesson plan) prior to the lesson. To do so, they will need access to at least one Practical Geography lesson from the lower secondary Geography curriculum (ideally, they will have access to all). Student teachers will be micro-teaching in groups of three and may need additional space for this activity to work effectively. This lesson may be enhanced if student teachers are able to work in the same groups as Lesson 8.2.1 (those peers will be able to compare performance to the previous micro-teaching); however, this is non-essential.

Resources needed: Student teachers will need to bring their lesson plans and all equipment needed in order to micro-teach their lesson, lesson plan template and feedback form given in the student teacher textbook.

Learning activity 1. Micro-teaching (10 minutes per student teacher – 30 minutes in total)

1. Divide the class into groups of three.
2. Prior to the lesson, student teachers prepare a full lesson plan on one Practical Geography lesson from the Grades 6–9 lower secondary Geography curriculum. They will use the lesson plan template in the student teacher textbook.
3. Student teachers share their lesson plan with the other members of their group and micro-teach the practical activity (10 minutes each).

Assessment

Peer-assessment: Student teachers assess their peers lesson plan and micro-teach practical activity using the feedback form given in the student teacher textbook.

The teacher educator should also observe the groups throughout the activity and provide immediate verbal feedback as appropriate.

Possible student teachers' responses

See the checklist given under 'Possible student teachers' responses' for Learning activity 2.

See the example student teacher lesson plan in Annex 3.

Learning activity 2. Peer-assessment (5 minutes per student teacher - 15 minutes in total)

1. During the micro teaching, student teachers use the rubric to record constructive feedback for the 'teacher'. This is based on the lesson plan and the teaching itself.
2. Immediately after a micro-teaching has taken place, student teachers provide feedback to the 'teacher' using the rubric.
3. This is repeated for each student teacher in the group of three.

Assessment

Peer-assessment: Student teachers assess their peers lesson plan and micro-teach using the feedback form. The teacher educator can also use the feedback form as a guide for providing feedback, verbally during class or by marking the lesson plans after the lesson (optional).

Possible student teachers' responses

Student teachers should create a full Practical Geography lesson plan that includes materials needed, learning outcomes and activities. They will then micro-teach a section from that lesson to their peers. The example feedback form below gives some examples of the type of constructive feedback that student teachers should be providing to their peers.

Lesson feedback form (example feedback)

Planning	
Does the lesson plan meet the learning objectives?	The lesson plan covers all of the objectives, however the activities given do not give enough opportunity for students to work towards the learning outcome 4 – this is covered only briefly in the second learning activity.
Are the learning activities used appropriate for the grade?	Yes, I think these would be appropriate for the grade because the language used was accessible.
Do the learning activities cater to a range of learning styles?	The learning activities catered to those who learn visually and those who learn by doing/practice. Although not all learning styles were covered I felt this was sufficient range.
Have they considered the preparation and materials needed? Do you think there is anything they have overlooked?	The preparation was very thorough and there was everything needed to carry out the task. However, I don't think it would be possible to use so many resources with a full size class.
Have they considered what support children will need to be able to complete the task?	This was not covered explicitly in the lesson plan.
Presenting	
Were they able to 'teach' the activity?	Yes – the activities were fun!
Did the lesson make sense?	Yes
Did they present the activity and reflections clearly? (clear phrasing, audible, etc.)	Yes - the instructions/teaching were very clear.
Reflection	
What did the teacher do well?	Excellent preparation, presentation and very creative way of teaching the topic.
What could the presenter improve?	To ensure the lessons would be possible and practical in a real life teaching situation.
Do you have any questions for the teacher?	

Facilitator's notes

Learning activity 1 and Learning activity 2 take place concurrently. Timings are a guide that the teacher educator can use to help ensure all student teachers have the opportunity to teach and receive feedback within the 40-45 minutes. If a group finishes early, they can begin to consider the question given in the plenary, or begin Extended learning activity 1.

By the end of this lesson, student teachers will have the following:

- A full lesson plan for one Practical Geography lesson from the lower secondary curriculum;
- Two pieces of constructive peer feedback on that lesson; and
- A personal reflection on how they have improved.

Extended learning activity 1. Reflection (20 minutes)

This could be set as an assignment for some/all student teachers. Alternatively, it could be used with student teachers who complete Learning activities 1 and 2 quickly.

1. Student teachers use the feedback given by their peers to edit their original lesson plan, including justifications for the changes made.
2. The teacher educator may opt to assess this activity by having student teachers submit their edited lesson plans for marking.
3. See the 'Lesson Plan Checklist' in Annex 4. See also the example student teacher lesson plan in Annex 3 for an example of student work for this activity.
4. Alternatively, the teacher educator could ask each student teacher to write a brief note identifying one important change they made and why.

Differentiated learning activity 1. Individual work (30 minutes)

If it is not possible for student teachers to complete the lesson plan as an assignment activity outside of the lesson, student teachers can use some time during the lesson to do so.

1. Student teachers create the lesson plans during the first 30 minutes of the lesson. See the example student teacher lesson plan in Annex 3 for an example of student work for this activity.

2. When the lesson plans are completed, proceed to Learning activity 2. However, students will peer mark and offer feedback on the lesson plan only. No micro-teaching will take place in class time.
3. Share feedback together as a class.

Check student teachers' understanding (5 minutes)

Remind the student teachers that the learning outcomes for this lesson were to develop a lesson plan and micro-teach a lesson. The competencies that they were working towards were describing key concepts and content for the level, and preparing lesson plans with further aids, that reflect the requirements of the curriculum.

During this lesson they have worked towards both the learning outcomes and TCSFs by preparing a lesson, micro-teaching it and receiving constructive feedback from their peers using a rubric. By giving feedback, they have begun to internalise the standards that will be required in their teaching.

Plenary learning activity. Reflection

- Based on the feedback they have received from their peers; student teachers identify one area where they have improved with regards to their micro-teaching compared to other micro-teaching experiences on this course.
- Student teachers share their reflections within their groups, or as a class.

Instruct student teachers to read the next lesson from the student teacher textbook prior to the next period.

Direct student teachers to review questions for sub-unit to be undertaken in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Which Geography topics from the Year 2 EDC curriculum have you found most challenging? How can you use this experience to improve your teaching practice?

Answer: *Student teachers will have found different topics challenging depending on their own strengths and prior knowledge. When student teachers find a topic interesting, they can use this to improve their teaching experience as it will help them to better empathise and understand students (in their classes in the future) who are struggling with a topic. It will also help them to think about different ways that they can explain or approach the material to help students to understand it.*

Question 2: Why is it important to incorporate practical activities and skills practice into your lessons?

Answer: *Practical activities give students the opportunity to apply their theoretical understanding and to practise important skills. Practical activities are often engaging, and they can also help to ensure that a range of learning activities, to cater to a range of learner needs, are being used. They can also help students to develop important additional skills, as well as the core content knowledge.*

Question 3: What have you learnt about yourself and your teaching style from the micro-teaching activities throughout this semester? What are your strengths and areas for improvement?

Answer: *Student teachers will reflect on the feedback they have received from their peers on their micro-teaching throughout this course. They will identify areas of strength and areas for improvement.*

Unit Summary

Key messages

- Practical Geography equips learners with the practical skills that will help them to engage with the other areas of Geography: physical, environmental, human and regional.
- Contour is a line on a map joining places of equal heights above sea level.
- Contour lines are used for presenting physical features of the earth's surface. Contour maps can represent 3D features on a 2D map.
- Different patterns depict different features, such as steep, gentle, even or uniform, concave, convex, straight slope etc. The altitudes of contour line must also be considered.
- Uniform contour heights interval are usually used when creating a contour map.
- Today most maps are produced by computers, using aerial photographs and satellite images.
- Aerial photographs are taken from above the ground, such as by aircraft or orbiting satellite.
- The earliest aerial photograph was taken in 1860, over Boston from a balloon. The first recorded aerial photograph by aeroplane was taken by Wilbur Wright in 1909.
- Aerial photography developed a lot during WWI and WWII due to its uses for military reconnaissance.
- In the two decades, between the two world wars, many non-military applications appeared in aerial photography.
- The greatest contribution of Second World War to photo interpretation was training of large numbers of people in military photo interpretation. Since that period, cameras, films, airplanes, mapping instruments, and techniques have steadily improved.
- Today, satellite images are taken from hundreds of kilometres above the earth's surface.
- Remote sensing is one of the modern spatial techniques. It can be used for many application including natural resources management.

- Aerial photographs are generally classified into vertical and oblique.
- Vertical aerial photograph is the most common type used in photo interpretation.
- Aerial photo scale is the ratio of a distance on the photograph to the same distance on the ground.
- Scales can be expressed in unit equivalent, representative fraction, and ratio.
- The essential features required to understand for aerial photo interpretation are tone, texture, pattern, shape, size, shadow, and site and association.
- Practical Geography supports the wider aims of the Grades 6–9 Geography curriculum.
- Practical activities play an important role in teaching.
- When you are teaching practical topics, you must give students the opportunity to practise the skills.

Unit reflection

1. Why do you think Practical Geography is one of the five strands of the middle school curriculum?
2. Draw the cross-sections of the contour maps given in Figure 9.20 (Contour maps to practise). What sort of geographical feature do they show?
3. What advances in aerial photography have been made during the last decades? Can you think of any ways that you might use aerial photography in your everyday life?
4. What practical activities have you used during this semester of the course? What were the benefits to you as a learner of being able to use a practical activity?
5. Write about this unit in your self-reflective learning journal.

Further reading

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Unit 10

World History

This unit is about the evolution of human civilisation in a global context, from the prehistoric period up to modern history. The development of human civilisation from hunter-gatherer to settler in the prehistoric period, the growth of commerce and the rise of the nation state in Europe in the medieval period, the effect of European expansionism on human societies around the globe since the 1500s, changes brought about by the Industrial Revolution since 1870, the impact of colonialism, the devastation of two world wars, and finally the themes of decolonisation, internationalism and the Cold War in the post war period will all be examined in this unit. Student teachers will engage with pedagogical issues and develop teaching skills, throughout the teaching periods, and in the pedagogy lesson at the end of the unit. The aims of this unit are for student teachers to have a basic understanding of the overarching themes of world history in order to be able to teach this subject to middle school students effectively.

Expected learning outcomes

By the end of this unit, student teachers will be able to:

- Identify the major characteristics of hunter-gatherer societies and agricultural societies;
- Discuss the origins of the ancient civilisations and analyse the ways in which cultural encounters and cross-cultural exchanges occurred;
- Evaluate the cultural and civilisational influence of India on Southeast Asia;
- Identify the shift of agricultural-rural to commercial-urban society in early Europe;
- Assess the impact of newly invented technology to the society;
- Examine the challenges to Italian city-states by Atlantic seaboard countries;

- Assess the impact of the geographical conditions in the development of the first phase of European expansion;
- Examine the advantages and disadvantages of the European expansion;
- Compare the key features of Phase 1 and Phase 2 European expansion;
- Identify the main effects of European expansion on Southeast Asia and the Europe itself;
- Analyse the causes and effects of the Industrial Revolution, including the features of technological invention in Europe;
- Explain how the Industrial Revolution was a causal factor in the emergence of New Imperialism;
- Describe how the relationship between economy and society can lead to the emergence of new political thought;
- Identify and examine the causes and the result of World War I;
- Evaluate the social, economic and political situations of Europe between the two world wars;
- Identify and examine the causes, the course and the result of World War II;
- Evaluate and discuss the consequences and the impacts of the World War II;
- Examine the emergence of new nations during the Post-World War II era;
- Outline the independence movements occurred particularly within Southeast Asian countries;
- Assess the origin of the Cold War, Non-Aligned Movement, the collapse of Union of Soviet Socialist Republics (USSR) and the end of the Cold War;
- Discuss the origins and development of regional and international organisations;
- Compare the structures and functions of various regional and international organisations;
- Discuss how the study of history can instil 21st century competencies;
- Identify how the Grades 6–9 History curriculum promotes student-centred learning;
- Develop a lesson plan on world history; and
- Deliver a micro-teach session on world history.

Competencies gained

A2.1 Demonstrate understanding of appropriate use of a variety of teaching and learning strategies and resources

A4.1 Demonstrate understanding of the structure, content and expected learning outcomes of the basic education curriculum

A5.1 Demonstrate understanding of the subject matter to teach the assigned subject/s for the specified grade level/s

B1.1 Demonstrate capacity to teach subject-related concepts clearly and engagingly

B1.2 Demonstrate capacity to apply educational technologies and different strategies for teaching and learning

B1.3. Demonstrate good lesson planning and preparation in line with students' learning ability and experience

B2.1 Demonstrate capacity to monitor and assess student learning

D2.1 Improve own teaching practice through learning from other teachers and professional development opportunities

10.1. Beginning of Civilisation

In this sub-unit, student teachers will learn about the evolution of human history from prehistory to the earliest human civilisations. Student teachers will have the opportunity to learn about some of the ancient civilisations that emerged around the world, their legacy and influence, as well as the cultural encounters that occurred between them.

10.1.1. Stone, Bronze and Iron Ages, and ancient civilisations

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Identify the major characteristics of hunter-gatherer societies and agricultural societies;
- Discuss the origins of the ancient civilisations and analyse the ways in which cultural encounters and cross-cultural exchanges occurred; and
- Evaluate the cultural and civilisational influence of India on Southeast Asia.

Competencies gained

A2.1.1 Plan learning experiences that provide opportunities for student collaboration, inquiry, problem-solving and creativity

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

Time: One period of 50 minutes

Learning strategies: Timeline, group work, gallery walk, think-pair-share

Assessment approaches: Comprehension exercise, concept checking, question creation

Preparation needed: Student Teachers need to read Lesson 10.1.1 prior to the lesson. The teacher educator should write the dates/eras given in Learning activity 1 on sheets of scrap paper. The classroom should be arranged into 7 stations for the group work and gallery walk in Learning activities 2 and 3.

Resources needed: 10 pieces of paper with one date/ era written on each. A3 paper for Learning activities 2 and 3 (A4 would be sufficient). The student teachers will use TB Lesson 10.1.1 for Learning activities 2 and 3, plenary activity from Annex 6.

Learning activity 1. Timeline (10 minutes)

1. Choose 11 student teachers to come to the front of the classroom. Give each student teacher one of the pieces of paper.
2. Ask the student teachers to arrange themselves in the correct order. The teacher educator can choose if they would like other members of the class to provide input during the activity.
3. Ask the other members of the class if they agree with the order given.

Prehistory dates for timeline activity		
3,000 BCE	8,000 BCE	New Stone Age
Mesolithic Era	Iron Age	30,000 BCE
1200 BCE	10,000 BCE	Bronze Age
Start of Metal Age	Paleolithic Era	

Assessment

Comprehension activity: This activity itself is an opportunity for the teacher educator to check the general understanding of the class. i.e. have they engaged with the text in Lesson 10.1.1 and do they have a basic understanding of the chronology of the vast period covered in this lesson.

Concept check: The teacher educator may follow-up with additional questions to include other student teachers who have not contributed.

E.g.

'Please summarise _____.'

'Is there any relationship between _____ and _____?'

'What were the main characteristics of _____?'

Possible student teachers' responses

If using the suggested dates above, the answers will be as follows:

- 30,000 BCE
- Paleolithic Era (30,000BCE-10,000BCE)
- 10,000 BCE
- Mesolithic Era (10,000BCE – 8,000BCE)
- 8,000 BCE
- New Stone Age (8,000BCE – 3,000BCE)
- 3,000 BCE / Start of Metal Age
- Bronze Age (3,000BCE – 1500BCE)
- 1200 BCE
- Iron Age

Learning activity 2. Group work (15 minutes)

1. Divide the class into 7 groups. Assign each group one of the sections from the text in Lesson 10.1.1 (Mesopotamia, Egypt, India, Indian influence in Asia, China, Rome, Greece).
2. Each group creates one short exercise, based on the text, that could be used in a gallery walk. An example activity is given under 'Possible student teachers' responses'.

Facilitator's notes

When preparing the exercise, student teachers will need to consider a number of factors. These considerations are given in the TB. However, the teacher educator should draw attention to them when setting up the exercise.

- How does the activity test understanding?
- Is the type of activity chosen suited to the topic?
- Does the activity support the learning outcomes in any way?
- Can the activity be used in a gallery walk setting (i.e. can it be attempted without teacher input?)
- Can the activity be completed quickly (2 minutes or less)?

The teacher educator should also make it clear that these activities will be used by their peers, so they need to be fully usable by the end of this activity.

Assessment

The creation of a short activity based on the learning materials in Lesson 10.1.1 is an opportunity for student teachers to display both content and pedagogical understanding.

The teacher educator may opt to provide written or verbal feedback while Learning activity 3 is taking place, or have the groups submit their work at the end of the lesson.

Possible student teachers' responses

The activities produced will depend on the period assigned and type of activity chosen.

e.g.

Gap-fill: Fill in the gaps.

1. Situated in the fertile valleys between the Tigris and Euphrates rivers, _____ is now home to modern-day Iraq, Kuwait, Turkey and Syria.
2. The first Roman _____ was inscribed on 12 bronze tablets–known as the Twelve Tablets.
3. The civilisation of ancient China first developed in the _____ River region of northern China.
4. Suryavarman II, the most powerful king of Khmer history had built many temples, the most remarkable was _____.

The questions provided in facilitators notes also provide guidance on what the teacher educator should be looking for in the activities produced by the student teachers.

Learning activity 3. Gallery walk (20 minutes)

1. The groups place their exercise at a station (on a table).
2. The groups circulate the room. Each group will have a couple of minutes at each station to complete the exercise. Due to time constraints, it may not be possible for all groups to visit all stations.
3. Review the answers as a class – each group will provide the answers to their own exercise.

Assessment

The teacher educator can provide immediate feedback on the activities or the answers while reviewing the answers as class. If a large proportion of the class get the same answer incorrect, it may show widespread misconception about the content or that the question/activity itself is flawed.

Possible student teachers' responses

Responses will depend on the exercises prepared by the student teachers.

Check student teachers' understanding (5 minutes)

Review learning outcomes:

- Student teachers have had the opportunity explore the major characteristics of early societies from the Stone Age through to the ancient civilisations.
- Through the content material in the TB they have had the opportunity to engage with these topics, and then put their learning into practice by creating a short effective activity to test understanding.

Review aligned teacher competency:

- A2.1.1 Plan learning experiences that provide opportunities for student collaboration, inquiry, problem-solving and creativity

Plenary activity:

- If time allows, choose a plenary activity from Annex 6.
- Review some answers as a class.

Instruct student teachers to read the next lesson from the TB prior to the next period.

Instruct student teachers to consider the review questions for the sub-unit in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: What do you understand about the word 'fertile crescent' or 'cradle of civilisation'?

Answer: *The 'Fertile Crescent' is the region of the Middle East that was home to some of the earliest human civilisations. It is also known as the 'Cradle of Civilisation', which was the birthplace of technological innovations, including writing, agriculture, and the use of irrigation. Ancient Mesopotamia is in the 'Fertile Crescent', an area that was particularly fertile and good for growing crops.*

Question 2: "Egyptian civilisation is one of the oldest civilisations in the world." Discuss.

Answer: *Earliest Egyptian dynasty was established around 3,000 BCE. Egypt was ruled by powerful leaders known as Pharaohs until the 30 BCE when it was defeated by the Roman. The pyramids built by the Egyptian Pharaohs show it was one of the richest and oldest civilisations in the world.*

Question 3: Why did maritime technology develop in early Greek civilisation?

Answer: *Situated on the southern tips of the Balkan Peninsular, Greece is located at the crossroads of Europe. Sea travel and trade were important because Greece is lack of natural resources and usable farmland.*

Question 4: How do you know that Angkor Wat is the sample of India influence?

Answer: *The temple was originally Hindu and soon converted into a Buddhist temple. These religions, along with much of the architectural style, originated in India.*

Question 5: Why do these ancient civilisations continue to be significant today?

Answer: *These ancient civilisations left many legacies which continue to influence modern life. E.g. rice cultivation originating in China millennia ago, or the invention of democracy in Ancient Greece.*

Student teachers will write an entry in their self-reflective learning journal.

10.2. Changes in Europe

In this sub-unit, student teachers will learn how changes in Europe that took place in the medieval period had large-scale implications for the development of human society. Student teachers will also learn about European expansion in both the medieval and modern periods, including the factors that led to European expansion and its effects globally and in Southeast Asia.

10.2.1. Development of early capitalism

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Identify the shift of agricultural-rural to commercial-urban society in early Europe;
- Assess the impact of newly invented technology to the society; and
- Examine the challenges to Italian city-states by Atlantic seaboard countries.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

Time: One period of 50 minutes

Learning strategies: Develop the sentence, group work, mind map

Assessment approaches: Peer feedback, informal observation, question and answer

Preparation needed: Student teachers should read Lesson 10.2.1 and complete Learning activity 1 prior to the lesson.

Resources needed: Board and markers, 'Development of capitalism worksheet' from the TB

Learning activity 1. Develop the sentence (10 minutes)

1. Prior to the lesson student teachers complete the 'develop the sentence' activity in their books.
2. During the lesson, divide the class into small groups to discuss their answers.
3. Review as a class by asking various groups to share the answer the answer for the given sentence.
4. Use this as an opportunity to have a brief discussion on how each of these topics relates to the shift from agricultural-rural to commercial-urban society in Europe.

Assessment

This brief starter activity gives student teachers the opportunity to summarise parts of the text prior to the lesson. During the group discussion, student teachers will receive informal peer feedback. The teacher educator should also informally observe the groups, asking questions or giving feedback as necessary.

During the whole class discussion, the teacher educator will also give verbal feedback on the responses given. During the discussion, the teacher educator can include a wider range of student teachers, calling on those who have not yet had the opportunity to contribute.

Possible student teachers' responses

These are examples only. Student teachers need to show an ability to include key points (most relevant information) to elaborate on the basic sentence.

Table 10. 3. Early capitalism develop the sentence activity (example answers)

Basic sentence	Elaborated sentence
New farming techniques contributed to the development of early capitalism.	New farming techniques contributed to the development of early capitalism; because crop yields increased, it was possible for people to move away from agriculture and into towns, where trade and industries flourished.
Serfs engaged in agricultural work in Europe during the medieval ages.	Serfs engaged in agricultural work in Europe during the medieval ages, although they were not slaves they were bound to the land, and had to work for the manor.
Guilds were an important element in early capitalism.	Guilds were an important element in early capitalism – they were associations of craftsmen which quickly became very powerful and influential, for example, they set prices and standards for quality.

Learning activity 2. Group work (25 minutes)

1. Divide the class into small groups (these can be the same as Learning activity 1).
2. Each group works together to complete the worksheet, however, the final few questions should be completed individually.
3. Review the answers as a class, including discussion where appropriate.

Assessment

During the group work, student teachers will receive informal peer feedback about their thoughts and ideas. The teacher educator should also informally observe the groups to check that all student teachers are participating, and to ask questions or give feedback as necessary.

Student teachers will also receive feedback during the marking of the answers (i.e. were they correct or not, and by hearing their peers answers and explanations). This can be extended by asking groups to mark and provide feedback on each other's worksheets.

At the end of the learning activity, the teacher educator can take the opportunity to gauge whole class understanding by asking the groups to report how they did, which questions they found difficult or got wrong.

Possible student teachers' responses

Development of capitalism worksheet (answers)

1. What was the economy in Europe in medieval times based upon?

   Answer: *Agriculture*

2. What sort of work did serfs have to do? What did they get in exchange for this land?

   Answer: *Men had to work in the fields of the manor and women had to do household chores. They did this work in exchange for a small plot of land to farm their own food.*

3. What were some of the important inventions that began the shift from agricultural-rural to commercial-urban society?

   Answer: *Answers might include four-wheeled wagons, improved designs of water-powered mills, iron horseshoes, crop rotation.*

4. What was the initial impact of these new technologies?

   Answer: *They increased the crop yield/ agricultural productivity in Europe (crop yield doubled in western Europe between years 800 and 1200 CE).*

5. Draw a diagram to show how the increase in agricultural productivity caused the shift from agricultural-rural to commercial-urban society?

   Answer: *Example – other diagrams may also be suitable:*

New inventions > agricultural productivity > surplus crops for sale > increase in population > emergence of towns > some peasants migrate to the towns

6. Choose one invention discussed in the section 'Development of technology'. *Explain what impact this invention had.*

   Answer: *E.g. Magnetic compass – Ships could travel further and more safely than before, thereby ultimately playing a part in globalisation and colonialism.*

7. Why was the emergence of urban society so pronounced in Italy?

   Answer: *It was geographically well placed to participate in the trade networks of the Mediterranean Basin – including trade between east and west. These coastal merchant cities also led to a rise of inland cities who began to produce their own goods for trade through the coastal port cities.*

8. How were the Portuguese, English and Dutch able to challenge the dominance of the Italian city states?

   Answer: *Portugal found their own sea lane to Asia, allowing them access to the lucrative Asian market. The English and Dutch soon began to organise their own expeditions to Asian markets.*

9. The Dutch and English set up powerful trading companies. What is the modern significance of these trading companies?

   Answer: *They were the principal foundations of the global economy that emerged in early modern times, and they were the direct ancestors of contemporary multinational corporations.*

10. In what ways is the medieval period in Europe significant to world history?

    Answer: *During this period, we can see the development of early capitalism and the start of many of the structures that would change the course of world history; the birth of the nation state, western colonialism, and the foundations of the global economy and international trade that started in this period have all played a significant role in shaping the modern world.*

Learning activity 3. Mind map (10 minutes)

1. Individually, ask student teachers to complete the mind map (the impact of the development of early capitalism).
2. Review the answers as a class – encourage student teachers to justify their answers.

Assessment

This activity reviews overall student teacher understanding of the topic. By checking that a range of student teachers can give a range of different impacts of early capitalism the teacher educator can gauge general understanding and address any misconceptions.

Possible student teachers' responses

A range of responses are valid. Responses may include:

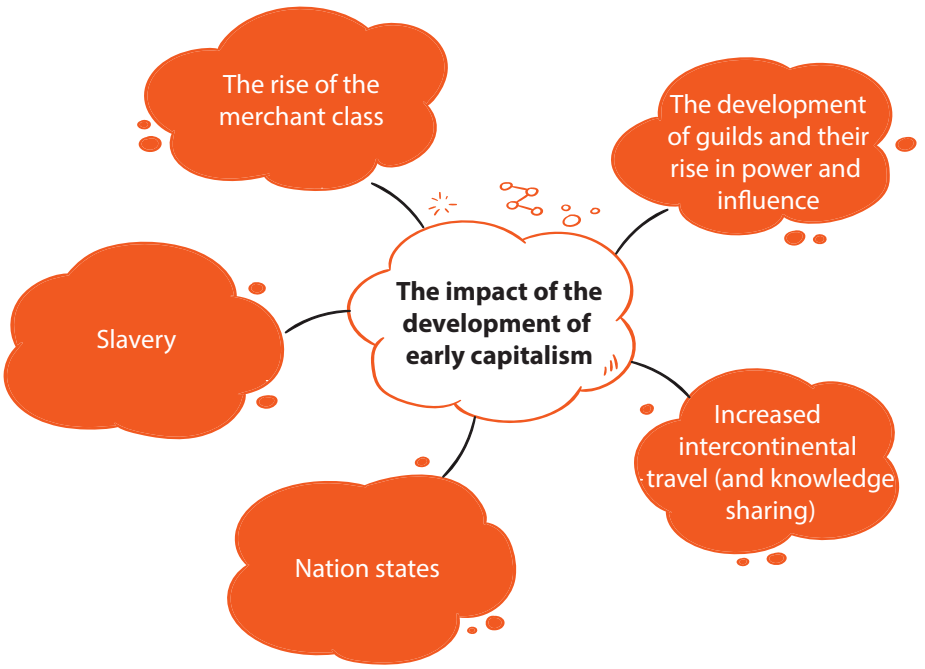

Figure 10.24: Impact of early capitalism mind map

Extended learning activity 1. Mini-essay or discussion (15 minutes)

1. This activity would work as an extension to Learning activity 2, or to extend the lesson as a whole.
2. Ask student teachers to write a mini-essay (1-2 paragraphs only) on the following question:
   - What impact did newly invented technology have on society during the development of early capitalism?

Check student teachers' understanding (5 minutes)

During this lesson, student teachers have had the opportunity to work with their peers to work towards the learning outcomes. They have also put their understanding into action by creating a mind map identifying the impacts of early capitalism.

- Choose one of the plenary activities from Annex 6 for student teachers to complete.
- Review some responses as a class.

Instruct student teachers to read the next lesson from the TB prior to the next period.

10.2.2. European expansion (Phase 1 and Phase 2)

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Assess the impact of the geographical conditions in the development of the first phase of European expansion;
- Examine the advantages and disadvantages of the European expansion;
- Compare the key features of Phase 1 and Phase 2 European expansion; and
- Identify the main effects of European expansion on Southeast Asia and the Europe itself.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

B1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes

Time: One period of 50 minutes

Learning strategies: Gap-fill, jigsaw

Assessment approaches: Informal observation, strategic questions, verbal feedback

Preparation needed: Student teachers should read Lesson 10.2.2 and complete Learning activity 1 prior to the lesson. The teacher educator will need to choose which pedagogical topic to discuss to conclude Learning activity 2 (see facilitator's notes) and prepare to lead that discussion.

Resources needed: A4 or flipchart paper (if available) for Learning activity 2, plenary activity from Annex 6

Learning activity 1. Gap-fill (5 minutes)

1. Prior to the lesson student teachers complete the gap-fill activity.
2. Review the answers as a class.
3. Extend the activity by asking student teachers to identify one or two geographical factors that influenced the development of the first phase of European expansion.

Assessment

Student teachers assess their own answers. By extending the activity, the teacher educator can also gauge whether student teachers are able to apply their understanding of the text to a new question.

Possible student teachers' responses

a. Religious

b. Western

c. Dutch

d. French

Learning activity 2. Jigsaw (40 minutes)

1. Divide the class into groups of three pairs. Each pair will study a different element of the topic and prepare to explain their findings to their group using a visual organiser (10 minutes):
   - Compare the key features of Phase 1 and Phase 2 European expansion.
   - What were the effects of European expansion on Southeast Asia and Europe itself?
   - What were the advantages and disadvantages of European expansionism?
2. Each pair shares their findings with the rest of their group, explaining each of the key points. The rest of the group listens, takes notes and asks questions (10 minutes).
3. Review the graphic organiser as a class. Ask 1-2 pairs for each question to share their graphic organisers on the board. Discuss and ask the rest of the class to provide feedback (10 minutes).
4. Conclude with a pedagogical discussion – see facilitator's notes (10 minutes).

Facilitator's notes

There are a range of pedagogical discussions which are relevant to this lesson. The teacher educator should choose which they feel the class would benefit from discussing most:

1. The usefulness of graphic organisers when teaching History
2. The benefits of group work and collaboration
3. Using peer teaching in the middle school History classroom

Assessment

During the activity circulate the room observing groups, asking questions and providing feedback. For example:

- 'Why have you chosen this graphic organiser to present the information?'
- 'Why is this significant to the question?'
- 'Could you use more concise language to note down that point?'

The teacher educator should also provide verbal feedback to the whole class when reviewing the findings.

Possible student teachers' responses

Most groups are likely to use a T-chart to display the information visually, but other graphic organisers may be suitable.

The answers below are for the teacher educator's reference only. Groups are likely to express their answers using different language and may not cover all of the points made here (or may raise additional points not mentioned here).

Outline the key features of Phase 1 and Phase 2 of European expansion.

Phase 1:

- 15th to 17th century
- Phase 1 was led and dominated by Portugal and Spain.
- Religion was an important factor in this phase, along with trade.
- Largely exporting products back to Europe.
- Technological developments from Asia were very important.
- Some of the crucial technical knowledge used for European expansion in this phase originally came from Asia.
- Disruptions focused on smaller geographical areas, while social systems in much of the world carried on as before.

Phase 2:

- 17th century to late 19th century/early 20th century
- Spurred on by the industrial revolution in Europe which increased European competition and need for markets.
- More focus on exporting products from Europe to new markets overseas.
- Initially led by the Dutch, with Britain and France becoming involved later on.
- Although this phase saw some missionaries, religion was less important overall during this phase, the companies involves were largely concerned with commercial gains.
- Caused 'major disruptions of existing social systems over wide areas of the globe' as colonial powers sought to find markets for their goods (Webster, Nowell & Magdoff, n.d).
- Accelerated the technological gap between Europe and rest of the world.

What were the effects of European expansion on Southeast Asia and Europe itself?

Effect in Asia:

- Increased the technology gap with Europe. At the start of European expansion, Asia was very technologically advanced, and Europe relied on European technology. However, advances in technology in Europe allowed a gap to form which became wider over the period.

- Big impacts on society and way of life in Asia. Education, administration, governance and social structures all changed dramatically in Asia due to European expansion, especially in the second phase.
- Loss of self-determination. By the end of the second phase of European expansion, much of Asia was largely ruled by Europeans.
- Loss of wealth and resources. Europe overwhelmingly profited from Asia's resources and labour.
- Growth of nationalism. By the end of the second phase of European expansion, most Asian countries had an independence movement.
- Divide and rule: European expansion often used the tactic of divide and rule. By keeping the people of a country disunited they were better able to maintain control.

Effect in Europe (some of these answers may overlap from the previous lesson):

- Increased technological gap between Europe and rest of the world
- Increasing wealth and standards of living in Europe (but not for all – wealth focused in the hands of the capitalist class)
- Rise of capitalism
- Increasing rivalries between European nations (contributing to outbreak of WWI)
- Further spurred on the Industrial Revolution (more markets and more raw materials = more profits = more technological advancements)
- Growth of new political thought (i.e. socialism)

What were the advantages and disadvantages of European expansionism?

Advantages:

- Technological advancements and increase in consumer products
- Globalisation /international trade
- Wealth

Disadvantages:

- Exploitation of people around the globe
- Exploitation of land, resources and the environment

- Wealth generated was unequal and only in the hands of the few
- Technological advancements largely benefited Europeans at the expense of other nations
- Policy of divide and rule, and disruption of social structures in colonised countries

Check student teachers' understanding (5 minutes)

Review aligned teacher competencies:

- A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught
- A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught
- B1.1.1 Use different ways to explain the subject matter, related ideas and concepts to meet a range of learning abilities and intended learning outcomes

Plenary activity:

- Choose one of the plenary activities from Annex 6 for student teachers to complete.
- Review some responses as a class or have student teachers submit their responses to you.

Instruct student teachers to read the next lesson from the TB prior to the next period.

Instruct student teachers to consider the review questions for the sub-unit in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: What was the status of serfs in medieval European society?

Answer*: Serfs were not slaves subject to sale, but neither were they fully free. Landlord allocated serfs a certain portion of land to farm. Male serf had to work three days a week in the landlord's fields, while women worked household works such as churning butter, spinning threads and waving cloth, etc.*

Question 2: What role did 'Guilds' fulfill in medieval society?

Answer: *Merchants and craftsman within the towns formed associations which were called guilds organising the same groups of work. The guilds served for the public satisfactions on their crafts or service. By the 13th century, much of the urban economy of medieval Europe were under the control of the guilds. The guilds established standard of quality for manufactured goods, determined the prices of selling products for the members and regulated the entry of new members. Thus, guilds constituted a kind of social infrastructure that made functioning to improve medieval cities.*

Question 3: Summarise how Europe developed from feudal agrarian to commercial-urban during the medieval period.

Answer: *Advances in agricultural technologies increased food production which made it possible to support an urban society with less people working the land. Cities began to grow and merchants, traders and craftspeople emerged as a new part of society.*

Question 4: What were the initial reasons the Europeans ventured into the seas?

Answer: *Europeans ventured into the seas to expand the boundaries of Roman Catholic Christianity and to profit from commercial opportunities.*

Question 5: In what ways did economic changes in Europe influence the second phase of European expansion?

Answer: *The second phase was much more focused on commerce and commercial gains. This can be seen as a reflection of the economic changes taking place in Europe at the time. The industrial revolution, in particular, was an important driving force behind western colonialism in the second phase and shaped its character. Before the industrial revolution, demand for goods, such as spices and tea, was the focus of trade with Asia. However, after the industrial revolution, the focus shifted to obtaining raw materials, and later to finding new markets for the consumer goods being produced in Europe*.

Student teachers will write an entry in their self-reflective learning journal.

10.3. Industrial Revolution

In this sub-unit, student teachers will learn about the Industrial Revolution in terms of its causes, effects and overall significance. In particular, they will learn about the significance of new technology, and the important consequences of the Industrial Revolution, including the emergence of new political ideology within Europe and New Imperialism globally.

10.3.1. Development of industry (Phase 1 and Phase 2)

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Analyse the causes and effects of the Industrial Revolution, including the features of technological invention in Europe;
- Explain how the Industrial Revolution was a causal factor in the emergence of New Imperialism; and
- Describe how the relationship between economy and society can lead to the emergence of new political thought.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

Time: One period of 50 minutes

Learning strategies: T-chart, think-pair-share, group work and discussion

Assessment approaches: Verbal feedback, informal observation, peer feedback, questioning

Preparation needed: Student teachers should read Lesson 10.3.1 and complete Learning activity 1 prior to the lesson.

Resources needed: Board and markers, plenary activity from Annex 6

Learning activity 1. T-chart (15 minutes)

1. Start the lesson by briefly introducing the topic. The Industrial Revolution was a period of huge economic, political and social change in Europe and this had ramifications across the globe – some of which can still be felt today. This lesson will start by exploring the main causes and effects of the Industrial Revolution. It will then look at some of the issues in more detail – in particular how the Industrial Revolution sparked new political discourse within Europe and new imperialism overseas. Finally, the lesson will conclude with a discussion on the positive and negative impact of the Industrial Revolution.
2. Prior to the lesson, student teachers complete the T-chart. Draw the T-chart on the board with the title 'Causes and effects of the Industrial Revolution'.
3. Fill in the chart as a class – ask student teachers to justify their answers and encourage some discussion.

Assessment

This T-chart learning activity is an opportunity to gauge overall class understanding of the topic — can student teachers offer a breadth of responses? Are they able to makes links between this topic and previous learning?

Student teachers who share their answers with the class will receive feedback from their peers and the teacher educator if necessary. The remainder of the class can use this as an opportunity to assess their own answers and notes taken during the activity.

Possible student teachers' responses

Table 10. 6 Causes and effects of the Industrial Revolution (example responses)

Causes of the Industrial Revolution	Effects of the Industrial Revolution
• Innovations in technologies + increased production	• New Imperialism
• Competition in Europe	• Socialism
• Agricultural revolution (Britain)	• Social discord
• Imperialism (both a cause and an effect; colonies gave Britain the resources it needed to start the Industrial Revolution, which in turn led to new imperialism)	• Growth of capitalism
• Natural resources	• Impacted the way societies in the world would function in the years to come and even today
• Population growth (also linked to agricultural revolution)	• Poor living conditions for workers
• Competition in Europe	• Increased competition between industrialised countries

Learning activity 2. Group work, discussion (20 minutes)

1. Divide the class into small groups. In their groups, student teachers consider the two questions about the effects of the Industrial Revolution (these are also given in the student teacher textbook):
   - Explain how the Industrial Revolution was one of the causes of the rise of 'New Imperialism'.
   - Explain how the Industrial Revolution was one of the causes of the rise of Socialism
2. The groups should discuss the questions and note down their answers in their books.
3. Discuss as a class. Encourage discussion and ask strategic questions to facilitate further discussion (see 'Assessment' below).

Facilitator's notes

It is important to consider inclusivity when classroom discussions take place. Try to encourage a range of students to share their ideas – especially less confident female student teachers, or student teachers who are less confident for any other reason. Sometimes, it might be useful to provide student teachers with alternative ways of demonstrating their understanding. This could mean giving student teachers time to write down their thoughts before a discussion starts, giving a student teacher time to think of their response before returning to them a few minutes later, or by allowing student teachers to present their learning in a different way (e.g. by writing a brief summary of the main ideas after a discussion).

Assessment

When discussing their answers with their group, student teachers will be able to receive peer feedback on their ideas.

During the class discussion, the teacher educator should provide verbal feedback. The 'Possible student teachers' responses' below offer some guidance. If desired this could be displayed as a mind map on the board for student teachers to refer to and amend their own responses accordingly.

The teacher educator can also ask strategic questions to check student teacher understanding and extend the discussion. E.g.

- What is new imperialism?
- What was the difference between new and old imperialism?
- What is socialism?
- What was life like for the working class during the Industrial Revolution?
- Who benefited from the Industrial Revolution?
- Why did this cause social tension?
- How did the relationship between economy and society during the Industrial Revolution lead to the emergence of new political thought?

Possible student teachers' responses

Explain how the Industrial Revolution was a causal factor in the rise of New Imperialism:

- Industrialisation required greater access to raw materials and cheap labour.
- Creation of more products meant producers wanted to find new markets to sell their products.
- Industrialisation caused competition between industrial nations, who then also competed to reach these new markets and sources of materials.
- In order to retain control, industrial nations needed to have firm control over the colonies.

Relevant sections from the text:

By 1870, European industrialised nations were seeking for their markets in order to sell their industrial products that they could not sell domestically. The need for cheap labor and a steady supply of raw materials required that the industrial nations maintain firm control over the colonies. They pursued an aggressive expansion policy because of economic needs that were created by the Industrial Revolution.

As Germany and America became more economically successful, they began more involved with imperialism. As consequence, Imperialism led to increased competition and conflict among the industrial nations that would disrupt world peace in 1914.

Explain how the Industrial Revolution is one of the causes of the rise of socialism:

- The Industrial Revolution made a small number of people very rich, meanwhile, many workers endured harsh conditions in the factories.
- Laws and government favoured the rich over the needs of the poor.
- This caused social tensions.
- The theory of socialism stated that all were equal and should share in the wealth – this was appealing to many workers who felt exploited in an unfair system.

Relevant sections from the text:

Factory owners and others who controlled the means of production rapidly became very rich and had more money to invest in technology and more industry. With almost no laws for the new working class, the workers in the factories suffered.

The governments favoured the wealthy in the early part of the Industrial Revolution. With a large population that felt exploited by a few wealthy capitalists, social tensions gradually increased. The condition of working class was the reason for the rise of socialism. Socialism is a theory which advocates that all people are equal and should have shared equal ownership of the country's wealth.

Learning activity 3. Think-pair-share (10 minutes)

1. Write the question on the board:
   - What were the positive and negative consequences of the Industrial Revolution?
2. Student teachers should consider the question and discuss with a partner or small group.
3. Share answers as a class.

Assessment

This activity is an opportunity to see if student teachers can use their understanding from the lesson to form their own opinions on positive and negative consequences of the Industrial Revolution. Listen and observe while the student teachers are discussing in groups and provide verbal feedback during the discussion.

Alternatively, you may wish student teachers to choose one answer to elaborate upon. This can then be submitted to the teacher educator for feedback and/or displayed on the wall for other student teachers to view. An example of an excellent elaborated answer is given below:

'*I think that one of the negative consequences of the Industrial Revolution was New Imperialism, which led to many countries being colonised by the European powers over the next 150 years. I believe this was a negative impact, as colonisation took wealth and power out of the hands of the indigenous people and harmed development in these countries.'*

Possible student teachers' responses

Answers will vary and will depend on the opinions of the class. Most consequences are nuanced and can be seen in both a positive and a negative light. Ideally, you will guide student teachers towards this understanding, while still allowing them to decide for themselves whether they think a consequence is largely positive or largely negative.

Some largely positive consequences might include:

- Increased production
- Technological advancements

Some largely negative consequences might include:

- Poor living conditions of workers
- New imperialism

Some student teachers may see the rise of capitalism the dominant economic structure as a positive consequence, while others may see it as negative. The same can be said for the advent of socialist thought.

Extended learning activity 1. Pedagogical discussion (10 minutes)

1. There are a range of pedagogical discussions which are relevant to this lesson. The teacher educator may choose which they feel the class would benefit from discussing most:
   - The usefulness of graphic organisers when teaching History
   - The benefits of group work and collaboration
2. Discuss as a class. Alternatively, this could be set as a reflective activity to be completed in their books after the lesson.

Extended learning activity 2. Reflection (10 minutes)

1. Ask student teachers to use the information to reflect on how the topic of the Industrial Revolution relates to other world history topics in the middle school curriculum. Student teachers note down their answers.
2. Discuss as a class. Alternatively, this could be set as a reflective activity to be completed in their books after the lesson.

Check student teachers' understanding (5 minutes)

By looking at both the causes and effects of the Industrial Revolution, student teachers were able to see the relationships between this and other key events that they have studied/will study.

- Choose one of the plenary activities from Annex 6 for student teachers to complete.
- Review some responses as a class or have student teachers submit their responses to you.

Instruct student teachers to read the next lesson from the TB prior to the next period.

Instruct student teachers to consider the review questions for the sub-unit in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Define the term 'Industrial Revolution'.

Answer: *The transition to new manufacturing processes and rapid growth in industry and technological advances in Europe from about 1760.*

Question 2: What is imperialism?

Answer: *Imperialism is a policy of extending a country's influence over other less powerful countries through colonisation.*

Question 3: List some of the factors that led to New Imperialism.

Answer: *Industrial Revolution / European industrialised nations;*

- *Seeking for markets to sell their industrial products;*

- *Cheap labour; and*

- *Supply of raw materials were the facts that supporting the imperialism.*

Question 4: Explain the link between the Industrial Revolution and socialism.

Answer: *Poor conditions for workers who felt exploited by the factory owners who were getting rich off their labour led to the rise of socialist discourse and sentiment.*

Student teachers will write an entry in their self-reflective learning journal.

10.4. Rivalries in Europe

In this sub-unit, student teachers will learn about the causes that led to the outbreak of World War I and II, and the global consequences of these two devastating wars.

10.4.1. World War I

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Identify and examine the causes and the result of World War I; and
- Evaluate the social, economic and political situations of Europe between the two world wars.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

B2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback

Time: One period of 50 minutes

Learning strategies: Research & summarising, think-pair-share, micro-teaching, quiz

Assessment approaches: Question and answer, peer-feedback, quiz

Preparation needed: Prior to the lesson, all student teachers should read Lesson 10.4.1 of the TB. Half of the class will be assigned to research and prepare a 15 to 20-minute micro-teaching session on WWI (they should complete the preparation for Learning activity 2 prior to the lesson). The teacher educator should choose an appropriate plenary activity (Annex 6).

Resources needed: Board and markers, quiz questions, plenary activities (Annex 6)

Facilitator's notes

Lesson 10.4.1 and 10.4.2 both use the same structure and complement each other.

In Lesson 10.4.1 half of the class will micro-teach their peers about WWI, whereas in Lesson 10.4.2 the rest of the student teachers will teach their peers about WWII. The 'introduction' to the lessons takes place in Lesson 10.4.1 and the plenary for both lessons take place at the end of Lesson 10.4.2. Both lessons contain a teacher-led quiz after the micro-teaching, which all student teachers will participate in.

All student teachers must micro-teach once during the two lessons.

Learning activity 1. Think-pair-share (10 minutes)

1. Briefly introduce the lesson by asking student teachers to answer the question *'why do we study the two world wars?'*
2. Ask three student teachers to share their answers and write them on the board.
3. Optional: ask the rest of the class to vote for which response they agree with most.

Assessment

This lesson starter is aimed at activating student learning at the start of the lesson. However, it will also give insight into what student teachers think is the significance of this topic. By asking the class to vote, you can see a range of opinions – while there is no 'right' answer – the results will still be useful.

Possible student teachers' responses

Below are some potential answers:

1. 'Because it is part of the middle-school curriculum.'
2. 'Because they were significant historical events.'
3. 'Because they were significant historical events that affected large parts of the world.'
4. 'Because they were significant historical events that affected the course of history.'
5. 'Because we need to learn from the mistakes of the past.'

All of the answers are correct, however, Answers 1 and 2 do not demonstrate a good understanding of the topic – both need to be elaboration (Why is it on the curriculum? Why is it a significant event?).

Learning activity 2. Micro-teaching 1 (25 minutes)

1. The first set of student teachers will micro teach WWI to their partner (approximately 20 minutes).
2. Student teachers can take notes and ask questions throughout. They should use the learning outcomes and checklist to help them check that the topic has been covered fully.
3. Inform student teachers that they will be given a whole class quiz after.

Assessment

Assessment of the learning will largely take place through the quiz in Learning activity 3. However, student teachers will also receive informal feedback from

their partner during the activity – the partner will be using the learning outcomes and checklist to assess whether they feel the learning outcomes have been met.

See Extended learning activity 1 for an alternative way to assess this activity.

WWI: • Identify and examine the causes, the course and the result of World War I. • Evaluate the social, economic and political situations of Europe between the two world wars.
By the end of the 'micro-teaching' student teachers should understand: • The main causes of the war • Who the key players were • Why it spread across the globe • Key events during the course of the war • The events that brought about the end of the war • The main consequences and effects of the war

Possible student teachers' responses

Student teachers will give a summary of the content which addresses the learning outcomes. Student teachers will need to identify key points and explain the topic in their own words. Additional research or resources can be used if the teacher educator wishes.

Learning activity 3. Quiz 1 (15 minutes)

1. Give the quiz; student teachers will answer individually but can use their notes from Learning activity 2.
2. Student teachers mark their partner's answers.
3. Review: student teachers identify any areas of the topic that their partners should revisit based on their answers to the quiz (5 minutes).
4. Student teachers can also use this information to review their own micro-teaching session – did they miss any elements of the topic or explain something poorly?

Example quiz questions (WWI)

Student teachers may refer to their books/notes during the quiz, however limited time should be given for each question (30 seconds to 1 minute).

Questions
1. What was the event which sparked the start of WWI?
2. Why did politicians at the time think that 'the balance of power' would prevent war?
3. Who were the major powers in Europe before WWI?
4. Write down three causes of WWI:
5. How long did WWI last?
6. The rise of which European country in the later years of the 19th century led to increased rivalry in Europe?
7. Why did WWI spread to so many countries in Europe so rapidly?
8. Why did WWI become global?
9. The German military leaders saw no prospect of victory, after which nation joined the war?
10. What was the treaty of Versailles?
11. Which three countries dominated decisions at the Versailles/Paris Peace conference?
12. Was Germany happy with the treaty of Versailles?
13. The league of nations was a precursor to which modern day international organisation?
14. What was the purpose of the League of Nations?
15. In what way is WWI a cause of WWII?

Assessment

The quiz will give an indication of how well student teachers have understood the content, and the efficacy of the micro-teaching. The feedback from their partner will also show student teachers any areas that they should revisit (using the information in the TB).

Possible student teachers' responses

Example quiz answers (WWI):

Answers in brackets are not a necessary part of the answer but may be part of a correct answer.

Question	Answer
1. What was the event which sparked the start of WWI?	The assassination of Archduke Franz Ferdinand
2. Why did politicians at the time think that 'the balance of power' would prevent war?	They believed that the size and power of the two alliances would deter aggressive action from any country.
3. Who were the major powers in Europe before WWI?	Germany, Britain, France, Russia, Austria-Hungary and Italy
4. Write down three causes of WWI:	Accept any 3; Industrial Revolution, imperial rivalry, European rivalry, alliances, assassination of Archduke Franz Ferdinand
5. How long did WWI last?	4 years (4 years and 4 months)
6. The rise of which European country in the later years of the 19th century led to increased rivalry in Europe?	Germany
7. Why did WWI spread to so many countries in Europe so rapidly?	Alliances meant all were involved quickly
8. Why did WWI become global?	The European powers were imperial nations, this led to WWI rapidly spreading to their global colonies and beyond. Moreover, Anglo-Japanese alliance concluded in 1902.
9. The German military leaders saw no prospect of victory, after which nation joined the war?	USA
10. What was the treaty of Versailles?	The peace treaty that dealt with Germany after WWI
11. Which three countries dominated decisions at the Versailles/Paris Peace conference?	USA (Wilson), Britain (Lloyd George) and France (Clemenceau)
12. Was Germany happy with the treaty of Versailles?	No (it was a harsh peace which left the country very weak)
13. The league of nations was a precursor to which modern day international organisation?	The United nations
14. What was the purpose of the League of Nations?	To settle international matters/disputes (peacefully)
15. In what way is WWI a cause of WWII?	The harsh peace decided upon by the victors at the Paris Peace Conference meant that peace could not be maintained.

Check student teachers' understanding

This lesson will be reviewed at the end of Lesson 10.4.2.

10.4.2. World War II

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Identify and examine the causes, the course and the result of World War II; and
- Evaluate and discuss the consequences and the impacts of the World War II.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

B2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback

Time: One period of 50 minutes

Learning strategies: Research and summarising, think-pair-share, micro-teaching, quiz

Assessment approaches: Question and answer, peer-feedback, quiz

Preparation needed: Prior to the lesson, all student teachers should read the TB. Half of the class will be assigned to research and prepare a 15 to 20-minute micro-teaching session on WWII (they should complete the preparation for Learning activity 2 prior to the lesson). The teacher educator should choose an appropriate plenary activity (Annex 6).

Resources needed: Board and markers, quiz questions, plenary activities (Annex 6).

Learning activity 1. Micro-teaching 2 (25 minutes)

1. The second set of student teachers will micro-teach WWII to their partner (approximately 20 minutes).
2. Student teachers can take notes and ask questions throughout. They should use the learning outcomes and checklist to help them check that the topic has been covered fully.
3. Inform student teachers that they will be given a whole class quiz after.

Assessment

Assessment of the learning will largely take place through the quiz in Learning activity 3. However, student teachers will also receive informal feedback from their partner during the activity – the partner will be using the learning outcomes and checklist to assess whether they feel the learning outcomes have been met.

See Extended learning activity 1 for an alternative way to assess this activity.

Guiding questions for micro-teaching (WWII)

WWII • Identify and examine the causes, the course and the result of World War II. • Evaluate and discuss the consequences and the impacts of the World War II.
By the end of the 'micro-teaching' student teachers should understand: • The main causes of the war • Who the key players were • Why it spread across the globe • Key events during the course of the war • The events that brought about the end of the war • The main consequences and effects of the war

Possible student teachers' responses

Student teachers will give a summary of the content which addresses the learning outcomes. Student teachers will need to identify key points and explain the topic in their own words. Additional research or resources can be used if the teacher educator wishes.

Learning activity 2. Quiz 2 (15 minutes)

1. Give the quiz; student teachers will answer individually but can use their notes from Learning activity 1.
2. Student teachers mark their partner's answers.
3. Review: student teachers identify any areas of the topic that their partners should revisit based on their answers to the quiz (5 minutes).
4. Student teachers can also use this information to review their own micro-teaching session – did they miss any elements of the topic or explain something poorly?

Example quiz questions (WWII)

Student teachers may refer to their books/notes during the quiz, however limited time should be given for each question (30 seconds to 1 minute).

Questions	
1.	Give three long-term causes of WWII
2.	What was the immediate cause of WWII?
3.	Which three countries saw the greatest rise in nationalism in the 1920s and 1930s?
4.	What was the policy of appeasement?
5.	Did appeasement work?
6.	Name the three main axis powers in the war.
7.	Name the three main allied powers in the war.
8.	What important event brought the USA into the war?
9.	Did WWII have any impact on SE Asia?
10.	What did the USA do to force Japan to surrender?
11.	Which country/ies benefited from WWII economically?
12.	Which two countries came out of WWII as global superpowers?
13.	Give three consequences of WWII.

Assessment

The quiz will give an indication of how well student teachers have understood the content, and the efficacy of the micro-teaching. The feedback from their partner will also show student teachers any areas that they should revisit (using the information in the TB).

Possible student teachers' responses

Example quiz answers (WWII):

Answers in brackets are not necessary parts of the answer but may be part of a correct answer.

Question	Answer
1. Give three long-term causes of WWII.	Accept any three: dissatisfaction with WWI peace settlement, nationalism, great depression/ economic turmoil of 30s, policy of appeasement
2. What was the immediate cause of WWII?	The German invasion of Poland (September 1939)
3. Which three countries saw the greatest rise in nationalism in the 1920s and 1930s?	Germany, Italy, Japan
4. What was the policy of appeasement?	Appeasement was the policy of making concessions to the nationalistic powers (Germany/Japan/Italy) instead of opposing them with force
5. Did appeasement work?	No (it made the countries more aggressive/greedy as they were not opposed)
6. Name the three main axis powers in the war.	Germany, Italy, Japan
7. Name the three main allied powers in the war.	Britain, USA, Russia (Soviet Union)
8. What important event brought the USA into the war?	Pearl Harbour / Japan surprise attack (1941)
9. Did WWII have any impact on SE Asia?	Yes (many countries invaded by Japan, WWII was actively fought in many SE Asian countries including Myanmar)
10. What did the USA do to force Japan to surrender?	USA dropped 2 nuclear bombs (Nagasaki and Hiroshima – killing hundreds of thousands of people)
11. Which country/ies benefited from WWII economically?	USA (most other countries suffered economically)
12. Which two countries came out of WWII as global superpowers?	USA and the Soviet Union
13. Give three consequences of WWII.	The Cold War, the loss of millions of lives, growth of international organisations, the USA and Soviet Union as global superpowers, the advent of the nuclear age

Extended learning activity 1. Peer-assessment, feedback on micro-teaching (15 minutes)

This activity can be used in a variety of ways to extend Learning activities 2 and 4 for pairs that complete the micro-teaching early, as a way to extend the lesson for all student teachers, or as a homework activity.

Ask student teachers to provide feedback to their partner on their micro-teaching.

They should provide at least one area of strength and one area for development. They can use the checklist provided below to help them provide constructive feedback (it is not necessary to go through every question, just use those areas which are relevant).

- ✓ Did the micro-teaching include adequate information on all the key questions?
- ✓ Were they able to cover the topic fully in the time allowed?
- ✓ Did they use their own ways to explain things, choosing key information, rather than just reading from the TB?
- ✓ Was the information easy to understand?
- ✓ Did the order/structure that the 'teacher' used make sense?
- ✓ Could the 'teacher' answer your questions clearly?
- ✓ If you have already completed the quiz, were you able to answer most questions? Is there any feedback you can give based on the results of the quiz?

Check student teachers' understanding (10 minutes)

Remind student teachers that this lesson learning outcomes were concerned with examining the causes, course and results of WWI and WWII. They have had the opportunity to work towards these outcomes by studying one world war in depth and teaching their peer. They have also learnt from their peer about the other war and completed a quiz to check understanding and indicate if there are any areas to revisit in the TB.

- Choose one of the plenary activities from Annex 1 for student teachers to complete.
- Review some responses as a class.

Instruct student teachers to read the next lesson from the TB prior to the next period.

Instruct student teachers to consider the review questions for the sub-unit in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Who were the six major powers in Europe at the beginning of 20th century?

Answer: *Britain, France, Russia, Austria-Hungary, Italy and Germany.*

Question 2: Which countries were the members of Triple Entente?

Answer: *Austria-Hungary, Germany and Italy.*

Question 3: What were the main terms of Versailles Treaty? In what ways can it be seen as contributing to the outbreak of WWII?

Answer: *(1) Germany surrendered of all colonies as League of Nation's mandate, (2) Alsace-Lorraine returned to France, (3) Cession of Malmedy to Belgium, Memel to Lithuania, the Hultschin district to Czechoslovakia. Germany had to pay for all the damages that occurred during the war and Germany's military was limited to a defensive one.*

This was a very harsh peace. It put Germany in a bad place economically, which led to the rise of Nazism and ultimately war in 1939.

Question 4: Summarise what is meant by 'appeasement' policy.

Answer: *A policy of not opposing or challenging an aggressor in the hope of avoiding conflict. This policy was followed by Britain and France before WWII but did not work against Nazi Germany.*

Question 5: Discuss the emergence of USA as a superpower after the WWII.

Answer: *The United States was the only major power to avoid economic ruin during the war and had benefited from the war for her productive capacity had been expanded. After the WWII, the US had the largest army and navy and was the only country that possessed the atomic bomb. Thus, predominance in international politics after the war made United States the great power of the world.*

Student teachers will write an entry in their self-reflective learning journal.

10.5. Post-World War II

In this sub-unit, student teachers will learn about the post-war period in terms of decolonisation, the Cold War and the emergence of new international organisations. One lesson will focus on the struggle for independence that took place in countries across the globe during the decolonisation period. In particular, student teachers will focus on the emergence of new nations in Southeast Asia after World War II. The second lesson will focus on the two other important themes from the post war period – the Cold War and the emergence of international organisations.

10.5.1. Post-World War II independence movements

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Examine the emergence of new nations during the Post-World War II era; and
- Outline the independence movements occurred particularly within Southeast Asian countries.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

D2.1.1 Discuss teaching practices with supervisors and colleagues, and willingly seek constructive feedback

Time: One period of 50 minutes

Learning strategies: Gap-fill, research, group work, gallery walk

Assessment approaches: Worksheet, peer-assessment, informal observation

Preparation needed: Student teachers should read Lesson 10.5.1 and complete Learning activity 1 prior to the lesson. The teacher educator should choose an appropriate plenary activity (Annex 6). The teacher educator may wish to write the answers to the gap-fill activity on flipchart paper prior to the lesson.

Resources needed: Flipchart paper and pens

Learning activity 1. Gap-fill (5 minutes)

1. Student teachers complete the gap-fill activity prior to the lesson.
2. Start the lesson by asking the whole class some questions related to the gap-fill activity (see some suggestions below or use your own).
3. Provide student teachers with the answers to the gap-fill activity for them to mark themselves. You may wish to write this out on flipchart paper prior to the lesson.
    a. What is the main religion in Brunei? Is it a secular or a religious state?
    Islamic / it is a religious state.
    b. Which Southeast Asian countries were colonies of France?
    Cambodia, Laos, Vietnam
    c. Which Southeast Asian nations were occupied by Japan in WWII?
    Malaysia, Indonesia, Singapore, The Philippines, Thailand, Myanmar
    d. Indonesia's road to independence was largely peaceful – true or false?
    False
    e. Which country was the first to officially be first colony in Asia to be freed of Western rule?
    The Philippines

f. Which of these countries is a city state?
Singapore
g. Which country in Southeast Asia was not a colony of any of the western powers?
Thailand

Assessment

Draw on a range of student teachers to offer answers. Provide verbal feedback when asking questions to check their understanding. Student teachers can check their own answers to the gap-fill activity see if there are any areas they need to revisit.

Possible student teachers' responses

a. Brunei is an Islamic state, it gained sovereignty in 1984.
b. Like many Southeast Asian nations, Indonesia was occupied by Japan during WWII.
c. Indonesia achieved independence in 1949 with Dr. Sukarno its first president.
d. Laos gained independence in 1954. Like some other nations, the United Nations played a role in mediating independence.
e. Malaysia was a colony of Britain. The Federation of Malaysia was established on 16 September 1963.
f. The name given to the anti-fascist activities undertaken in The Philippines were the 'Hukhalahap' Movements.
g. Singapore was granted self-governance in 1955. The People's Action Party, led by Lee Kuan Yew was heavily influenced by European Democracy.
h. The countries of Southeast Asia region except Thailand were colonies of the Western Imperialist at the end of 19th century.

Learning activity 2. Research, group work (20 minutes)

1. Divide the class into small groups.
2. Using the information in the TB, groups research and use flipchart paper to compare any two Southeast Asian nations to compare the ways in which they achieved independence after WWII.
3. They will use the guiding questions:
   - What were the main independence movements and what did they want?

- How was the fight for independence characterised in each country? Was it more peaceful or violent?
- What were the key events after WWII?
- How and when was independence obtained?
- What type of government came to power after independence? Who were its allies and main influencers?

Assessment

Circulate the room during the activity to informally observe the groups. Use the guiding questions to check understanding.

Possible student teachers' responses

Answers will vary depending on which countries are chosen. The groups should write their answers on flipchart paper in a way that is easy to understand (such as using a T-chart).

e.g.

	Singapore	Cambodia
What type of government came to power after independence?	Democracy	Dictatorship

The questions are a guide only. Groups may not be able to tackle all the questions for both countries. Equally, the groups may choose to add some additional comparative information if they wish.

Learning activity 3. Gallery walk (20 minutes)

1. Each group displays their findings on flipchart paper around the room.
2. Student teachers circulate the room observing their peers' findings and using the information to find the answers to the worksheet questions. They may also refer to information on the student teacher textbook if needed.
3. Review the answers as a class. Student teachers will mark each other's work, highlighting any areas to revisit.

Assessment

Student teachers peer assess each other's answers. The teacher educator can also use this as an opportunity to get a quick show of hands of how well the class did – this can be followed up with the question; *'which question was most difficult and why?'*

Possible student teachers' responses

1. Complete the timeline showing the different dates each Southeast Asian country achieved Independence.
   - 1946 The Philippines – 1949 Indonesia – 1953 Cambodia – 1954 Vietnam – 1954 Laos – 1963 Malaysia – 1965 Singapore – 1984 Brunei – Thailand not under colonial rule
2. What type of government formed in each country after independence?
   - Brunei – Sovereign Islamic state
   - Cambodia – Dictatorship
   - Indonesia – Liberal democracy, followed by 'Guided Democracy' (1959-1965), unlike liberal democracy there were no general elections, but all the major parties were represented in government.
   - Laos – Monarchy with democratic government
   - Malaysia - Federation
   - The Philippines – Constitutional republic / democracy
   - Singapore – Democracy
   - Thailand – Monarchy, civilian government followed by military government
   - Vietnam – North Vietnam (Communist) and South Vietnam (Capitalist) were divided and the country ravaged by civil war until 1976, when the Socialist Republic of Vietnam was officially proclaimed.
3. In what way is Thailand unique from the other Southeast Asian nations?
   - Not under colonial rule

Extended learning activity 1. Role play (15 minutes)

Ask student teachers to choose a Southeast Asian country that they have studied in this lesson.

Ask them to write a letter to the colonial government of their chosen country from the perspective of an independence leader, explaining their perspective on independence.

Student teachers should remember to consider the tone – is the person likely to be polite or aggressive?

Differentiated learning activity 1. Group work, Jigsaw (40 minutes)

In lieu of Learning activities 2 and 3.

Group work (20 minutes)

1. Divide the class into groups of 5 pairs.
2. Using the information in the TB, groups research and use flipchart paper to compare the nation-building of any two Southeast Asian nations after the WWII. (each group must cover all 10 Southeast Asian nations).
3. They will use the guiding questions:
   - What were the main independence movements and what did they want?
   - How was the fight for independence characterised in each country? Was it more peaceful or violent?
   - What were the key events after WWII?
   - How and when was independence obtained?
   - What type of government came to power after independence? Who were its allies and main influencers?

Jigsaw (20 minutes)

1. Each pair presents their findings to their group using the flipchart paper.
2. Student teachers observe their peers' presentations using the information to find the answers to the worksheet questions.
3. Review the answers as a class.

Check student teachers' understanding (5 minutes)

During this lesson, student teachers have had the opportunity to examine nation building and independence movements during the Post-World War II era, by comparing the situation in two Southeast Asian countries and collating their findings onto flipchart paper. They have then had the opportunity to use their findings, and the findings of their peers to complete a worksheet which gives an overview.

- Choose one of the plenary activities from Annex 6 for student teachers to complete.
- Review some responses as a class.

Instruct student teachers to read the next lesson from the TB prior to the next period.

10.5.2. International politics

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Assess the origin of the Cold War, Non-Aligned Movement, the collapse of Union of Soviet Socialist Republics (USSR) and the end of the Cold War;
- Discuss the origins and development of regional and international organisations; and
- Compare the structures and functions of various regional and international organisations.

Competencies gained

A4.1.1 Describe key concepts, content, learning objectives and outcomes of the lower secondary curriculum for the subjects and grade level/s taught

A5.1.1 Describe key concepts, skills, techniques and applications for the subjects covered in the grade levels taught

Time: One period of 50 minutes

Learning strategies: Mind map, group work, discussion

Assessment approaches: Informal observation, questioning, verbal feedback

Preparation needed: Student teachers should read Lesson 10.5.2 in the TB prior to the lesson.

Resources needed: Board and markers, flipchart paper if available, plenary activities from Annex 6

Learning activity 1. Mind map, group work (20 minutes)

1. Briefly introduce the topic by explaining why the Cold War is a fundamental topic in world history (i.e. dominated global politics for over 40 years, affected relations between many countries globally etc.)
2. Start the activity by drawing a mind-map on the board titled 'What were causes of the Cold War?' Ask student teachers to offer answers and write them on the board.
3. Then, divide the class into small groups. Give each group a piece of flipchart paper.
4. In their groups, they will use the information in the textbook to create a mind-map answering each of the questions below (one on each side of the flipchart paper):
   - What factors contributed to the establishment of the Non-Aligned Movement?
   - Why did the Cold War end?
5. Discuss as a class by asking each group to stand up and share a few answers.
6. See Extended learning activity 1 for a way to extend this activity for some or all student teachers.

Assessment

When creating the mind map on the board together as a class, the teacher educator is modelling what is expected for the activity. Write concise key words, rather than long sentences and provide verbal feedback or ask student teachers to elaborate on their answers.

e.g.

Verbal feedback: *'Great, that's a good answer. What key words can we write on the board to summarise what you have said?'*

Asking for elaboration: *'Yes, that's an important point. Can you say a little more about why that was one of the causes of the Cold War?'*

During the group work, informally observe the groups to see that all student teachers are participating. By working together, student teachers will also receive informal feedback from their peers.

When reviewing the answers as a class, it may be useful to write these on the board as well. Encourage student teachers to provide feedback or elaborate on their peers' responses. Ask student teachers to justify their answers to extend the discussion and check understanding.

See Extended learning activity 1 for an additional way to extend this activity which also gives the opportunity for the teacher educator to assess individual student teacher understanding.

Possible student teachers' responses

Each group should be able to identify 3-5 causal factors for each of the questions. They should also be able to elaborate on the key point when asked.

What were causes of the Cold War?

- Communism
- Safeguard Russia
- Struggle for influence between USA and Russia

Example elaborated answer: One of the causes of the Cold War was the struggle for influence between the USA and Russia. Both the USA and Russia were competing to strengthen their influence in Eastern Europe and advance their global economic agenda.

Why did the Cold War end?

- Economic weakness of USSR
- USSR overstretched itself militarily (e.g. Afghanistan/nuclear arms race)
- Failure of communism to provide a decent quality of life for populations in eastern Europe and Eastern European rebellion

Eastern bloc countries rebelled following reforms targeted at restructuring of the economy and reducing control on media. This contributed towards the end of the Cold War because it highlighted the cracks in Moscow's power.

What factors contributed to the establishment of the Non-Aligned Movement?

- Escalating tension
- Neutrality and to reduce tension
- Colonialism/Neocolonialism

Example elaborated answer: One of the factors that contributed to the establishment of the NAM was to be able to remain neutral and not give allegiance to either USSR or USA. By doing so the NAM members aimed to reduce the scale of the potential conflict.

Learning activity 2. Discussion, group work (20 minutes)

1. Start the activity with a brief discussion. Introduce:

- Some of the reasons why post-WWII saw the establishment of many international and regional organisations (avoid another world war, independence, etc.)
- Some of the common aims/purposes (promote peace/ increase international co-operation etc.)
- How these organisations continue to shape global politics to this day (i.e. many organisations set up in the post-war period are still in existence and continue to influence the global agenda).

2. As a class, analyse the UN using the questions given in the TB (and below). Write responses on the board. This models the activity that student teachers will do in their groups.
3. Divide the class into the same groups as Learning activity 1. Each group will choose three international and regional organisations to analyse. They will use the questions given in the TB to help them fill in the table.
4. Once they have completed the table for three organisations, individually student teachers will identify some similarities and differences between them.
5. Review as a class.

Questions for analysing international and regional organisations:

Taken from the TB

- Is it a global international or regional organisation?
- When was it set-up?
- Who are its members? (How many? Why?)
- Why was it set-up?
- What are its aims/purpose?
- What is its structure?
- Is Myanmar a member/participant?

Assessment

When analysing the UN on the board together as a class, the teacher educator is modelling what is expected for the activity. Write concise key words, rather than long sentences and provide verbal feedback or ask student teachers to elaborate on their answers.

Informally observe the groups during the group work. When reviewing the answers as a class, draw on a range of student teachers. Ask them to summarise one of the organisations they were analysing. Where possible, prompt student teachers to provide opinions and verbal peer feedback on their peers' responses.

The final part of the activity (identifying similarities and differences between the organisations gives an opportunity to check individual student teacher understanding. The teacher educator may wish to ask student teachers to submit their summaries for marking.

Possible student teachers' responses

Student teachers should fill in the table to compare the various organisations chosen. They should then summarise the information by writing similarities and differences.

Table 10. 7. International and regional organisations

International and regional organisations	
United Nations	ASEAN
Global international	Regional organisation
1945	1967
51 nations, it is a global organisation (the most global?)	10 Sotheast Asia countries. Indonesia, the Philippines, Malaysia, Singapore Thailand Brunei, Vietnam, Laos, Myanmar and Cambodia.
Aim of preventing future wars and encouraging international co-operation	Promote the stability and accelerate the economic growth of the region
Each member has one vote, there are many subcommittees with different responsibilities, it has a complex organisational structure	Made up of member states who vote. Complex organisation structure.
Myanmar is a member state	Myanmar is a member country

Extended learning activity 1. Writing a summary (45 minutes)

This learning activity can be used to extend Learning activity 1 for student teachers who complete the activity quickly, for the whole class, or even set as an assignment. It can also be expanded to include as many factors as the teacher educator deems appropriate.

Ask student teachers to choose one factor from each question to elaborate on. They should write a brief summary explaining the significance of the factor to the question.

e.g.

Main question: Why did the Cold War end?

Factor: Nuclear arms race

Summary: The nuclear arms race was one of the causes of the end of the Cold War because….

Check student teachers' understanding (10 minutes)

During this lesson, student teachers have had the opportunity to work in groups to identify important elements about the Cold War. They have generated key terms to summarise more complex information and discussed in their groups and as a class. Student teachers have also had the opportunity to discuss the origins and development of regional and international organisations by identifying and then comparing key features of a selection of regional and international organisations as a group work activity.

- Choose one of the plenary activities from Annex 6 for student teachers to complete.
- Review some responses as a class.

Instruct student teachers to read the next lesson from the TB prior to the next period.

Instruct student teachers to consider the review questions for the sub-unit in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Why was there a shift towards decolonisation in the post-war period?

Answer:

- *The huge expenditure of the European powers on WWII left them in large amounts of debt. They also needed to spend time and energy on reconstructing their own countries. In this context, there was neither the money nor the political will to maintain control overseas, especially where there were strong independence movements.*

- *The two powers who emerged from the war as global superpowers, the USA and the Soviet Union, both opposed the policy of colonialism. Moreover, colonialism was no longer seen as an acceptable policy by the international community. International organisations such as the UN asserted the rights of nations for self-determination. This exerted pressure on the European nations to grant independence.*

- *Soldiers from the colonies who fought for the European colonial powers returned home to fight for their countries' independence.*

Question 2: Compare Cambodia and Laos in their struggle for independence after the WWII. Use a T-chart.

Answer:

Cambodia	Laos
French colony before and after the WWII	French colony before and after the WWII
French permitted Khmer to draw up a constitution, form political parties and government	French appointed the Luang Prabang monarch as King of Laos, permitted an elected national assembly, leading to a national government
The French controlled defense and foreign relations	Laos independence was declared in 1949, but French retained ultimate control of the kingdom's armed forces, foreign policy and finances
French granted independence on 9 November, 1953	Became independent nation according to the resolution of 1954 Geneva Conference

Question 3: What was the Cold War?

Answer: *The term Cold War refers to the dominant force of international politics during the post war period (1945-1990). The term "Cold War" refers to the ideological conflict between the United States and the Soviet Union that broke out in the closing days of World War II. In theory, the Cold War was named as such because it did not involve direct fighting between the superpowers. However, it did lead to many armed conflicts around the world. Both powers wanted governments in power who were allied with them and over whom they held influence. This led to the outbreak of numerous proxy wars as the two superpowers competed for global dominance.*

Question 4: Summarise the aims of the Non-Aligned Movement.

Answer:

- *To be able to have an impartial approach towards world issues without being influenced by either bloc: USSR and the USA*
- *An independent movement for world peace*
- *Strived for healthy co-operation amongst nations for the benefit of all*
- *Bring about co-operation between non-aligned countries, many of whom were new nations*

Question 5: What factors led to the end of the Cold War?

Answer:

- *The policies of Mikhail Gorbachev*
- *The economic weakness of the USSR*
- *The USSR had also failed to provide a good quality of life for many people in the Soviet Union, especially in comparison to Western countries*

Question 6: Why was the UN set-up in the immediate post World War II period?

Answer: *In the wake of the atrocities of war, the destruction of Europe and the horrors of the holocaust, the international community was keen to put measures in place to promote international cooperation and prevent the outbreak of further global conflict. In this sense, WWII can be seen as contributing to the growth of international organisations, such as the UN, during the post war period.*

Student teachers will write an entry in their self-reflective learning journal.

10.6. World History in Middle School Classrooms

In this sub-unit, student teachers will have the opportunity to discuss the importance of 21st century competencies and consider the benefits of using student-centred learning in the teaching of History. Student teachers will also have the opportunity to practise lesson planning and teaching by creating a lesson plan for one world history lesson from the Grade 6 – 9 History Curriculum, and then teaching a segment to their peers.

10.6.1. Lesson plan on world history

Expected learning outcomes

By the end of this lesson, student teachers will be able to:

- Discuss how the study of history can instil 21st century competencies;
- Identify how the Grades 6–9 History curriculum promotes student-centred learning;
- Develop a lesson plan on world history; and
- Deliver a micro-teach session on world history.

Competencies gained

A2.1.2 Use teaching methods, strategies and materials as specified in the textbooks and additional low cost support materials, to support student learning

A4.1.2 Prepare lesson plans reflecting the requirements of the curriculum and include relevant teaching and learning activities and materials

B1.2.1 Use teaching methods and learning strategies appropriate for the class — culture, size and type

B1.3.1 Plan and structure lesson to ensure all the lesson time is used effectively

Time: Two periods of 50 minutes

Learning strategies: Group work, individual assignment, micro-teaching, peer assessment, reflection

Assessment approaches: Observation, self-assessment, peer feedback, peer assessment, verbal feedback

Preparation needed: Student teachers should read Lesson 10.6.1 prior to the lesson, for Differentiated learning activity 1 the teacher educator needs to select and review a range of lesson plans from the History middle school curriculum (World History).

Resources needed: A selection of lessons from the History middle school curriculum should be available – at least enough for each group to have access to one lesson of the TB and TG. Student teachers and teacher educators will also need access to the lesson plan template, example lesson plan, lesson plan checklist and micro-teaching feedback form (all available in the Annex and Lesson 10.6.1 of the TB).

Learning activity 1. Group work (20 minutes – Period 1)

1. Divide the class into groups of three. Each group will choose a world history lesson from the Grades 6–9 History curriculum (see Differentiated learning activity 1 for another way to proceed).
2. Individually, student teachers spend 5 minutes annotating the lesson identifying how it is student-centred and how it supports the development of 21st century skills.
3. Student teachers discuss their findings in their small group.
4. Discuss findings as a class.
5. Extend the discussion by asking student teachers to identify what the teacher themselves needs to do to ensure that the lesson is student-centred and supports the development of 21st century skills.

Facilitator's notes

During the discussion, student teachers should provide justification for their answers. The teacher educator can prompt this by asking 'how?' or 'why?'

Student teacher: *The lesson plan I studied promotes the development of critical thinking skills.*

Teacher educator: *Can you explain how it does that?*

Student teacher: *It asks students to discuss the pros and cons of a historical source.*

The teacher educator should also call on a variety of groups to find a range of different examples. Ask groups/student teachers that have not offered any responses to do so, or identify something that has not been mentioned yet:

- 'Did anyone examine a lesson plan that supports the development of citizenship?'

When extending the discussion, prompt student teachers if necessary.

- 'Can you think of a way to promote creativity and innovation in the lesson plan you studied?'
- 'What behaviour from the teacher could make the student-centred approach less effective?'

Assessment

During the learning activity and discussion, student teachers will give and receive peer-feedback. Student teachers can use this to assess their own findings. The teacher educator will also provide verbal feedback to responses and address any misconceptions as they arise.

Possible student teachers' responses

Responses will vary depending on the lessons chosen. The example answer below is taken from Lesson 10.6.1 of the TB.

2.1.3 Hanlin city-state **Period 4, 45 minutes**

Practice **20 minutes**

The teacher will ask students to form four groups and discuss the neighbourhoods they live in, including their locations, ethnicities, and other characteristics. The teacher will ask one representative from each group to explain what they discussed and will record on large sheets of paper.

'Form four groups and discuss the neighbourhoods they live in, including their locations, ethnicities, and other characteristics.'

Collaboration and communication skills are developed through this learning activity, as it requires students to communicate their ideas to each other and work together. This activity directly links learning to students lives by relating it to their own neighbourhood. Moreover, this activity promotes citizenship by prompting students to think about their communities.

21st century skills developed	Types of student-centred learning
Collaboration and communication	Students learn actively and cooperate with classmates.
Citizenship	Lessons are interesting, meaningful and relevant to students' practical lives.

However, if the teacher fails to address instances where pupils express prejudiced ideas in the activity where students discuss the neighbourhoods they live in**,** then the opportunity to encourage positive citizenship will be lost.

Learning activity 2. Individual assignment (30 minutes – Period 1)

1. Each student teacher chooses a lesson plan from the middle school History curriculum (World History). This could be the same as Learning activity 1.
2. Individually each student teacher creates a detailed lesson plan, including at least one additional learning activity or resource.
3. Student teachers can use the lesson plan checklist (in the TB and below) to help them to assess their own work and make improvements. These reflections can briefly be discussed as a class at the end of the period (5 minutes).

Facilitator's notes

There are a range of resources that student teachers can draw upon to support them in creating their lesson plan. These include the questions from Lesson 10.6.1 of the TB and Educational Studies, Lesson 4.1.1.

Assessment

Self-assessment: Student teachers assess their own work using the checklist below, identifying strengths and areas for improvement.

Students tick the boxes as appropriate to help them to assess the lesson plans. The teacher educator can also use the information to help you to provide constructive feedback to student teachers.

Lesson plan checklist			
Criteria	**Clearly demonstrated**	**Somewhat demonstrated**	**Not yet demonstrated**
Is the lesson plan easy to follow?			
Do the activities in the lesson support the lesson objectives?			
Are the success criteria appropriate (i.e. related to the learning outcomes and realistic for students to achieve within the lesson)?			
Is the lesson plan thoughtfully considered, including a clear plan of what student and teacher will do at each stage?			

Lesson plan checklist			
Criteria	**Clearly demonstrated**	**Somewhat demonstrated**	**Not yet demonstrated**
Does the lesson plan follow a logical structure that scaffolds learning (i.e. introduction, body and review with each section building upon the last)?			
Does the lesson plan include information on how the teacher will formatively assess students throughout the lesson (including when and how feedback will be given)?			
Does the lesson plan include student-centred activities and active student participation?			
Does the lesson plan include any opportunities for students to develop soft skills, such as the 5Cs (Collaboration, communication, creativity, critical thinking and citizenship)?			
Does the lesson plan include a range of activities and ways for students to demonstrate their learning?			
Does the lesson plan consider how the teacher will support all students to achieve the learning outcomes (i.e. has the teacher considered how they will differentiate learning)?			

Possible student teachers' responses

See the example student teacher lesson plan in Annex 8. Student teachers will 'teach' part of their lesson to their peers.

Learning activity 3. Micro-teaching (10 minutes per student teacher – 30 minutes in total – Period 2)

1. Divide the class into groups of three.
2. Student teachers share their lesson plan from Learning activity 2 with the other members of their group and micro-teach the 'teaching' segment'.

Assessment

Peer-assessment: Student teachers will receive feedback from their peers on their micro-teaching. Their peers will use the micro-teaching feedback form given in Learning activity 4. The teacher educator should also provide verbal feedback as appropriate.

Possible student teachers' responses

See the example student teacher lesson plan in Annex 8. Student teachers will 'teach' part of their lesson to their peers.

Learning activity 4. Peer-assessment (5 minutes per student teacher – 15 minutes in total – Period 2)

1. During the micro-teaching, student teachers use the feedback form to record constructive feedback for the 'teacher'. This is based on the lesson plan and the teaching itself.
2. Immediately after a micro-teaching has taken place, student teachers provide feedback to the 'teacher' using the feedback form.
3. This is repeated for each student teacher in the group of three.

Facilitator's notes

Learning activity 3 and Learning activity 4 take place concurrently. Timings are a guide that the teacher educator can use to help ensure all student teachers have the opportunity to teach and receive feedback within the 40-45 minutes. If a group finishes early, they can begin to consider the question given in the plenary, or begin Extended learning activity 1.

By the end of this lesson, student teachers will have the following:

- A full lesson plan for one world history lesson from the middle school curriculum;
- Two pieces of constructive peer feedback on that lesson; and
- A personal reflection on how they can improve.

Assessment

Peer-assessment: Student teachers will assess their peers micro-teaching using the feedback form. The teacher educator should also circulate the room during the activity, observe and provide immediate verbal feedback as appropriate.

Additionally, the teacher educator may ask student teachers to submit their lesson plans to the teacher educator to be marked.

Possible student teachers' responses

Student teachers will provide verbal feedback to their peers using the feedback form as a guide. Responses on the feedback form should be as detailed as possible and include examples where possible. Yes/no answers are not sufficient for constructive feedback.

Feedback form for assessing the micro-teaching

Planning	
Does the lesson plan meet the learning objectives?	
Are the learning activities used appropriate for the grade?	
Do the learning activities cater to a range of learning styles?	
Have they considered the preparation and materials needed? Do you think there is anything they have overlooked?	
Have they considered what support children will need to be able to complete the task?	
Presenting	
Were they able to 'teach' the activity?	
Did the lesson make sense?	
Did they present the activity and reflections clearly? (clear phrasing, audible, etc.)	
Reflection	
What did the teacher do well?	
What could the teacher improve?	
Do you have any questions for the teacher?	

Extended learning activity 1. Reflection (20 minutes)

1. This could be set as an assignment for some/all student teachers. Alternatively, it could be used with student teachers who complete Learning activities 1 and 2 quickly.
2. Student teachers use the feedback given to edit their original lesson plan, including justifications for the changes made.

Extended learning activity 2. Micro-teaching (70 minutes)

1. Student teachers prepare their lesson plans prior to the period.
2. Student teachers volunteer/are selected to micro-teach the whole class.
3. Student teachers volunteer/are selected to give peer feedback in front of the whole class.
4. The teacher educator should ensure all student teachers participate in some way.
5. Lesson plans can be marked if wished.

Extended learning activity 3. Reflective survey (15 minutes)

This activity can be used to extend some or all student teachers during the lesson, or set as a homework assignment.

1. Student teachers should return to the reflective survey that they completed in Lesson 7.1.1. They should proceed to fill it in giving a score out of 10 for their confidence at the end of Semester 2. Student teachers should be honest as this will help them to pinpoint areas of development to focus on.
2. Student teachers can also return to the SMART goal they set themselves in Lesson 7.1.1 – were they able to achieve this goal?

Differentiated learning activity 1. Group work (20 minutes)

1. This activity could be used for some or all student teachers in lieu of Learning activity 1. This version of the activity will provide less breadth, but greater focus.
2. The teacher educator selects one or more lesson plans from the Grades 6–9 curriculum and assigns them to be studied. Prior to the lesson the teacher educator will need to review them in order to find the 'answers' to this discussion.
3. During the learning activity and discussion, the teacher educator can provide additional support and guide the discussion towards key points.

Check student teachers' understanding (5 minutes)

Remind the student teachers that the learning outcomes for this lesson were to develop a lesson plan and micro-teach a lesson.

During this lesson they have worked towards both the learning outcomes and TCSFs by preparing a lesson, micro-teaching it and receiving constructive feedback from their peers using a rubric. By giving feedback they have begun to internalise the standards that will be required in their teaching.

Plenary learning activity. Reflection

1. Based on the feedback they have received from their peers, student teachers identify one key area for improvement and record what they will do to work towards it. They should also identify one area that they have improved with regards to their micro-teaching compared to other micro-teaching experiences on this course.
2. Student teachers share their reflections within their groups, or as a class.

Instruct student teachers to consider the review questions for the sub-unit in their own time.

Expected student teachers' responses for the review questions in TB

Question 1: Give reasons why a student-centred approach is beneficial for the teaching of History.

Answer: *History teachers can avoid turning History into a boring and irrelevant subject by moving away from the 'sage on the stage' rote learning method of teaching the subject. In this traditional method, the memorisation of important names, dates and facts form the central focus of student learning. While these elements of History are important, by themselves they can seem abstract and irrelevant to students' understanding of the world. By moving to a student-centred teaching approach, students have the opportunity to discuss, research, theorise, imagine and use their experience of the world while learning about History.*

Question 2: Why is peer feedback useful for your personal development?

Answer: *Peer feedback allows student teacher to receive regular feedback on their work. This is useful for both students because they both have to engage with the idea of what success looks like. It is also important because collaboration with colleagues is one of the TCSF competencies, and so peer feedback helps student teachers to get into the habit of sharing and listening to feedback. Peer feedback is also something that should take place in the middle school classroom, so it is important that student teachers experience it first hand and reflect on its uses.*

Question 3: Look back at the lesson plan you created in Lesson 10.6.1. How can you promote inclusivity in this lesson and ensure that all students in your class are able to meet the learning outcomes? Give 1-2 examples.

Answer: *Answers will vary.*

Student teachers will write an entry in their self-reflective learning journal.

Unit Summary

Key messages

The Year 2 EDC History curriculum is designed in line with the middle school (Grade 6 - 9) History curriculum. Thus, the lessons in this unit give student teachers an overview of the content of the world history strand of the middle school curriculum that they will teach as a graduate. An overview of the content of this unit is given below.

- Prehistory begins with Stone, Bronze and Iron Ages that appeared in different locations around the globe. Different locations developed at different times.
- There are a number of ancient civilisations that artifacts show existed millennia ago. Some of these civilisations were advanced, such as those in Mesopotamia, ancient China and the Indus Valley.
- High civilisation in Ancient Greece and Rome followed these older civilisations and continue to be very influential to this day e.g. democracy.
- The medieval period in Europe saw advances in agricultural techniques which led to the growth of cities, trade and eventually the rise of the nation state.
- From the 1500s European powers engaged in expansion and exploration. This involved some international trade, but was often exploitative.
- The start of the Industrial Revolution in Europe in the 1870s, and North America from the late 1800s was a pivotal moment in history: it led to the growth of capitalism, as well as ideas of socialism.
- The Industrial Revolution also played a role in New Imperialism which saw European colonial powers compete for ever more control of the rest of the globe. European imperialism had huge consequences for countries around the globe, including many Southeast Asian countries.
- World War I and II led to huge losses in human life around the globe.
- The post war period was characterised by decolonisation and the emergence of new international organisation, alongside the Cold War, which dominated geopolitics in this period.

Throughout the lessons student teachers have also had the opportunity to experience and reflect upon a range of learning activities and assessment methods, including: group work, communicative activities, gallery walks, research, timeline activities and many more. They have received feedback in a variety of ways and from a variety of sources. This has included giving and receiving constructive feedback with peers. During the pedagogy lessons, student teachers discussed the importance of 21st century skills and explored the ways that the middle school curriculum supports students to develop these competencies. Student teachers also practised some of the essential skills of being a good History teacher by planning a middle school world history lesson. All of the skills that they have been developing and practising during the lessons, as well as the content knowledge they have acquired, will help them to teach the topics in world history effectively in the future.

Unit reflection

1. Reflect on your experience as a learner during this unit. Which sorts of activities did you find most and least engaging? Why? How can you use this experience to inform your future teaching practice?
2. Reflect on your experience engaging with the content in this unit. Was any of it familiar or was it mostly new? How did this affect your experience?
3. How confident do you feel about your subject knowledge for teaching the world history strand of the curriculum? Do you still have any gaps in your understanding? What can you do to ensure you feel confident about the content?
4. How can you ensure that world history is an engaging and relevant topic for Myanmar students?
5. How can you incorporate women's histories into your teaching of the Grades 6–9 world history curriculum?
6. Reflect on the skill you have developed during this semester. What areas do you feel you have developed in most? What areas of improvement do you need to focus on next year?

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Glossary

Terms	Elaborations
Aerial photograph	A photograph taken from an elevated 'platform,' such as a balloon, air plane, rocket, satellite, or drone
Aerial photography	The art or process of taking photographs from aircraft, helicopters, drones, balloons and the other aerial vehicles
Aeroponic method	An advance method of growing plants that hang in mid-air without using soil or any medium
Airborne sensor	A device which collects the functional profession of gathering information from the airborne platform and oversee mission management systems into the social networks such as commercial, military, public safety and academic areas
Alidade	The movable arm of a Quadrant or similar instrument used for reading angular distances, and carrying the indicator and the sights
Alluvial plain	A plain which is deposited sediments laid down by the streams or rivers
Altitude	Vertical distance above mean sea level
Anchorage	Place for anchoring; place where ships may anchor safely
Animism	Belief that all objects (trees, stones, the wind, etc.) have souls
Appeasement policy	Agree or give some demands of the opposite side in order to prevent further disagreement
Archipelago	A group of islands
Atomic bomb	An extremely powerful bomb that uses an explosive power resulting from splitting the atom
Aviation	The study of air transport geography and it can be divided into three sections of inquiry: airlines, airports, and aircraft or drones
Balloon photography	The process of taking photographs from aircrafts, drones and other flying objects
Balance of power	In a situation in which every state or every group or alliance has the equal power
Benchmark	Something that can be measured and used as a standard that other things can be compared
Billion	One thousand million
Breeze	A current of air which is too light to be called a wind
Cacao	Seed from which cocoa and chocolate are made or powder of crushed cacao seeds
Camouflage detection	Detection of something which makes it difficult to recognise the present or real nature
Capitalism	An economic or political system that all the properties and business are owned by private not the state
Cattle	Large animals with horns and cloven hoofs
Centripetal	Moving or tending to move towards a centre
Cinchona	Tree from whose bark, quinine is obtained

Terms	Elaborations
Colosseum and Roman Forum	Ancient Roman structures that shows the great architecture of Rome
Code of Hammurabi	A well known ancient Mesopotamia code of law prepared by the Babylonia King Hammurabi
Conception	The process of forming an idea or a plan
Convectional rain	Rain which is produced when the sun heats the ground causing warm air to raise and cool
Cordillera	A group of mountain systems, each system probably comprising several ranges
Corduroy texture	Thick, coarse texture with raise lines
Cross-section	A presentation of the vertical section across and through a landscape (a profile or side view, taken through a landform)
Cradle of civilisation	A place where civilisation begun to develop
Datum	A fixed starting point of a scale or operation
Dead ground	An area of ground hidden from an observer due to undulations in the land
Dendritic pattern	A drainage network in which the pattern of streams is tree-like; usually an indicator that the underlying rocks have similar resistance to erosion
Deposit	The laying down of material carried by rivers, sea, ice or wind
Dutch	Language/race of the Netherlands
Economic depression	World wide economic downturn began in 1929 until about 1939
Electromagnetic energy	Various forms of energy including light, infrared and ultraviolet radiation; energy with both electric and magnetic components
Entrepot	Storehouse; commercial centre for the import, export, collection and distribution of goods
Estate	Residential or industrial district planned as a unit
Exposure	Leaving uncovered or unprotected/ allowing light to reach film
Field of view	The total area as observed by a sensor-platform system. It can be expressed as an angle of the width of observation.
Filter	Screen for absorbing or modifying light or electrical or sound waves
Focal length	Distance between the negative and camera lens
Form-line	The line which are drawn in a rough way without using equipment
Free-port	Port open to all traders, with no trade restrictions, taxes, import duties etc.
Free-trade	Neither restrict nor encourage the movement of goods between countries by government
Guild	An association of people who do the same job or have the same interest for mutual assistance
Gorge	Narrow steep-sided valley
Granular texture	Texture like grains

Terms	Elaborations
Great Wall	A fortified wall built by ancient Chinese kings along the northern border to protect the northern nomadic
Hectare	Unit of area (2.471 acres)
Hindunisation	A place or a nation which culture was influenced by the Hindu culture
Hinterland	District behind that lying along a coast
Hog	Castrated male pig reared for meat
Horizon	Line at which earth and sky appear to meet
Imagination	Process of imagining/ability to imagine
Imperialism	An extending policy or practice of a country to conquest other nation for colony by use of military force or by other means
Industrial Revolution	The period that work began to be done by machines in factories
Inshore	Water near to the shore
Interpolation	Forming an estimate of a value with reference to the known values either side of it
Isles	Island (not much used in prose, except in proper name)
Islets	Small islands
Isolation policy	National policy of avoiding political or economic entanglements with other countries
Land-locked country	Country entirely surrounded by land
Level	Surveying instrument for finding the position of the land surface
Light scattering	Spreading of light
Light sensitivity	Quickly or easily receiving light
Light transmission	Sending or transmitting of light
Lines	Army/infantry regiment
Manor	A large house consisting of fields, meadows, forests, domestic animals and serf in medieval Europe
Market gardening	The intensive production of fruit, vegetables, and flowers
Militarism	A belief that the country should have strong armed forces and should used the force of army in order to get the national interest
Mohenjo-Daro and Harappa	Famous sites of ancient Indus civilisation, Mohenjo-Daro is in Sindh province and Harappa in Punjib - present-day Pakistan
Nadir	The point (or line) directly under the platform during acquisition of image data
Navigation	The making of voyages on water or of journeys through the air
Non-Aligned Movement	A forum of developing countries that are not aligned or against any major power bloc
Non-military application	Application not for armed forces
Panchromatic [photograph]	Sensitive to all visible colours of the spectrum

Terms	Elaborations
Parallel pattern	The pattern of lines continuing at the same distance from one another
Pass	Narrow gap between mountains
Pebbled pattern	Lines or planes going continuously at the same distance from each other
Peninsula	A piece of land jutting into, and almost surrounded by, the sea
Pharaoh	King of ancient Egypt
Photogrammetry	The art or measuring on the photographs
Photography	The art or process of taking photographs
Physical Geography	The study of the world's physical features; its landforms, bodies of water, climates, soils, and plants
Physiography	The study of landforms and processes in physical geography
Plaid texture	Tartan pattern; long piece of woolen cloth [worn over the shoulders by the Scottish Highlanders]
Plantation	A type of tropical farming where one crop is grown, on a large scale and usually for export
Plateau	A large, flat, elevated area of land
Poultry	Domestic fowls
Precipitation	The water in solid or liquid form that falls from the atmosphere to the surface, including rain, freezing rain, sleet, snow and hail
Protocol	Draft of a treaty/original draft of an agreement
Pyramid	A royal tomb built by the ancient Egyptian king
Radial	Having lines that radiate from the central point
Rainy spell	Period of time having much rain
Rapid	Swift current where a river bed slopes steeply
Reconnaissance	Preliminary survey; exploration of an area for military purpose
Reforestation	Act of planting trees for timber use on land that has been recently forested
Rehabilitation	Restoration to a normal or good condition without destroying existing environment
Remote sensing (RS)	The instrumentation, techniques and methods to observe the Earth's surface at a distance and to interpret the images or numerical values obtained in order to acquire meaningful information of particular objects on earth
Repatriation	Send or bring back a person to his own country
Ridge	Elongated narrow raised strip
Rill erosion	Erosion in the form of a small and shallow channel
Saddle shape	Line or ridge of high land rising at each end to a high point
Sea-level	Level corresponding to the mean level of the sea's surface
Sensor	Device that respond to a certain stimulus

Terms	Elaborations
Shelf	The gently sloping submarine fringe of a continent
Socialism	A political or economic system based on the society in which all the properties and business are owned and distributed by the community and there is no private owned business
Soviet Bloc	The communist countries aligned with the Soviet Union against the capitalist Western bloc during the Cold War era
Spectral reflectivity	Reflection of the spectrum
Sphinx	A mythical creature with the human head and a lion body
Splash erosion	Erosion caused by raindrops as they strike the ground
Spot-height	Spot-height marks of the plot of land
Spur	Ridge extending from a mountain or hill
Stereogram	Two photographs which are properly prepare for easily stereoscopic viewing
Stereo pair	A pair of overlapping photos or images that (partially) covers the same area from a different position (when appropriately taken, stereo pairs can be used for stereoscopic vision)
Stereoscope	Apparatus by which two photographs of the same areas taking from slightly different angles are seen in the form of three dimensions
Stereoscopic viewing	The three dimensional observation of two images (photos) that are made from different positions
Stratification	Arrangement in strata
Strait	A narrow body of water connecting two larger bodies of water
Stripped texture	Texture which has the form of long narrow piece
Subsistence agriculture	The type of farming in which cultivated crops are consumed by the farmer and his family
Terrain	Land with regard to its natural features
Texture	Arrangement of the part that make up on the aerial photograph
Theodolite	A surveying instrument with a rotating telescope for measuring horizontal and vertical angles
Tone	Shade of colour of aerial photograph
Topography	The general configuration of a surface, especially the land surface or seafloor including its elevation, relief and features
Transshipment	Transfer from one ship or conveyance to another
Tributary	A [secondary] stream that joins or flows into a larger stream
Visualisation	Forming a mental picture of something
Waterfall	A sudden fall of water over a steep drop
Watershed	Highland boundary separating two river basins
Wharf	Landing-stage where ships load and unload
Wooly texture	Texture like wool

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Annexes

Annex 1: Twelve-step Guidelines for Planning a Lesson

The following 12-step plan guides teachers through the lesson planning process, step by step:

1. **Lesson -** Decide on the topic/title of your lesson.
2. **Prior knowledge -** You will be considering what students already know and what they have already learnt.
3. **Learning objective** – This is determining the purpose of the lesson.
4. **Learning outcomes** – Here, you determine what students will know and be able to do by the end of the lesson.
5. **Criteria for success** – It is how you will determine whether students have met the learning outcomes.
6. **Teaching and learning approach** – This is whether the lesson will be teacher-centred or student-centred.
7. **Teaching and learning strategies** – This is which strategies you will use, such as inquiry-based or project-based learning, or direct instruction.
8. **Teaching and learning methods and techniques –** Here, you will determine methods and techniques to use, such as questioning, role play, and think-pair-share.

9. **Teaching and learning aids and technologies** – Here, you will determine which materials and resources you will need for the lesson, such as books, computers, drawing materials and paper.

10. **Stages of the lesson: Introduction, body and review** – Here, you decide the timing along with teacher activity and student activity for each of the three stages: Introduction, body and review.

11. **Differentiation** – It is where you consider how you will modify the lesson to meet individual student's learning needs.

12. **Reflection** – Following the lesson, this is where you evaluate the learning and teaching. You will also consider which Teacher Competency Standards are met by the lesson.

Source: Myanmar Ministry of Education, 2020

Annex 2: Lesson Plan Template

Class:	Date:	Time:	Teacher:
Lesson: (What is the topic/title of your lesson?)			
Prior knowledge: (What do students already know? What have they already learnt?)			
Lesson aim: (What is the purpose of the lesson?)			
Learning outcomes: (What will students know and be able to do by the end of the lesson?) By the end of this lesson, students will be able to:			
Criteria for success: (How will you determine whether students have met the learning outcomes?)			
Teaching and learning approach: (Is the lesson teacher-centred or student-centred?)			
Teaching and learning strategies: (Will the lesson be inquiry-based? Problem-based? Project-based? Direct instruction? etc.)			
Teaching and learning methods and techniques: (Will you use brainstorming? Storytelling? Role play? Questioning? Discussion? Think-pair-share? Group work? etc.)			
Teaching and learning aids and technologies: (Will you need paper? Drawing materials? Computer? etc.)			

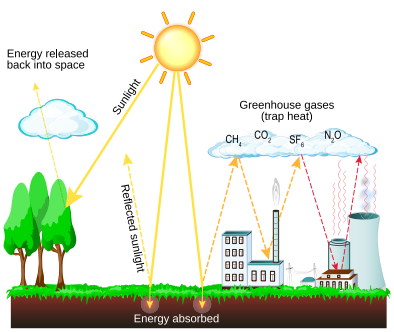
Stage	Timing	Teacher activity (What are you doing?)	Student activity (What are students doing?)
Introduction	(e.g. 5 minutes)		
Body	(e.g. 30 minutes)		
Review	(e.g. 10 minutes)		
Differentiation (How will you modify the lesson to meet individual student needs?)			
Reflection (How will you evaluate the lesson? For which minimum requirements from the TCSF may this lesson plan provide evidence?)			

Source: Myanmar Ministry of Education, 2020

Annex 3: Sample Student Teacher Lesson Plan

The lesson plan below provides an example lesson plan. It is a lesson plan based on a period from the Grade 6 Geography curriculum (Lesson 3.4.3, Period 3). The Geography teacher guide provides an outline for each lesson, this is a detailed lesson plan based upon that outline which has been tailored to the needs of the class.

Class: Grade 6	**Date:**	**Time:** *45 minutes*	**Teacher:**
Lesson 3.4.3: *Atmosphere (Period 3: Causes of air pollution)*			
Prior knowledge: *Students have completed two lessons on the atmosphere. They know the earth has a thin atmosphere of 5 layers covering it, and that there are gases, dust and water vapor in the atmosphere.* *They know that the atmosphere is important; humans and animals need oxygen to survive. Green plants use carbon dioxide and make food.* *Students have an awareness of what pollution is/means from previous lessons on water pollution.*			
Lesson aim: *To give students an overview of some of the causes of air pollution.*			
Learning outcomes: *By the end of the lesson, students will be able to identify some causes of air pollution.*			
Criteria for success: *By the end of the lesson students will be able to complete the following 'I can' sentences:* • *I can explain what the greenhouse gas effect is, using my own words.* • *I can identify at least 5 sources of air pollution when prompted with pictures.* • *I can use my understanding of the causes of air pollution to discuss in a group at least 3 causes of air pollution in the local area.*			
Teaching and learning approach: *The lesson will contain both student-centred and teacher-centred elements. Where the lesson includes some teacher-centred instruction, this will be interactive.*			
Teaching and learning methods and techniques: *Mind-map, group work, think-pair-share.*			
Teaching and learning aids and technologies: *Board and markers, simple greenhouse gas diagram to draw on the board, student textbooks, scraps of paper for plenary activity.*			

Stage	Timing	Teacher activity	Student activity
Introduction **Think-pair-share activity**	5 mins	Gauge student prior knowledge by asking the class 'What are the causes of air pollution?' Draw a small mind-map on the board. Collect answers from a few pairs. Provide verbal feedback and write the accurate responses on the mind-map. Leave the mind-map on the board to be referred to at the end of the lesson. Listen to the pairs as they are discussing. If they are struggling it may be necessary to briefly provide a recap on what pollution is, drawing on knowledge from their previous learning on water pollution.	All students will briefly discuss the question in pairs. Afterwards, they will raise their hands to give their responses. Other students will listen to their peers and the teacher.
Body **Interactive Teacher Talk (15 minutes)**	30 mins	Explain that a greenhouse is a glass or plastic enclosure used in colder regions of the world to grow plants. Ask the class if they can guess why people grow plants in greenhouses? Elicit the correct response and add to the explanation: *'The sunlight enters the green house by passing through the glass or plastic which makes the greenhouse warmer. The greenhouse traps that heat and the temperature inside rises. Even as the temperature outside gets colder, plants and crops can grow inside the greenhouse.'* Then, ask students what they think the greenhouse effect is. Take a couple of answers. Then, explain the greenhouse effect to students: *'The greenhouse effect is a natural process that warms the earth's surface. Referring to greenhouses, the greenhouse effect is the process when the earth's atmosphere warms. When the sunlight reaches the earth's atmosphere, some solar radiation is reflected back to space and the rest is absorbed by the greenhouse gases, the lower atmosphere gets warmer. This process keeps the earth's temperature around 33 degrees Celsius. With this temperature, life on earth can grow and live.* Draw a basic diagram on the board showing the natural process of the greenhouse effect. Ask students if they think this is good and why/why not? ('Yes, because with this temperature, life on earth can grow and live'). Ensure that students understand that the greenhouse effect is a natural process which allows life on earth to exist. **Greenhouse effect**  	Students will actively listen to the teacher. Students will also participate by guessing the use of greenhouses. Students will actively listen to the teacher. Students will also participate by offering explanations of what they think the greenhouse effect might be referring to. Students will actively watch and listen. Students will also answer the concept-checking question to show that they understand that the greenhouse effect is a natural process.

Stage	Timing	Teacher activity	Student activity
		However, explain that due to human activity, greenhouse gases are increasing, and the temperature rises in the atmosphere. This is not a good thing: *'The smoke coming out of factories and industries around the world and from forest fires and smog increases the amount of carbon dioxide in the air and pollutes the atmosphere.'* Ask a student to come to the board to add additional greenhouses gases to the diagram (they should add additional gases in the atmosphere). Then, ask another student to explain what is happening in the diagram (i.e. green houses gases are trapping additional heat, causing the temperature of the atmosphere to rise). Provide additional verbal feedback if necessary. Finally, explain that this process is known as global warming, and its consequence causes the climate to change: *'The ocean levels are rising because ice caps are melting. Thus, humans, animals and plants that live and grow near the ocean are in a dangerous situation. Global warming also leads to more extreme weather. Reducing greenhouse gases is possible and everyone should play a role, such as planting more trees which absorb greenhouse gases, reducing consumption of fossil fuels and using renewable energy (solar, hydro, wind).'*	Students will actively listen. Students will actively listen to the teacher and their peers. One student will come to the board to draw additional gases caused by human activity. Another student will explain the effect of these additional greenhouse gases on the atmosphere.
Group work (15 minutes)		Ask some students to define 'global warming' and 'greenhouse effect' in their own words. Ask some students to share their answers and provide verbal feedback. Encourage peer feedback if appropriate (e.g. *'Is there anything missing from that definition?' 'Could a better word be used here?'* Etc.) Divide the class into groups and direct students to study the pictures of the sources of air pollution. Using the table in their books the groups write down what the source of air pollution is, how it contributes towards climate change/global warming and whether it is present in the local area. During the activity, circulate the room to listen to the groups and provide support or further questions. Finally, ask one or two students from each group to stand up and present an answer, until all pictures have been fully covered. Call on a range of students and write the answers on a chart on the board. Add information and feedback as necessary.	Students will write down their definitions of the two key terms in their books. They will also listen to their peers' definitions and may provide some feedback. In their groups, students will work together to study the pictures and fill in the table to show what it is and how each contributes towards climate change/ global warming and whether it is present in the local area.

Stage	Timing	Teacher activity	Student activity
Review **Think-pair-share**	10 mins	Ask the class if they can add to the causes of air pollution mind-map from the beginning of the lesson. Ask the pairs to discuss 'What are the causes of air pollution in our local area?' and then share with a larger group. Provide scraps of paper so that each student can write down three responses to hand in at the end of the lesson. If time allows, discuss some responses as a class.	Students raise their hands to add further answers to the mind-map from the start of the lesson. Each pair tries to identify some local causes of air pollution. These will be specific. They will then discuss with their group from the earlier activity. Each student will then write down three local sources of air pollution on scrap paper and hand it in to the teacher at the end of the lesson.
Differentiation: *The lesson allows for student teachers to display understanding in a number of ways; verbally in pairs or groups, by presenting answers to the whole class, by writing in their books, by organising information, through diagrams on the board and by writing on scrap paper for the final plenary activity.* *For the most part, differentiation will occur through output during this lesson. All students will achieve the learning outcomes and success criteria, but there will be some differentiation in the depth/detail.*			

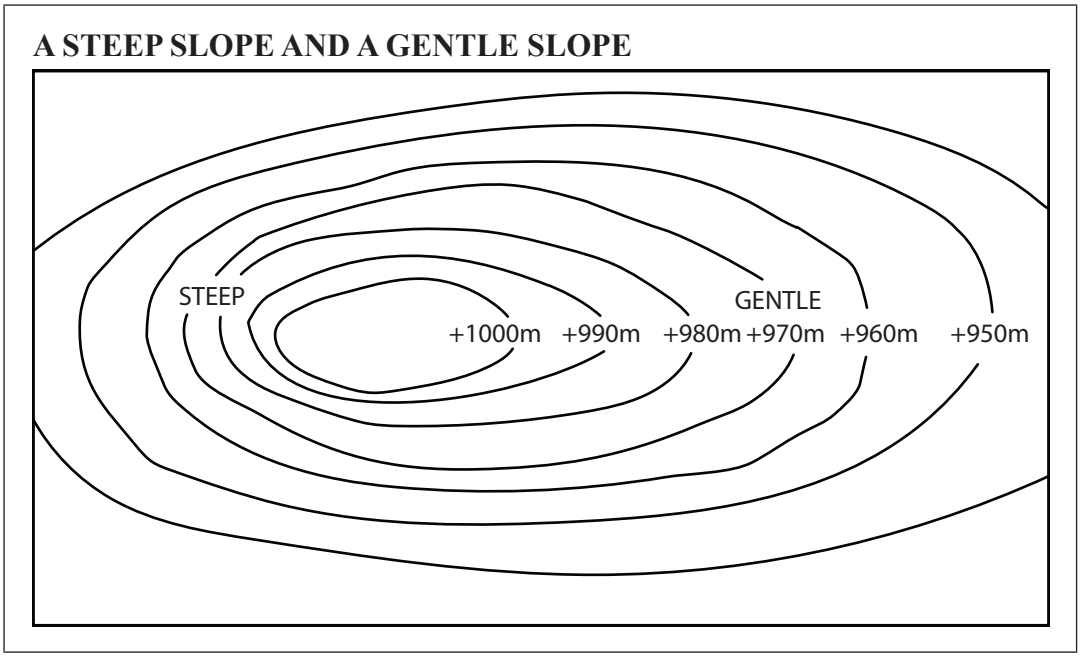
Annex 4: Lesson Plan Checklist

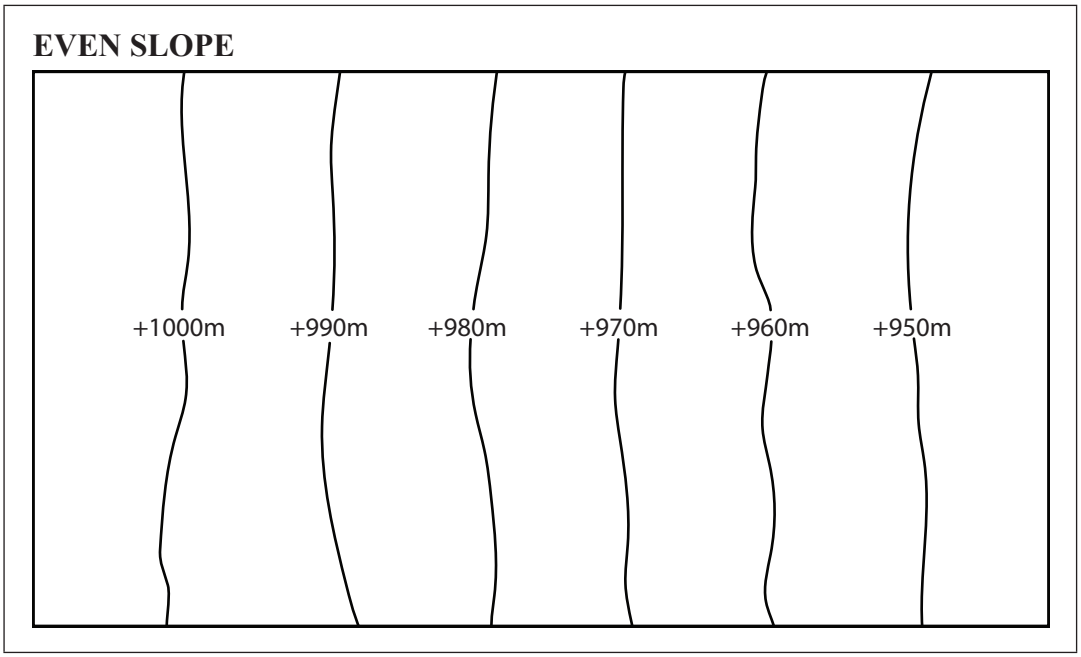
Tick the boxes as appropriate to help you assess the lesson plans. Use the information to help you to provide constructive feedback to student teachers.

Lesson plan checklist			
Criteria	**Clearly demonstrated**	**Somewhat demonstrated**	**Not yet demonstrated**
Is the lesson plan easy to follow?			
Do the activities in the lesson support the lesson objectives?			
Are the success criteria appropriate (i.e. related to the learning outcomes and realistic for students to achieve within the lesson)?			
Is the lesson plan thoughtfully considered, including a clear plan of what student and teacher will do at each stage?			
Does the lesson plan follow a logical structure that scaffolds learning (i.e. introduction, body and review with each section building upon the last)?			
Does the lesson plan include information on how the teacher will formatively assess students throughout the lesson (including when and how feedback will be given)?			
Does the lesson plan include student-centred activities and active student participation?			
Does the lesson plan include any opportunities for students to develop soft skills, such as the 5Cs (Collaboration, communication, creativity, critical thinking and citizenship)?			
Does the lesson plan include a range of activities and ways for students to demonstrate their learning?			
Does the lesson plan consider how the teacher will support all students to achieve the learning outcomes (i.e. has the teacher considered how they will differentiate learning)?			

Annex 5: Contour Maps for Creating 3D Models

(to be photocopied for use in class)





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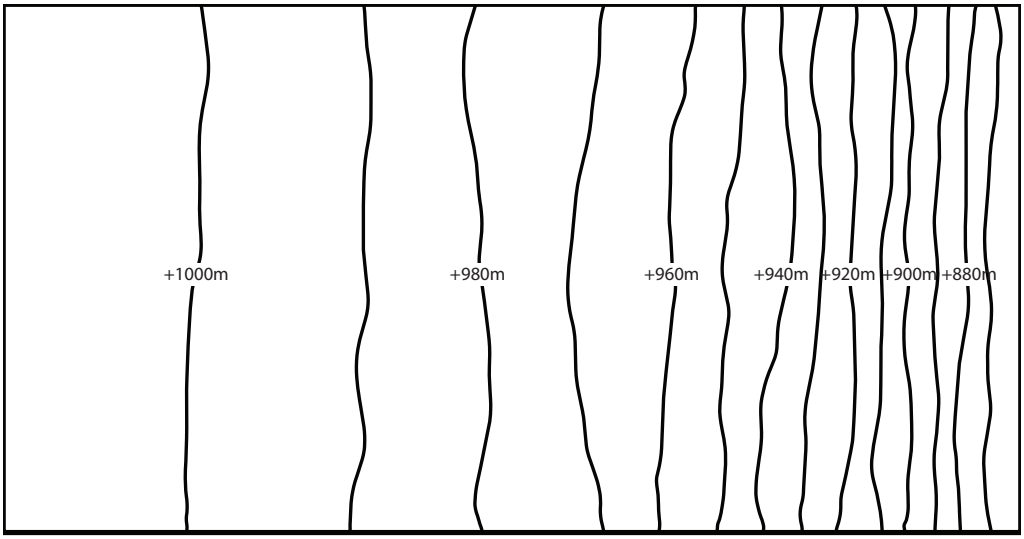

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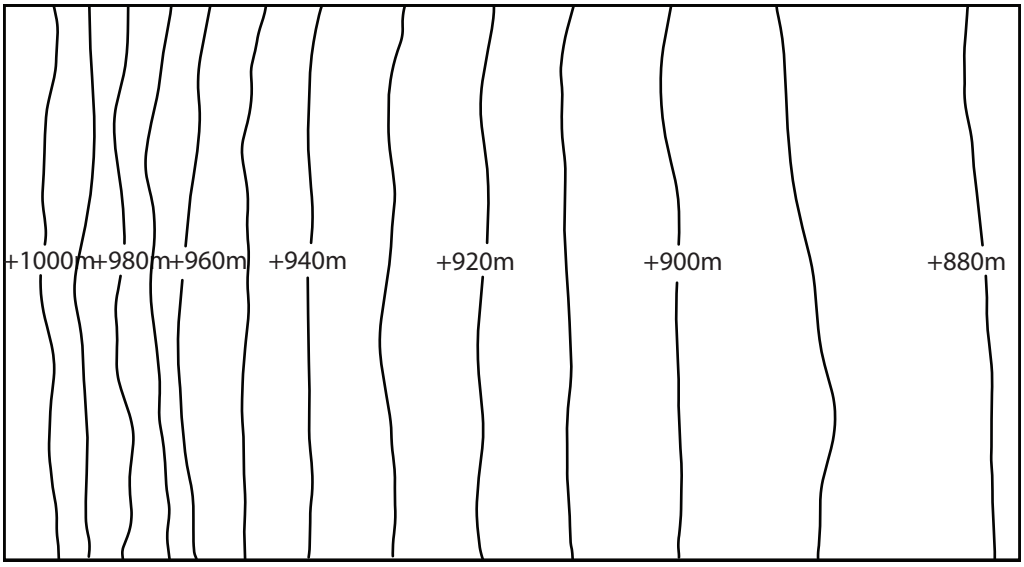

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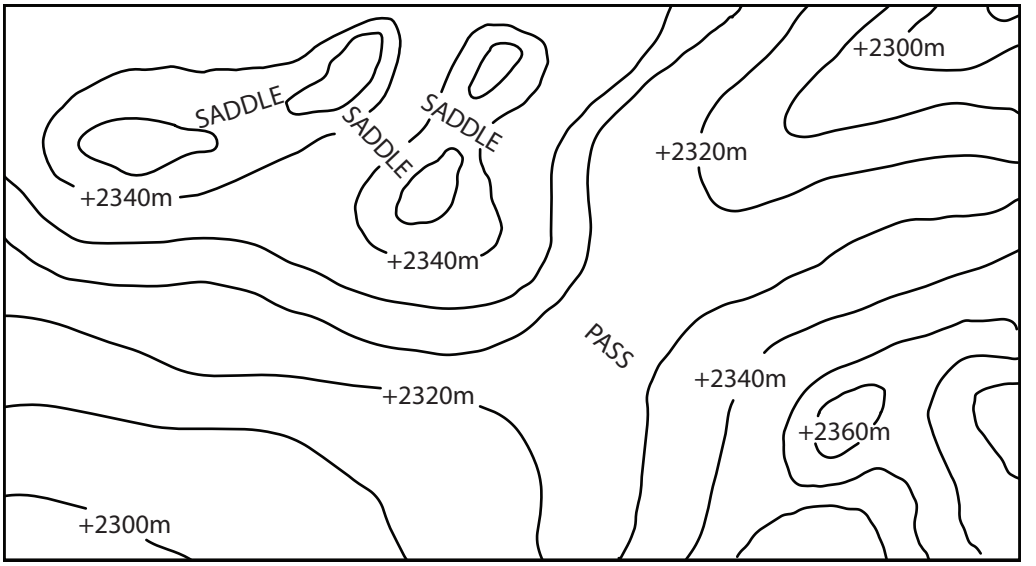

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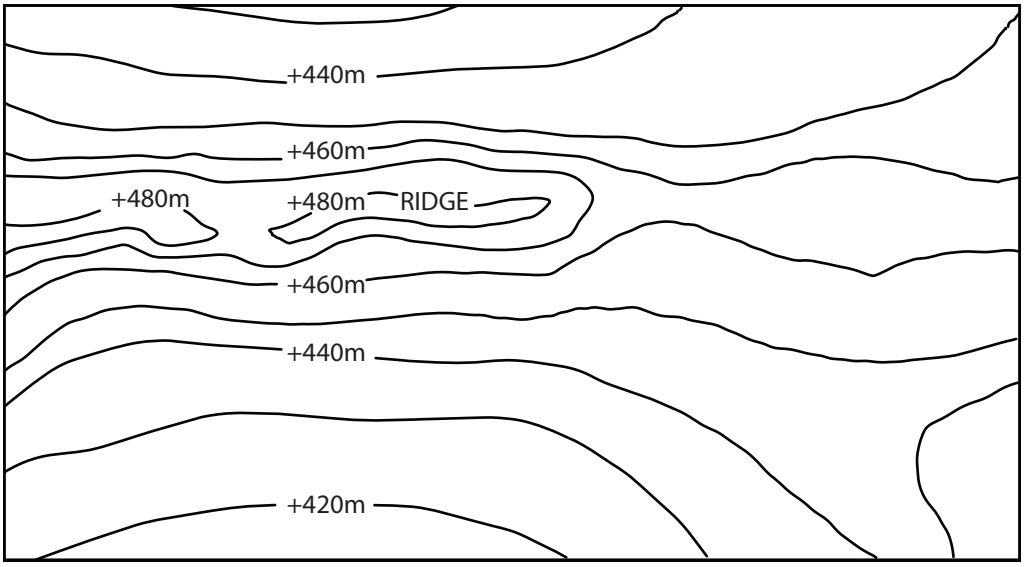

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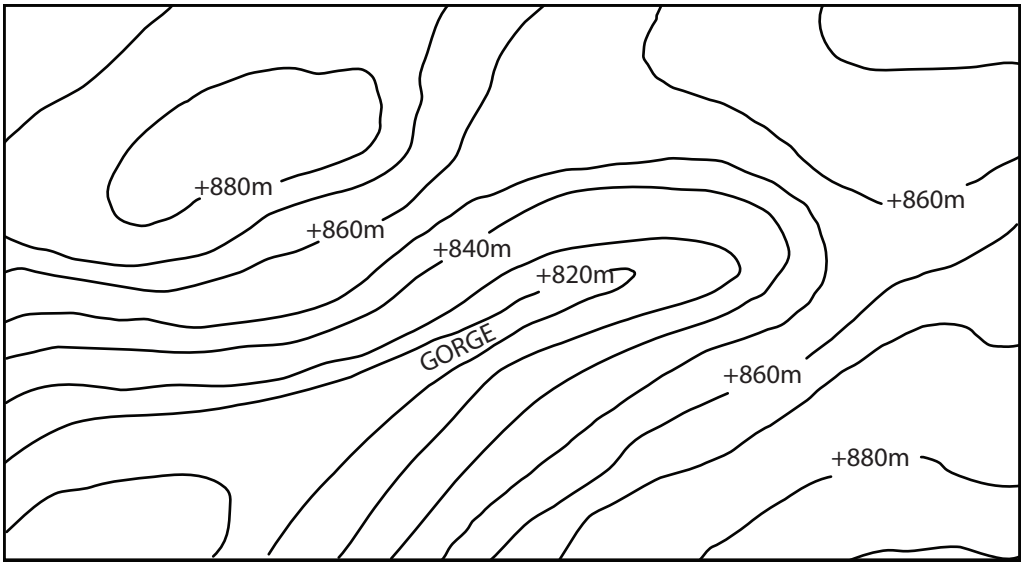

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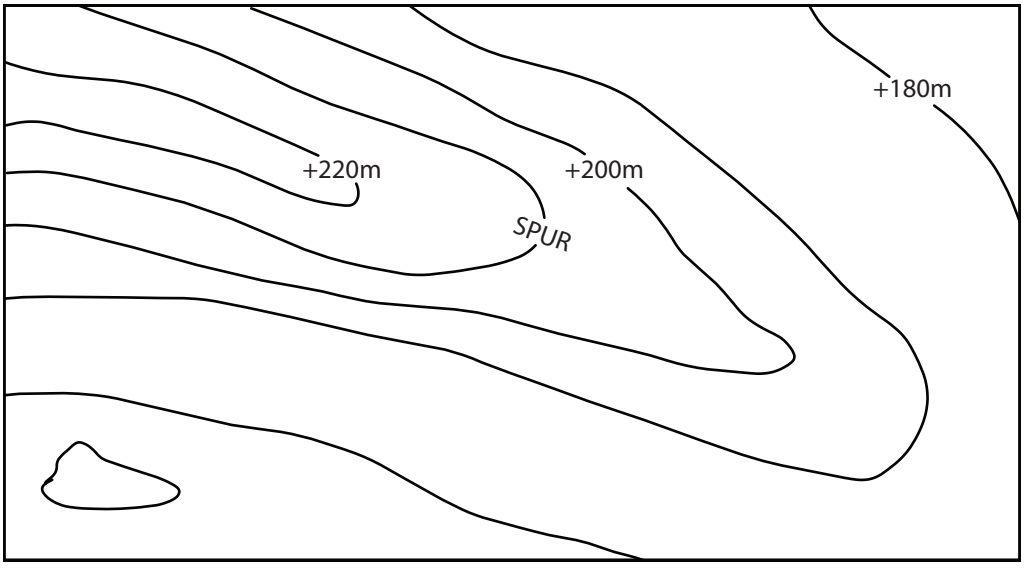

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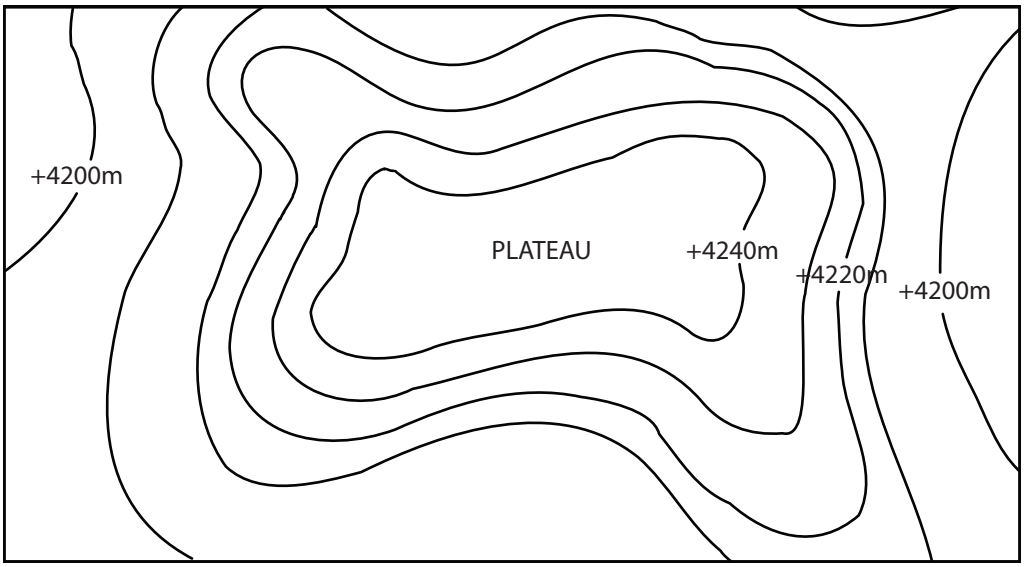

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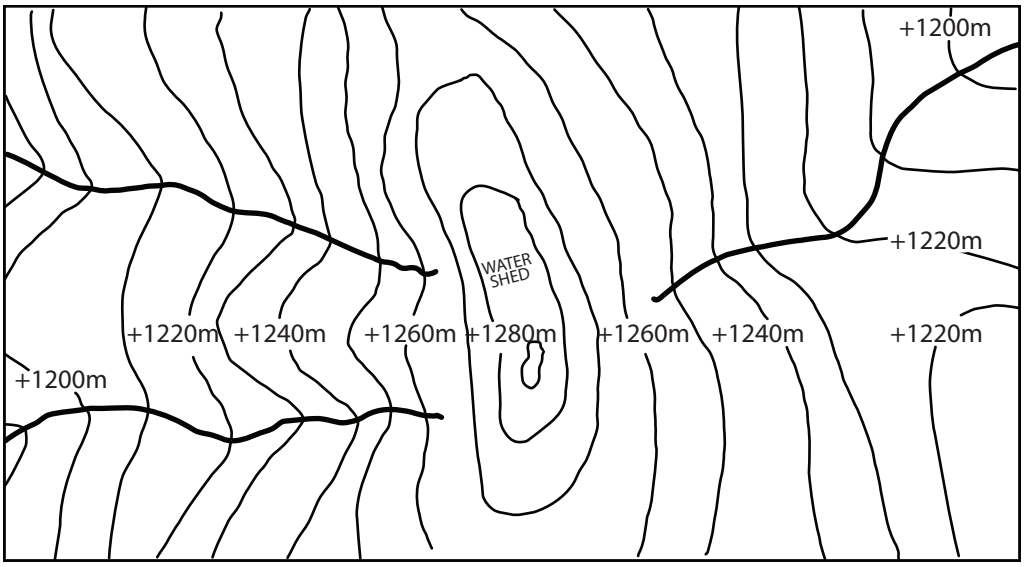

Annex 6: Plenary Activities

Teacher educators choose the most appropriate activity for the lesson and the class from the plenary activity grid.[4] Note that some activities require preparation from the teacher educator.

Unless otherwise stated, student teachers should complete the plenary learning activities individually. The plenary activities offer teacher educators a quick way to check that all individuals within a class have understood the key points from the lesson. Where there are individual or widespread misconceptions the teacher educator will need to address these, either immediately or in the next lesson.

These activities are also useful for student teachers as they give them a chance to reflect on their own learning at the end of the lesson.

Full instructions for how to carry out each activity are given below.

Plenary activity grid		
3-question quiz	Social media status update: 'What did I learn in today's lesson?'	3-way summary
Question and answer	One-minute essay	Gap-fill activity
Think-pair-share: teaching practice	Mini timeline	4-3-2-1

4 Inspired by and adapted from: "History Learning Grid", 2019.

3-question quiz

Teacher educator preparation: Write 3 short questions that check understanding of the key points from the lesson. The questions should test core understanding only and be able to be answered in just a few words.

Student teachers will write the answers on scrap paper and hold their answers up so that the teacher educator can scan the room to check the answers. The teacher educator can easily see if there are any widespread misconceptions to be addressed, or individual student teachers who may need additional support.

Social media status update: 'What I learnt in today's lesson'.

Teacher educator preparation: Note down the key points student teachers should learn during the lesson, as a reference to compare to the responses they give.

Student teachers write a brief summary of the main things they learnt in the lesson. They will use the format of a status update, as if they are writing on social media (e.g. Facebook). It should be short (around 1 paragraph) and contain the key points only. The tone can be informal. e.g.

I had a great class today! In my teacher training course I was learning about…. I was surprised to learn that…. And ….. It was a great lesson and I definitely won't forget …..

The teacher educator can check the plenary activity by asking student teachers to hand in their responses as they leave the classroom (or integrate technology by asking student teachers to email them after the lesson). Ideally, the teacher educator should also review a few status updates as a class by asking a couple of student teachers to read out their answer. This means that student teachers can receive some immediate feedback. Most of the responses are likely to be similar.

A variation on this activity can be created by giving student teachers a limited number of words or characters (letters) for their update. This will make it easier to quickly assess.

E.g. Write a status update in less than 280 characters.

3-way summary

Teacher educator preparation: Choose what you want student teachers to write a summary on and note down the key points on the topic. Use this as a reference to compare to the responses given.

This plenary activity will require a little more time than some of the others (5-10 minutes). Student teachers write 3 summaries of various length on the topic (50 words, 75 words, 150 words). The teacher educator could choose the topic as a whole (e.g. The Industrial Revolution) or an important element from it (e.g. the effects of the Industrial Revolution). Student teachers will need to choose the most important elements about the topic and use concise language in order to stay within the word limit.

Review by asking a few student teachers to read out their summaries and provide verbal feedback. Ask student teachers to hand-in one of their summaries before they leave the classroom for you to check.

Gap-fill activity

Teacher educator preparation: Prepare a gap-fill activity, or choose one of gap-fill activities given in Annex 7.

Share the gap-fill activity with student teachers; either read out loud, write on the board or write on flipchart paper in advance of the lesson. Student teachers will write the answers on scrap paper and hold their answers up so that the teacher educator can scan the room to check the answers. The teacher educator should also share the correct answers with the class.

1-minute essay/exit slips

Teacher educator preparation: Prepare a question on the topic that student teachers can answer in 1-3 sentences. Prepare a few feasible answers.

Give student teachers the question and ask them to write their answers on scrap paper using only 1-3 sentences. Review a few responses as a class and then ask all student teachers to hand in the paper before they leave (ensure names are written on the paper).

Question and answer

Teacher educator preparation: None.

Ask student teachers to write down two questions about the topic with answers. Review a few as a class and have the rest of the class answer the question (and if time allows provide feedback on whether it is effective/relevant). The teacher educator may also ask student teachers to hand in their questions (with their names included) before they leave the class.

Think-pair-share: Teaching practice

Teacher educator preparation: Consider some of the ways that the lesson might help student teachers from a pedagogical perspective. Note down some ideas to hep you review their responses.

Ask student teachers to identify one way that this lesson will influence their future teaching practice. They will discuss with a partner before sharing with the class. The teacher educator may also wish to ask student teachers to note down their response and hand it in before they leave the class.

Answers could be linked to the TCSF indicators, but do not have to be.

Mini timeline

Teacher educator preparation: Note down key dates from the topic.

Student teachers prepare a mini timeline of five important events from the topic. They do not need to give all dates, but the chronology should be correct. Student teachers will write the answers on scrap paper and hold their answers up so that the teacher educator can scan the room to check the answers and see if most student teachers identified the key historical moments. If time allows, some discussion should be encouraged.

4-3-2-1

Teacher educator preparation: note down a range of acceptable answers based on the topic.

On scrap paper, ask student teachers to write down 4 facts, 3 key terms, 2 historical figures and 1 important date from the lesson. Student teachers can discuss their answers with a partner before sharing with the class. Additionally, the teacher educator may ask student teachers to hand in their answers (including names) at the end of the lesson. This activity can also be adapted depending on the topic (for example, some lessons may work better to ask student teachers for 4 key terms, 3 important dates … etc.)

Teacher-educator designed plenary

In addition to the plenary activity grid, teacher educators can design their own activities.

Teacher educator preparation: Research and design your own plenary activity suitable for the class and topic.

There are many appropriate plenary activities that can be used. The teacher educator can choose to create their own learning activity or use one that they have found through research or exposure (on-line or offline research, a plenary activity used by a colleague etc.). It is likely that the activity will need to be adapted in some way to suit the topic or class.

Use the box below to keep a record of any additional plenary activities used. Effective plenary activities can then be added to the plenary activity grid for future use.

Some additional ideas might include identifying key terms, student teachers sharing what they found surprising from the lesson or one question they still have about the topic.

Teacher educator designed plenary activities			

Annex 7: Gap-fill Activities

The teacher educator may choose to use any of these gap-fill activities as plenary activities at the end of the lesson, or elsewhere in teaching. Additional gap-fill activities can be written if desired.

Lesson 10.1.1 Stone, Bronze and Iron Ages, and ancient civilisation

1. Situated in the fertile valley between the Tigris and Euphrates rivers, Mesopotamia is now home to modern-day Iraq, Kuwait, Turkey and Syria.
2. The first Roman law code was inscribed on 12 bronze tablets known as the Twelve Tablets.
3. The civilisation of ancient China first developed in the Yellow River region of northern China.
4. Suryavarman II, the most powerful king of Khmer history had built many temples, the most remarkable was Angkor Wat.

Lesson 10.2.2 European expansion (Phase 1 and Phase 2)

1. The Portuguese expansion was inspired by both commercial and religious motives.
2. The Portugal used the southern route, the Spaniards decided to choose to explore the western route.
3. By the end of the 16th century two rival European merchant communities, the Dutch and the English resolved to enter the spice trade directly.
4. The French were the last of the European power to complete for commercial gains in the East with the other European companies.

Lesson 10.4.2 World War II

1. The Japanese invaded Manchuria in 1931 and China in 1937.
2. With the German invasion of Poland in September 1939, the Second World War started.
3. In forcing the Japanese to surrender, the United States dropped atomic bombs on the Japanese cities of Hiroshima and Nagasaki.
4. After the World War II, the Soviet Union and the United States were emerged as superpowers in the international politics.

Lesson 10.5.1 Post-World War II independence movements

1. The countries of Southeast Asia region except Thailand were colonies of the Western Imperialist at the end of 19th century.
2. Laos became an independent nation according to the resolution of 1954 Geneva Conference.
3. Dr. Sukano established 'Guided Democracy' from 1959 to 1965.
4. In May 1941, members of Communist Party founded Vietminh or independence League under the leadership of Ho Chi Minh.

Lesson 10.5.2 International politics

1. The Cold War was waged on political, economic, and propaganda fronts with the exception of weapons.
2. To defray the cost of the construction of the Aswan Dam, Egypt president Nasser nationalised the Suez Canal.
3. The origin of Non-Aligned Movement was from the Asia-Africa Conference held in Bandung, Indonesia in 1955.
4. The Marshall Plan (1947), also known as 'European Recovery Programme' was a US programme, providing economic assistance to prevent the spread of communism in Europe.

Annex 8: Sample Student Teacher Lesson Plan

The lesson plan below provides an example lesson plan. It is a lesson plan based on a period from the Grade 6 History curriculum (Lesson 4.3.1, Period 4). The History teacher guide provides an outline for each lesson, this is a detailed lesson plan based upon that outline which has been expanded upon and tailored to the needs of the class.

Class: *Grade 6*	**Date:**	**Time:** *45 minutes*	**Teacher:**
Lesson: *Grade 6 Lesson 4.3.1. 'Ancient Greece' (Period 4 'Greek philosophers')*			
Prior knowledge: *Students have already completed three periods on ancient Greece, looking at geography, government, colonies and Greek democracy.*			
Lesson aim: *To teach about the philosophers of Greece's city-states.*			
Learning outcomes: *By the end of this lesson, students will be able to name some Greek philosophers and describe their main ideas.*			
Criteria for success: *By the end of the lesson, students will be able to complete the following 'I can' sentences:* • *I can name three Greek philosophers and describe one of their important ideas.* • *I can use the textbook to find more information about one Greek philosopher.* • *I can work together with my group to write-up our ideas to share with the class.*			
Teaching and learning approach: *The lesson will contain both student-centred and teacher-centred elements. Where the lesson includes some teacher-directed instruction, this will be interactive.*			
Teaching and learning methods and techniques: *Interactive teaching/teacher-talk, modelling, group work, presentations, graphic organiser.*			
Teaching and learning aids and technologies: (Will you need paper? Drawing materials? Computer? etc.):			

Stage	Timing	Teacher activity	Student activity
Introduction	Warm-up/recall prior learning: (5 minutes)	Explain to the students that they will continue to learn about ancient Greece in this lesson. Ask: *'Who can remember what we have already learnt about ancient Greece?'* Collect some responses from students and give verbal feedback. Then, direct students to the map of ancient Greece. Ask two to three students to come to the board to identify the location and names of the important ancient Greek city-states. Finally, ask: *'Why do we learn about ancient Greece today?'* Collect some responses. Explain: *'Ancient Greece was very influential in terms of language and culture. Greek ideas have been particularly influential. For example, we learnt in the last lesson that ancient Greece founded the idea of democracy, which is a form of governance used across the world today. In this lesson, we will be learning about some important Greek philosophers and their ideas'.* Direct students to the success criteria (written on the right-hand side of the board) so that students know what is expected of them in this lesson.	Students listens and offer answers recalling their learning in the previous lessons. For example: *'We learnt about democracy.'* *'We learnt that Greece was able to become prosperous from maritime trade.'* Two to three students will come to the board and identify the location and names of the important ancient Greek city-states. The other students will watch and listen. Students will offer their opinions. For example: *'Greece was a strong an important ancient civilization.'* *'Some Greek words are still used across the world today.'* Students will then read the success criteria on the board and ask any questions they have.

Stage	Timing	Teacher activity	Student activity
Body (30 minutes overall)	Interactive teaching (5 minutes)	Start by explaining that 'philo' means love in Greek and 'sophos' means wisdom. Ask: *'So, what do you think a philosopher is?'* Collect one to two responses. Elaborate and explain that a philosopher is someone who loves wisdom/ideas and is someone that comes up with ideas to help us understand the world. Philosophy is the study of those ideas. Ancient Greece had a lot of important philosophers and is famous for the influential ideas that they came up with.	Students will listen to the teacher and then offer their opinions. Students will probably say that a philosopher is *'Someone who loves wisdom'*.
	Modelling (10 minutes)	Modelling the activity: On the left-hand side of the board, write up the key questions of the lesson: • What were their main ideas? • What are they most famous for today? • When were they alive? • Is there anything else interesting about them? • Write a one sentence summary of this philosopher. • Choose one key word to help you remember this philosopher and their ideas. Together, read the section in the student textbook on Socrates aloud. Afterwards, ask the students if they have any questions. Then, check understanding by asking: *'What do we mean by morality?'* Draw student attention back to the questions. Give them a few minutes to think and then discuss with a partner. Then, answer the questions for Socrates together as a class. Accept a range of answers. Discuss the students' ideas and give verbal feedback before writing the final answers on flip chart paper. This will act as an example answer for the next activity.	Students will read the questions on the board: • What were their main ideas? • What are they most famous for today? • When were they alive? • Is there anything else interesting about them? • Write a one sentence summary of this philosopher. • Choose one key word to help you remember this philosopher and their ideas. Some students will read aloud as directed. Other students will listen and read along in their books. Students will think about the questions and discuss with a partner. Some students might want to write their ideas down to help them think. Students will share their answers as a class.

<table>
<tr><th>Stage</th><th>Timing</th><th>Teacher activity</th><th>Student activity</th></tr>
<tr><td></td><td>Group work
(10 minutes)</td><td>Divide the class into groups. Assign each group one of the following: Plato, Aristotle, Pythagoras. Give each group some flip chart paper and pens. Explain that the groups should read the student textbook for their assigned philosopher and work together to write their answers on the flip chart paper. Circulate the room during the activity to check that the groups are on task and understand the content.</td><td>Students will read the section on their assigned philosopher in their groups. They will then work together to answer the questions – writing their final answers on flip chart paper.</td></tr>
<tr><td></td><td>Presentations
(5 minutes)</td><td>Ask each group to stand up and present their findings. Provide immediate verbal feedback and also write key words on the board for students to copy into their books.

In this activity, students are learning from their peers. Encourage informal peer feedback and dialogue by encouraging students to ask questions to the group presenting. Ensure a range of students have the opportunity to speak during this activity.</td><td>Some students will stand up to present. Others will listen to their peers and the teacher and take notes. Some students will ask questions and others will answer them.</td></tr>
<tr><td>Review</td><td>Graphic organiser
(10 minutes)</td><td><table><tr><th>Name of philosopher</th><th>Key ideas</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>
Direct students to fill in the table.

Collect a few answers. Summarise the key points:

• The philosopher Socrates was interested in reasoning and morality.
• The philosopher Plato was interested in intelligence.
• The philosopher Aristotle was interested in developing ideologies about daily life.

Return to the success criteria from the beginning of the lesson and ask students to put a tick or a cross next to each one in their book.

Ask students to hand in the review activity and success criteria at the end of the lesson for the teacher to check. Check student responses to ensure the class understood and follow up as necessary.</td><td><table><tr><th>Name of philosopher</th><th>Key ideas</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>
Students will fill in the table by themselves and then share their answers with the class.

Students will listen to the teacher’s summary.

Students will look at the success criteria and then decide if they agree with the statements.

Students will hand in the review activity and success criteria at the end of the lesson for the teacher to check.</td></tr>
</table>

Differentiation:

The lesson allows for student teachers to display understanding in a number of ways; verbally in groups, by presenting answers to the whole class, by writing in their books and on paper and by organising information in a table.

The teacher will call on a range of students and consider the roles within the groups to ensure that all students have the opportunity to contribute effectively during the lesson.

For the most part, differentiation will occur through output during this lesson. All students will achieve the learning outcomes and success criteria, but there will be some differentiation in the depth/detail.

Students will be able to choose how they wish to present the information they have learnt on the flip chart paper; this could be written sentences, bullet points, a graphic organiser or even illustrations.

The teacher will extend and challenge students with the questions: 'Do you think ideas are important?'

Annex 9: Assessing a Poster Rubric

Poster rubric

Level	Excellent	Good	Satisfactory	Requires improvement
Required elements	The poster includes all required elements as well as additional information.	All required elements are included on the poster.	Most of the required elements are included on the poster.	Several required elements are missing.
Graphics - relevance	All graphics are related to the subject and make it easier to understand.	All graphics are related to the subject and most make it easier to understand.	All graphics relate to the subject.	Graphics do not relate to the subject or make it more difficult to understand.
Attractiveness	The poster is exceptionally attractive in terms of design and layout. The layout also makes the information in the poster easier to understand.	The poster is attractive in terms of design and layout. The layout and design supports understanding.	The poster is acceptably attractive. Layout and design mostly support understanding. However, there may be a few exceptions to this.	The poster is distractingly messy or very poorly designed. It is not attractive – layout and design do not support understanding.
Grammar and language	There are very few grammatical mistakes on the poster. Language used is very clear and supports understanding.	There are a few grammatical mistakes on the poster, but these do not affect the ability to understand its content. Language used is mostly clear and supports understanding.	There are grammatical mistakes on the poster. Mostly these do not affect the ability to understand the poster. Language used is mostly clear.	There are a lot of grammatical mistakes on the poster and these affect the ability to understand the poster. Language used in not clear.

Source: Adapted from Utah Education Network, n.d.

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